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MAINLAND CHINA IN THE WORLD ECONOMY

HEARINGS BEFORE THE JOINT ECONOMIC COMMITTEE CONGRESS OF THE UNITED STATES NINETIETH CONGRESS FIRST SESSION

APRIL 5, 10, 11, AND 12, 1967

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MAINLAND CHINA IN THE WORLD ECONOMY

WEDNESDAY, APRIL 5, 1967

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The joint committee met at 10:05 o'clock a.m., pursuant to notice, in room 318, Old Senate Office Building, Hon. William Proxmire (chairman of the joint committee) presiding.

Present: Senators Proxmire, Ribicoff, Symington, Javits, and Jordan of Idaho; and Representatives Griffiths, Moorhead, Widnall, and Rumsfeld.

Also present: John R. Stark, executive director; James W. Knowles, director of research; and Donald A. Webster, minority economist.

Chairman PROXMIRE. The committee will come to order, please.

First of all I would like to place the committee's announcement of these hearings in the record to suggest the area of our interest and the framework of our inquiry.

(The announcement referred to is as follows:)

MARCH 20, 1967.

SENATOR PROXMIRE ANNOUNCES HEARINGS ON MAINLAND CHINA IN THE WORLD ECONOMY

Chairman William Proxmire (D-Wis.) today announced that the Joint Economic Committee will hold hearings on the economy of Mainland China. The hearings to be held on April 5, 10, 11, and 12 will be the second phase in the committee's study of the Chinese economy, following up the recent release of a compendium of papers by invited specialists in a two-volume study entitled *An Economic Profile of Mainland China*. A schedule of the hearings is attached. They will be held in Room 318 of the Old Senate Office Building, except that of Monday, April 10, which will be held in Room 1202 of the New Senate Office Building.

In making the announcement, Senator Proxmire noted that our present trade policy vis-a-vis China is to a large extent based upon the premise that by refusing to countenance trade with China, we are imposing obstacles to her economic growth. It is clearly important that everything possible be done to add to our knowledge of the facts as to the economic capabilities of one of the largest and most populous nations in the world.

In announcing the schedule of witnesses, Chairman Proxmire commented that the list of witnesses includes no representative of government or of business. He said that it was not possible at this time to arrange mutually satisfactory dates for hearings with State Department officials and that, in any case, the primary focus of the hearing was on basic source material rather than government policy. "We can all profit by a study of the record not only of the Compendium previously released but of the analytical material to be presented at the hearings," he said. "We would normally expect to hear from State Department representatives at a later date after we have all had an opportunity to study the record."

"The absence of businessmen on the schedule is a significant but inevitable result of the fact that, for two decades, the United States has forbidden trade and commerce with Mainland China under the Trading With the Enemy Act, except for a small amount of specially licensed trade. The result is that there just are no businessmen or bankers who are doing business with China, although there is no doubt that many of them watch developments there with great interest."

The hearings are a part of the program of the full Joint Economic Committee. The study was originally suggested by Senator Javits, then ranking Senate Minority member of the Committee.

MAINLAND CHINA IN THE WORLD ECONOMY

Schedule

WEDNESDAY, APRIL 5, 10:00 A.M.

China's involvement in the world economy

Edwin O. Reischauer, University Professor, East Asia Research Center, Harvard University; former United States Ambassador to Japan.

MONDAY, APRIL 10, 10:00 A.M.

Chinese Communist economic statistics and implications for U.S. policy

Ta-Chung Liu, Goldwin Smith Professor of Economics; Director, Program on Comparative Economic Development, Cornell University; Visiting Professor of Economics, Brandeis University.

Economic relationship of the Central and Provincial Governments

Audrey Donnithorne, Reader in Chinese Economic Studies, University of London; Visiting Professor of Economics, American University.

Managerial decision making in a Chinese firm

Barry Richman, Chairman, Management and Industrial Relations Divisions, Graduate School of Business Administration, University of California, Los Angeles.

TUESDAY, APRIL 11, 10:00 A.M.

Near-term economic potentials of China

Panel:

Work-incentives in the Chinese Economy. Charles Hoffmann, Professor of Economics, State University of New York at Stony Brook.

Industrial Development of China. Kang Chao, Assistant Professor of Economics, University of Wisconsin.

Foreign Trade of Mainland China. Robert Dernberger, Assistant Professor of Economics, Member of Faculty on Far Eastern Languages and Civilizations, University of Chicago.

WEDNESDAY, APRIL 12, 10:00 A.M.

Implications of economic development in China for the United States

Panel:

Dwight H. Perkins, Assistant Professor of Economics and Associate of the East Asia Research Center, Harvard University.

Alexander Eckstein, Professor, Department of Economics, University of Michigan; Member of Joint (Social Science Research Council—American Council of Learned Societies) Committee on Contemporary China.

John G. Gurley, Professor of Economics, Stanford University and the Center for Advanced Study in the Behavioral Sciences.

Chairman PROXMIRE. Today we take up what is the second phase of our Joint Economic Committee study of the economy of Mainland China.

Our first phase was the release on March 5, 1967, of the two-volume symposium entitled "An Economic Profile of Mainland China" that was compiled. It has been hailed widely by experts and by the press, and I think rightly so, as a comprehensive and authoritative study of the economy of a most mystifying but enormously important country.

This morning we are going to hear from an old friend of mine, Prof. Edwin Reischauer, and I am happy to welcome Professor Reischauer. The last time I knew him well was at Harvard 20 years ago when he was my professor, and a very, very distinguished and able teacher, I must say.

As we all know, Professor Reischauer is a distinguished historian of the Far East. He has written some very intriguing books on aspects of Asian policy and history. He is extremely well known as U.S. Ambassador to Japan under both Presidents Kennedy and Johnson.

I know that, in his modesty, Professor Reischauer, now with the Kennedy Institute of Politics at Harvard, does not profess to be either a China expert or an economist. But I know also that his years and experience in Japan looking outward at east Asia will assure us of some provocative thoughts about U.S. foreign policy in this area. He will help us to evaluate some of the premises upon which the current U.S. trade policy toward China is based, and what some of the corollary effects of this policy may be upon the economies and thinking of our allies in other parts of the world.

Professor Reischauer, before you begin, I would like to point out that these hearings are primarily focused upon the economics of continental China and the place of China in the economic world. I am quite certain, however, that before we get very far the questions of many of the members may seem a bit far afield from the strictly economic context.

I suppose the significant thing about this likelihood is that economic background is so pervasive and so determining of political, cultural, and ideological positions that almost any question would have to be considered germane. We shall try, however, to stick to the economics, but I am sure that the big issues of public policy that now involve the United States that are on everybody's mind may, at times, seem to lead us astray.

Professor Reischauer?

STATEMENT OF EDWIN O. REISCHAUER, FORMER U.S. AMBASSADOR TO JAPAN; UNIVERSITY PROFESSOR, EAST ASIA RESEARCH CENTER, HARVARD UNIVERSITY

Mr. REISCHAUER. Thank you, Mr. Chairman.

It is a privilege to appear before this distinguished committee, though I first must disclaim, as you have already for me, that I am either a China watcher or an economist. I shall attempt, however, from my background as a student of Chinese history and an observer of the east Asian scene from Japan, as well as from the United States, to respond to the specific tasks the chairman has set me. These are to try to judge how China, as an economic unit, fits into the economic world, and to evaluate some of the premises upon which United States-China trade policy is based and what some of the collateral effects of this policy may be upon our allies in other parts of the world.

First let me say that I was very much impressed with the "Economic Profile of Mainland China," which was published a few weeks ago under the auspices of the Joint Economic Committee, and I see no reason to differ with its major conclusion. At best, it presents a

picture of relatively slow economic growth in Mainland China since 1958 and holds out prospects for only modest progress in the next several years.

All that I could add to this picture is the additional somber comment that the political gyrations of the past year have probably further darkened Mainland China's economic prospects. Direct economic consequences are not as yet very apparent, except in the loss of a huge number of man-days from work and in some disruption of transportation, but there may be more serious long-range repercussions. The whole system of government and party administration has obviously been disrupted and weakened; middle-level leadership in factories and communes, as elsewhere in society, must have been seriously shaken and possibly frightened into cautious inaction; the better part of a year of schooling has been lost, which is a tragic matter in a country already low in technical skills; and disillusionment, which might follow the youthful euphoria of the Red Guard antics, could have a debilitating effect on millions of young Chinese.

Of course, it should always be remembered that the great capacity for hard work on the part of the Chinese people, their eagerness for learning, and their tremendous organizational abilities make Mainland China a land with a great economic potential. Its economic situation today, however, and its immediate prospects are considerably less favorable than was expected by Americans a decade ago. The Sino-Soviet split is one major reason for this, and China's mediocre economic record of the past 9 years another.

While Mainland China has been making little progress, many of the countries around her have surged ahead rapidly. Japan has more than doubled its productivity during the past decade, and its 100 million people now produce considerably more wealth than the 700 million Mainland Chinese. As a result, China has become a relatively smaller economic factor in the world than it was 9 years ago, and it is not likely to grow more rapidly than the world average in the near future. At the same time, its prestige has dropped greatly and with it Peking's political influence.

In 1959 Mainland China's foreign trade was estimated at \$4.3 billion, but today it is still below that level. Japanese newspaper sources put it at \$4.16 billion in 1966. Thus it is not more than a quarter of the foreign trade of Japan alone. This gives Mainland China little economic leverage on countries it might wish to influence. The relatively expensive foodstuffs China exports in exchange for cheaper food imports from the West have no great appeal to other less developed lands. The textiles and other light consumer goods Peking can also export in quantity are running into increasingly stiffer competition, because these are exactly the manufactured goods other less developed areas can best produce, and some of them, such as Taiwan, Korea, and Hong Kong, can do so much better than Mainland China.

Some people have expressed fear that the rapid upsurge of trade between Mainland China and Japan could have an adverse political effect on the latter. This seems highly improbable. While Japan is China's largest trading partner, absorbing 15 percent of its total trade, China accounts for only about 3½ percent of Japan's foreign trade, contending with a number of other countries for a very poor sec-

ond place after the 29 percent of Japan's trade that it does with us. In the 1950's when the economic balance between Mainland China and Japan was less favorable to the latter, there may have been some reason for fears that a large trade with China might have an adverse political effect on Japan. Even then, however, when Peking tried in 1958 to use the sudden stoppage of trade with Japan as a political weapon, the strategy backfired. Today with Japan far more affluent, more stable and stronger than it was a decade ago, and Mainland China if anything weaker, the political influence of trade between the two could only flow one way, and that is toward China.

A natural question is whether American trade policy toward Mainland China has had much to do with the latter's poor economic showing. It is very hard to believe that it has. Whereas Communist countries accounted for two-thirds of China's trade in the 1950's today 70 percent of it is with the non-Communist world, and most of this is with our chief allies. Except for the Soviet Union, which ranks third, Mainland China's chief trading partners in descending order are Japan, the United Kingdom through its Hong Kong colony, West Germany, France, Canada, Australia, and Italy. Under these circumstances, our refusal to trade with China has meant little if anything economically. The situation is well illustrated by the export of wheat by the United States and Canada to Japan and Mainland China. When more Canadian wheat began to go to China, this helped open a corresponding part of the Japanese market to our wheat.

One can safely conclude that the size and nature of China's external trade has not been influenced by our trade policy. They have been determined primarily by internal developments within China and by Peking's changing relations with Moscow. These have evolved the way they have more despite American trade policies than because of them. The limitations on long-range credit to Mainland China which our allies maintain, though with a certain degree of flexibility, may have some slight marginal effect on Mainland China's economic prospects. The denial to Peking of certain industrial plants and techniques developed under American patents conceivably has a tiny influence. But our total embargo on trade, I feel, has had no effect at all.

Of course, if all of our allies were to join us in an embargo on trade with Mainland China, this would have a decided effect on the situation. The obvious question then is whether we could influence our allies to forgo this trade, if we were convinced it was in our interests to do so. The answer, I believe, is a resounding "No." None of our major allies thinks our policy is wise for us, much less for them, and the best we could hope for from a demand that they join us in our embargo would be that they would laugh it off. In the case of Japan, where such a demand might be taken more seriously than in Europe, Canada or Australia, it could go a long way toward wrecking our mutually very satisfactory relationship.

A more basic question is whether it really would be in our interests to discourage trade between Mainland China and the non-Communist countries, particularly the advanced ones with which the bulk of Peking's trade is now conducted. I think the answer is clearly in the negative. The best we can realistically hope for from the Mainland Chinese is that they will in time come to realize the actualities

of the world around them and accept the inevitability of peaceful coexistence with the rest of us on a live-and-let-live basis. Trade with the outside world is probably the most promising way by which the Chinese will come to these realizations. Mainland China's trade with the great industrialized democracies and particularly with Japan is probably its most important window on the world. It is in our long-range interests, I feel, that this window should be as wide as possible.

Last July 12, President Johnson, in a speech in which he advocated a long-term policy of "reconciliation" with Mainland China, specifically stated, "The greatest force for opening closed minds and closed societies is the free flow of ideas and people and goods." It seems to me that the logic of these words applies as much to Asian Communist lands as to those in Europe. There is no real alternative to the policy of bridgebuilding to closed societies.

If Chinese trade with the non-Communist world is actually in our interests, and our embargo on trade with China, in any case, has had no economic effect, one naturally wonders if it is a wise policy today. My personal feeling is that the effects of the embargo are purely political and are on the whole adverse to American interests.

As I have stated elsewhere, I believe that our whole policy of seeking to isolate Mainland China from contact with the outside world and from participation in international bodies is not in our own best interests now, even if it may have been so in the past. Except for keeping Peking out of the United Nations and other international bodies, it has certainly not isolated it, as the economic record shows only too clearly. Our policy has put a decided strain on our relations with our allies, few of whom agree with it. In Japan, where China policy looms large and our efforts to isolate China seem to the general public to be unwise, it has, in my judgment, been a major factor of strain in our relations.

The chief argument against the isolation policy, however, is that it stands as a massive barrier we ourselves have created in the way of what must be our long-range goal. What hope can we have that the Chinese will some day accept peaceful coexistence with us on a live-and-let-live basis, if we do not seem ready for this ourselves? This step will at best be a difficult one for them, because they are burdened with an intense sense of humiliation and outraged national pride at the hands of Western nations over the past century. We should not increase their difficulties by trying to isolate them from normal international contacts and blackballing them in the society of nations.

A redefinition of our stand toward Mainland China, including an indication that we would be ready to trade with it, would probably have no immediate effect on Peking except to increase the blood pressure of its aged leaders. There are, however, ample signs that Mainland China is in a period of instability, and there may well be changes in direction in the next few years. The sooner we remove the obstructions we ourselves have set up to China moving in a desirable direction, the more chance that it may take such a course.

I should like to conclude with one final, but very basic, question. Are we sure that it is in the long-range interests of the United States that Mainland China's economic development should be held back as much as possible? One can see why this may have seemed to be

the case in the 1950's, when its economic growth was much more rapid than that of many other Asian nations, its prestige was very high, and its menace to the peace and stability of its neighbors seemed grave. But the situation has changed greatly since then. It could be that the real danger to us in the long run is not that China will be so rich and strong, as well as hostile, that it menaces world peace, but rather that it will fall so far short of meeting the minimum economic needs and aspirations of its people that it remains an unstable and sick member of world society. I do not set forth this point of view as an assertion, but rather as something that needs deep study, since it concerns the underlying assumptions for any American trade policy toward Mainland China. Thank you.

Chairman PROXMIRE. Thank you very much.

Professor Reischauer, in your judgment, is the present unrest in Mainland China likely to lead to something like the so-called Leap Forward in 1958, which had such disastrous consequences? Is this another move in that same direction?

Mr. REISCHAUER. I think the motivation behind the present push has been very much the same, and if the Maoist side were proving more successful than they were, I should imagine they would have tried to go on to another Great Leap Forward approach to the economy.

I think the whole thing is already faltering, and it could be that they will hold back from trying that sort of economic program which, in the past, proved so disastrous for their economy. The moderates may get in and force them to compromise without their going on to that stage.

But in any case I think they have already done great administrative damage to themselves.

As I suggested, the whole chain of command and the morale of the leadership must be very much shaken, and this, I think, will have rather serious repercussions for quite some time.

I noticed just the other day in a Japanese paper, and I think I saw it in American papers, too, there is some talk of a bad harvest in China this year, which might add to the difficulties of their situation.

Chairman PROXMIRE. The elements which went into persuading the leaders of China to engage in that Great Leap, which was so disastrous, I suppose, are still present or seem to be. But I am wondering if the terrible experience they had would not have sobered even the Maoists, and would not have persuaded them that at least the techniques that they used at that time seemed to be unworkable. It is hard for me to understand how they would risk repeating the same mistakes.

Mr. REISCHAUER. In some ways, though, they are repeating the same mistakes, although in a slightly different field.

The disaster had a very sobering effect on a large part of the Chinese leadership, and that is why I think there has been so much opposition to what they have been doing in their cultural revolution.

Chairman PROXMIRE. In the consequences that are spelled out in our study, do they acknowledge that this did set them back? Do they accept these statistics as being accurate and true, in your judgment?

Mr. REISCHAUER. That would be very hard to say. I think they must know, but perhaps a lot more hazily than you, how serious a blow this was to the Chinese economy, because it was just too obvious for them to ignore.

I doubt if they have done the same sort of analysis and come up with the same reasons for the failure. But it certainly was a sobering experience for many Chinese leaders.

It does not seem to have been a sobering enough experience though for certain ones, those that are known as Maoists, because they are really trying the same thing in a slightly different field; that is, trying to overcome their technical problems by the enthusiasm of guerrilla revolutionaries.

When applied directly to the economy this proved a great failure. They have applied it now to the administration, and I think again it is proving a great failure.

Chairman PROXMIRE. Now, you argue that the influence of Sino-Japanese trade is likely to be greater on China because Japan is more stable, more productive, more efficient, and because the trade that Japan has with China is less important to Japan than it is to China.

Your argument is that because of all these factors Japan is likely to have more influence on China than the reverse.

Mr. REISCHAUER. Yes.

Chairman PROXMIRE. I am wondering, however, if there are not some noneconomic factors involved, nontrade factors that might more than counterbalance this, to wit: The size of China, the aggressiveness of China, the very powerful conviction that its leaders have in their ideology, and just the overwhelming presence of the biggest nation in the world. Isn't it perfectly possible that these noneconomic factors might still have an effect on Japan and, conceivably, could mean that Japan would move more in China's direction than vice versa?

Mr. REISCHAUER. Well, 10 or 15 years ago this seemed quite possible because at that time the Japanese had lost confidence in themselves, and a great part of the population thought they must find new patterns, and some of them sought those patterns, if not in Russia, then in China. So there was a great deal of respect for China as well as the admiration and love that they had for China as the source of their ancient civilization.

But these attitudes have changed, I think, rather drastically in the last few years, and most of all since the cultural revolution and the Red Guards movement broke out in China.

China is not really that big when you think of it as an economic unit. It is a smaller unit than Japan is. The Japanese are becoming very much aware of that.

What has gone on in China during the last year and a half has also made the Japanese see that it is a rather backward country, and fewer and fewer Japanese are now looking to China as a source for patterns for themselves.

Chairman PROXMIRE. Has this had an effect that you can measure at all on, say, the Communist movement in Japan? Has it weakened? Has it diminished?

Mr. REISCHAUER. It is a little difficult to measure that because the Communist movement itself has done a flip. It was very pro-Peking up until this time, but it has broken loose from Peking now and tried to make itself neutral between Peking and Moscow. The Japanese Communist Party actually is in the process of fighting the Peking Communists, at least in Japan itself.

The left wing of the Socialist Party, you might say, is more friendly to Peking than the Communists are. Hence a slight increase in the Communist vote in the election on January 29 could not be associated particularly with the prestige of China. The left wing of the Socialist Party which was, perhaps, closest of all to China in its emotions did very poorly actually in the election.

Chairman PROXMIRE. The sentiment has been moving as you would expect it. On the basis of your economic analysis, away from the influence of China, at least the influence it once had?

Mr. REISCHAUER. In the last year or two at least.

Chairman PROXMIRE. You indicate that it would be very wise for us to increase our trade and to diminish barriers. You do not seem to set any kind of limits. We had quite a "to-do" on the floor of the Senate where a number of very able and thoughtful Senators contested vigorously the sale of a whole steel plant by West Germany to China. Many even felt we should do everything we could within our influence to persuade West Germany to desist, particularly in view of the fact that China is obviously supplying North Vietnam with some military strength, especially in small arms, and if they had an effective steel plant they could supply a lot more.

Would you draw any limitations on this, even if they were temporary? Would you recognize that under circumstances where we are at war with North Vietnam, and Red China is obviously doing all they can to help North Vietnam, that under these circumstances, at least for the time being while this is going on, we should have a very clear limitation on strategic trade?

Mr. REISCHAUER. Well, I think we have had such a limitation all along, and our western allies have all observed them. There is the COCOM list, and while some items are differently interpreted by different countries, it is still being observed by everyone, and I think they should go on observing it.

We do not want to give them direct assistance in what would immediately enhance their military power.

Credits might also be included in that. There has been a desire to hold back from credits that would be aid rather than trade. But I think most of the countries have observed these up to date.

Chairman PROXMIRE. So you would feel we should not encourage or we should do all we can to continue to discourage providing credits for Red China, and any trade of the kind that might be involved with a whole steel plant or with any kind of arms establishment or anything that could be directly used for war purposes; is that correct?

Mr. REISCHAUER. Well, I do not say all credits. Much trade is carried on normally on credit. Anything that could not be called normal commercial terms, I think, should be avoided, because I do not think we would like to see China aided in that way over other countries that need it more and are probably more worthy.

I also would not share your objection to the transfer of the steel plant. I doubt that that would have much direct bearing on China's role in the Vietnam war. In the supplying of small arms, they can provide probably all that can be transported or used already without increasing their capacity by another steel plant.

Steel plants will be sold by our Western allies in any case, I think, because they do not consider this as being a strategic item, and our

effort to force them not to do it, I believe, simply has political repercussions that are not helpful to us, without having any influence on either the Chinese economy or the relationship between it and the Vietnam war which, I think, in any case is a very tenuous relationship.

Chairman PROXMIER. I want to continue with my questioning but my time is up.

Before I call on Senator Javits, I want to say that these hearings and this entire study are his baby. He was the one who suggested this to Chairman Patman last year, and he deserves credit for this which, I think, so far has worked out extremely well.

Senator JAVITS?

Senator JAVITS. Mr. Chairman, you are my friend in addition to everything else, but this is the kind of generosity that is unusual around here, and I thank you very much for it. I am very gratified to have been able to contribute in this way, and I hope that it will only enhance the luster of the chairmanship which you are so ably administering for our committee.

Mr. Ambassador, you are one of the stars we are going to have at these hearings. There is an enormous problem in the country's opinion about this matter, whatever the experts may think. There is a deeply engrained feeling on the part of the people of the United States that the Chinese have been very hostile, that they are intransigent; that, when they could, they fomented bloody revolutions all over the world; that Mao Tse-tung's principles mean pitting the poor against those a little less poor in order to cut their throats instead of changing their social order; and that the atomic potential being developed by the Communist Chinese represents the one real threat on the horizon. Somehow or other our people think the balance of terror will work with the Russians, but we wonder about people who talk about expending 300 million casualties and still being able to survive.

These are very deep apprehensions with the American people, and if we can in these hearings give some national sense and purpose and direction to our policies toward China, and deepen public understanding of the economic issues and factors involved, we will have accomplished a great public service.

So the stakes are very high. Because they are, instead of questioning you about details which we can always do, I would like to make a very brief statement based upon your testimony.

It seems to me that your testimony shows that the China debate in the United States has been unrealistic.

It has been basically a matter of "them and us," and it seems to me that it makes little sense to argue about diplomatic recognition or encouraging membership in the U.N. or trading with mainland China because we are not going to do it, we are not ready to do it, and even if we were, Peking would reject us outright.

Although when I read your statement I found certain elements, it seemed to me, that I was not in complete agreement with, when I heard you read it, I rather think we are of the same mind, namely, that although China is a third-rate economic power it is a first-rate world influence and could be a first-rate world power by virtue of size,

economic potential, uncompromising ideology. A fellow in rags with a lot of lethal weapons is a pretty dangerous fellow, too.

So we have got to deal with it, and the time is much shorter than the American people think. Now, that was the main point that I would like to make.

I, too, have made in a speech about 2 weeks ago in which I stated that while politically it may be very difficult, perhaps impossible at this time, as Senator Proxmire said, to move us off the dime on which we seem to be so securely cemented in this matter—namely, to establish bilateral relations with China—it is possible to make us more intelligent in encouraging our allies and our friends, Japan, Australia, who are very big in this matter, India, Pakistan, Canada, certain countries in Western Europe like the German Federal Republic, to maintain their contacts, perhaps even to broaden their commercial and diplomatic ties with China and including the possibility of social or sports or news exchange, that is newsmen exchange.

The Communist Chinese themselves have turned down past U.S. offers in some of these areas and indications are they would do so again.

I endorse your theory, which is my own, and I join you in the theory that the more contacts Communist China has with the world the better for the world community.

While we should not equip them with any military potential, I am in favor of more contacts because great power rank inevitably breeds interdependence, and this is true whether Mao Tse-tung might in his parochial way or chauvinistic way or, perhaps, getting just a little fuzzy in terms of his thinking wanted that or not.

Now, the point that fascinates and disturbs me is that most of us who have taken the time to study these data which our committee has produced—and I would like to pay a great compliment to the staff which certainly has done the idea proud in the way it has handled it—it seems to me that these analyses do come to the same conclusion. There are shades of difference, but the goal is the same; namely, the need to find a way of bringing Communist China into the community of nations before the holocaust. Yet those responsible for making U.S. policy—I think although the people are policymakers, they are not sufficiently yet ahead to have brought the policymakers around—all seem a long way from acting on the basis of this conclusion, that is, our policy is out of date really in terms of Communist China.

Now, you will be told, and I will be told, that the grenade thrown at American troops in a billet in Saigon is a Chinese-made grenade. I say, yes, it is simply ghastly, outrageous, horrible. But the SAM that brought that plane down over some installation outside of Hanoi is Russian-made, and yet we are seeking, and we should seek, a détente with the Russians in Europe, and it is very important that we should.

Now, the American people accept the latter but they are very unlikely to accept the former, and this is the real problem of leadership we have in this very topsy-turvy world, and which we really have but, nonetheless, we have to live.

So I conclude by saying if these hearings accomplish nothing else I hope they succeed in putting some life into phrases like “contain-

ment without isolation" which are pretty sterile as they stand, because these phrases are often an excuse for nothing save their own repetition, and we need to move off the frozen position in which we find ourselves. That is the substance of your testimony.

Now, if I have 1 minute, I would like to ask you just one question. I notice on the last page of your statement, and it ties in with what I have just said, you say the following:

It could be that the real danger to us in the long run is not that China will be so rich and strong, as well as hostile, that it menaces world peace, but rather that it will fall so far short of meeting the minimum economic needs and aspirations of its people that it remains an unstable and sick member of world society.

I ask you this question. Do you see the capability of its not only being an unstable and sick member of society but an aggressive member of society by the very reason of the fact that it is so big, it has so many people, that it can really burst out if it is that sick, and that desperate and that frustrated, or do you think that it will turn in and just sicken and die of starvation, disease or whatever else that affects a sick society?

Mr. REISCHAUER. Well, if it were to turn in and just sicken and die, a group of 700 million people doing that would be a very disruptive thing for the world as a whole, even if it did not burst out in the process.

It could be that the frustrations get so great that they spill over into other areas. But I think that if any major part of the world is in serious difficulty, the way China might be, this could be very upsetting to world peace and world stability, and certainly to world prosperity.

So I would not like to choose between whether it will turn in or turn out. I think it is a very unsound situation for the world in any case.

Senator JAVITS. So you counsel, and I am going to put it as strongly as possible, a real basic change in American policy toward Communist China.

Mr. REISCHAUER. Yes, I certainly would counsel that. I feel that we cannot change the realities of the relationship today, even though we offer to exchange people and the like because they would not accept it. I do not think we should offer to recognize them because obviously they would not let us recognize them.

But I think the one thing we can do is to stop taking the leadership in trying to keep them out of international bodies. We can also say that we are hoping for a time when they will want to live on a live-and-let-live basis with us, and we look forward to that, and would hope in time even to have cooperative relationships with them.

These things we can say, and while they will have no immediate effect today, they can have a very important effect over the next few years.

Senator JAVITS. And we can also, in these rather indirect but very potent ways that are possible, influence or refrain from influencing those allies who do work with, trade with, and have exchanges with them, from pulling out of there or boycotting or joining the idea of quarantining them.

Mr. REISCHAUER. Well, I do not think any of our important allies would join us in a quarantine. That would be quite beyond reality.

But I think if we were to take this other stand we would find a great deal more understanding and sympathy and support from all our allies. This would probably help us in other problems in the world, and I think would be a very great plus for the United States.

Senator JAVITS. Thank you very much, Mr. Chairman. And thanks again for your generosity.

Chairman PROXMIRE. Congresswoman Griffiths?

Representative GRIFFITHS. Thank you very much.

Mr. Ambassador, the only reason I am content that the American Government lost your services to the scholastic world is that you can now teach your excellence to our new generations.

In view of the fact that the United States is probably the greatest free trade area in the world, and its growth has undoubtedly been in large part a result of that, I think it pertinent to ask what has kept China from being a similarly large free trade area? What has held her back, in your judgment?

Mr. REISCHAUER. Those are very large questions. The Chinese face some very intransigent problems, a very unfavorable balance between population and area and natural resources, a very large percentage of their population being underskilled in modern terms and, therefore, very hard to move toward modern types of productivity.

They have a tremendous educational problem before they can really get themselves moving forward.

I think in one way China has always been a musclebound giant. I never used that phrase before, but I think it has some validity. It has for 2,000 years been the largest social and political unit in the world, and it is a great triumph of their organizational skill that they have managed to hold this great unit together so effectively over such a long period of time. But they have tended to do it by overcontrolling themselves.

You find a recurrent pattern in Chinese history in which a new dynasty comes in after a period of turmoil, and then seizes control of the nation so firmly, and so drains all the taxes into the government coffers that it practically stops economic growth, and economic growth is only resumed when the dynasty begins to fall apart, and disorder allows a certain amount of free activity, which the Chinese traditionally have felt to be undesirable. Then you see economic growth in China, but meanwhile the political system has gone to pieces. The next stage is turmoil again, and then a new dynasty comes in, and the new dynasty clamps the lid on, and China again fails to grow.

The Chinese Communist triumph has a little bit of this in it. China has gone back to its old techniques of overcontrolling everything. They are really bottling up the possibilities of tremendous growth that the Chinese people, with their great energy and resourcefulness, are capable of.

Representative GRIFFITHS. Would that, in your judgment, account for the fact that they are behind the U.S.S.R. and Japan and Taiwan economically?

Mr. REISCHAUER. Well, each of those is a special case. Obviously, it is far behind us because of a much slower start toward modern technology, because of much less favorable geographic conditions.

You could say the same thing to a lesser extent in connection with the Soviet Union.

In the case of Japan they certainly had just as favorable geographic conditions as the Japanese, but there is a deep difference between Japanese society and other Asian societies in that the Japanese had produced higher levels of technical skills and greater drives for individual achievement and things like that even in their premodern period, so they rushed ahead in modernization more quickly.

Representative GRIFFITHS. What is Japan doing toward industrializing China? What is their contribution?

Mr. REISCHAUER. Japan's contribution is fairly great, because what the Chinese can get from Japan is, first of all, fertilizers for agriculture; but then a great deal of steel of one sort or another, and then whole industrial plants.

There are just endless things that the Chinese would like to buy from Japan that would help them in their industrialization.

The limiting factor is the ability of the Chinese economy to find exports that the Japanese are willing to accept, and that puts really a very severe limit on the trade between the two countries.

Representative GRIFFITHS. If it could be assumed that we could eventually overcome our own political problems and offer to trade with China and, as you point out, they have not suffered particularly from the fact that we are not trading with them, how could we get them to trade?

Mr. REISCHAUER. Well, I doubt very much that there would be any very rapid upsurge of trade between us except that, of course, our food would be one of the things they need badly, and they would have to try to find ways to pay for it.

It will be very difficult for them to find anything they can export to us in sufficient quantities to pay us.

They get industrial things they need in as great supply as they are able to pay for already from Japan and Western Europe, and so there really would be no need to also have our source of supply. So I rather suspect that the trade would not be a very great one between us.

Representative GRIFFITHS. If you assume that we can stop them from breaking out into contiguous territories, what about the ideas of the Chinese playing political leapfrog into Brazzaville and Cuba and Tunisia? What chance is there of that?

Mr. REISCHAUER. They have tried it a lot, and this leapfrogging usually ends with them landing on their face in the mud.

They have failed time after time. Their psychology and their ineptness, and their lack of real power in the sense of being able to influence the situation economically or militarily in these distant places, means they really cannot achieve very much.

The time when that looked like a great menace, I think, is already in the past, because they have failed so often and so disastrously that people now look at them with great suspicion all around the world. I do not think we have much to fear of their making efforts of this sort, let alone successful efforts, in the future as we have in the past.

Representative GRIFFITHS. Was it the scope or the quality of Russia's assistance that was the cause of friction between them or would this not have been as important as ideology?

Mr. REISCHAUER. Well, I think there are endless reasons for the great split between the Soviet Union and China. I think the most

fundamental one, and one I wrote about in 1954 in a book I wrote at that time, is the simple fact the Chinese and Russians are two great peoples. The Chinese are sure they are the greater of the two, of course, and maybe they have some reason for this. They have always looked upon themselves as the great civilized land in the world, and everybody else they felt to be barbarians.

The Chinese also have a great resentment toward all foreign people. For a century they have been subjected to humiliation by the outside world. Their relationship to Russia was psychologically a very difficult one when they were accepting Russian leadership and tutelage, and as soon as they felt themselves strong enough they refused to go on accepting them.

That, I think, was the fundamental problem.

Then, beyond that there are all the historical reasons such as long hostility between the two, a rather difficult border, large pieces of land that the Russians have absorbed over the last couple of hundred years from what the Chinese consider to be their territory. Besides that there were doctrinal disputes over communism. All this, I think, made the split between them absolutely inevitable, as I predicted in 1954, although I must say it came a little faster than I thought it would.

Representative GRIFFITHS. What do you think are the main economic causes of the frustration that appear visible to the outside world today?

Mr. REISCHAUER. The main economic reasons for the Chinese frustration?

Representative GRIFFITHS. Main economic causes, if indeed the causes are economic.

Mr. REISCHAUER. Well, I should say probably the most fundamental is their bad showing in agriculture. Communists have really a brown thumb when it comes to agriculture. They almost always ruin it.

The whole concept of trying to force it into a commune system goes against human nature. Almost everywhere Communists have managed either to reduce agricultural production or at least to keep it from growing as it might otherwise have done. In a country with an economy that is 80 percent agricultural, this can produce terrible disappointments.

So I think agriculture is probably where their most serious frustration comes from, because it affects everything else. Having to pay for food imports they have not had the ability to import industrial machinery the way they had hoped to, and so the whole industrial program, while moving ahead somewhat, still has not gone ahead as they had hoped for.

Representative GRIFFITHS. Aren't the real problems with respect to agriculture under the communistic system, first, that you cannot put it on a production-line basis and, second, it is very hard to get maximum effort out of peasants that do not own the land.

Mr. REISCHAUER. That is right.

Representative GRIFFITHS. Thank you very much, Mr. Chairman. Chairman PROXMIER. Congressman Widnall?

Representative WIDNALL. Thank you Mr. Chairman.

I would like to follow up briefly on what Mrs. Griffiths said. We all respect you greatly for the services you performed in Japan and

the many achievements that you were responsible for, and we feel that Harvard University is very fortunate to have your services. It is going to be helpful to the minds of the future who will be going through the Harvard process.

In a recent article in *Foreign Affairs* you stated that the Japanese felt that their close association with a "stubborn and short-sighted America" has prevented the development of "fuller and friendlier ties with Communist China."

But recently you noted, and again I quote, "The Japanese have begun to realize that as their own strong economic, political and emotional bonds with Taiwan grow, that has become a major obstacle to a rapprochement with Peking."

Would you please elaborate on this point, particularly with respect to the U.S. posture concerning Taiwan in connection with any bridge-building efforts on our part.

MR. REICHAUER. Well, I think for many years the difference in attitude toward the China problem was a very severe strain on American-Japanese relations because the general public, although not the Government, had a feeling that it was American pressures—or stubbornness, as they would see it—that was keeping them from having the kind of broader relationships with Peking and Communist China that most Japanese people would like to see.

This feeling has certainly declined in recent years, as the Japanese have come to see that it is very difficult if not indeed impossible, to have good relations with both Peking and Taiwan under present circumstances, and they have deep ties with Taiwan. So I think the problem is a lessening pressure on our relationship.

I do not think our support of Taiwan as an area that has every right to self-determination and membership in the United Nations is really any serious problem in our relationship with Japan because I think most Japanese would feel somewhat the same way about it.

One of the advantages of our making quite clear that we are hoping for better relations with Communist China some day and that we are not trying to disbar it from world society, would be a clarification of the situation for the Japanese. They would then realize it was not American pressure in any way that prevented them from developing whatever they would like to develop in the way of relationships with Communist China.

Representative WIDNALL. We have certainly witnessed a remarkable economic situation taking place in Taiwan as opposed to the Chinese Mainland.

What has been the great limiting factor on the Mainland preventing it from matching the rapid growth developments taking place in Taiwan? Is it that trying to replace the ideology while neglecting the natural forces will mold the future of a nation?

MR. REISCHAUER. I think there are three basic differences between Taiwan and Mainland China that produced different economic results. First of all, Taiwan had a very big investment of Japanese capital during its colonial phase, so it had a much finer network of railways, hospital services, education, and everything else. It was a much more modernized part of the world than was Mainland China as a whole and, therefore, got off to a better start after 1945.

After the Republic of China moved there, we also pumped a great deal of economic aid into Taiwan. This is another different factor.

The third one that I think is important is that they have obviously allowed for much more individual enterprise. They have a mixed kind of economy, like the advanced nations of the free world, and this obviously is a much more productive system, particularly where there are hardworking, energetic people of the Chinese type, than is the overly planned system of the Communists.

Representative WIDNALL. What do you consider the biggest gaps in our knowledge of Communist China's economic position today?

Mr. REISCHAUER. This I would not know. I think you had better ask the economists, Congressman.

Representative WIDNALL. Is it not very difficult, due to our lack of intelligence source and contacts, to determine the true policy of China?

Mr. REISCHAUER. That is true.

Representative WIDNALL. It is not also difficult, because of our intelligence gap, to determine the proper economic policy in connection with China?

Mr. REISCHAUER. Well, I think it is difficult to have a clear economic picture of what is going on there.

As I point out in my paper, though, I think our economic policy has really not had any economic effects of any sort. In fact, it has been disassociated from the whole economic situation, and really must be looked upon as part of our political policy, and I personally do not find it difficult to make up my mind on that aspect of the problem.

Representative WIDNALL. You said the United States must contain, not isolate, China. With regard to the U.S. economic policy concerning Communist China, what does this mean in practical terms today?

Mr. REISCHAUER. I do not think our economic policy has had very much to do with containing them in any way. As I suggest, I do not think it has really affected the Chinese economy in any appreciable way and, therefore, has not had an influence on China's capacity to send small arms to neighboring countries or stir up revolutionary movements, nor has it affected its capacity in any way to maintain a huge mass foot soldier army, which is its chief strength; nor, I think, even its capacity in the nuclear field which Senator Javits brought up.

The limiting factors to nuclear development, I should say, are much more technological than they are economic for the Chinese. Even if they are willing to devote their riches to that program, what will keep them from doing more is the fact they do not have the technical skills to go faster than they are.

So I do not think there has been any relationship between our economic policies and the military capacities of the Chinese.

Representative WIDNALL. With the Chinese economy so badly strained, what are the real reasons behind its efforts in the development of a nuclear capacity? Is it for prestige, fear of the United States, or aggressive designs of their own? What is your interpretation of it?

Mr. REISCHAUER. Well, in commenting on that might I also comment on something that Senator Javits said. He pointed out the

great danger to world peace in the development of a nuclear capacity in China, and I would certainly agree with him.

But I do not think the danger is in the fact of the actual number of weapons, because the Chinese will have even at most only a tiny capacity which would be almost suicidal to use.

The real problem is the attitudes involved and, therefore, I have always looked upon China's development of nuclear weapons as being more a political problem than economic or military.

I think their reason for developing this capacity has been primarily their fear of us, because they must themselves realize that they cannot really do anything with these weapons when they have got them. Even the threatening of weak neighbors will not seem very convincing if those neighbors have any sort of guarantee from either us or the Soviet Union.

I think the nuclear capacity of China will prove to be virtually a zero even in terms of political influence, let alone military influence.

But I think they were driven to utilize so much of their very narrow technical skills for this effort, at a loss to other parts of their economy, by a very genuine fear that we want to attack them; it is part of the Communist belief that we, as so-called capitalists, must yearn to attack them. I think they sincerely believe this and, therefore, I think they have concluded that it is a wise use of their rather meager resources to build at least some nuclear capacity in the hope that this might deter us from attacking them.

Well, if it does give them that feeling, perhaps it might contribute to the relaxation of tensions, because they might feel a little bit more relaxed about things if they have a few nuclear weapons. This is not a usual point of view; it is perhaps iconoclastic.

Representative WIDNALL. That is all, Mr. Chairman. Thank you.

Chairman PROXMIRE. Senator Jordan?

Senator JORDAN. Thank you, Mr. Chairman.

Mr. Ambassador, you remarked on the first page of your statement that the political gyrations of the past year have probably further darkened Mainland China's economic prospects. You enumerate several ways in which this may have happened. Who is going to be the victor and what is going to be the ultimate effect of this political gyration?

Mr. REISCHAUER. Well, I am not a China watcher as I said, although I do not think the China watchers know any more than anybody else as to how this may come out.

For a while it looked as though the Maoist group might win out, and then might try something in the economic field like a Great Leap Forward which would have ended in disaster. There have been more signs recently that they may not be winning out and are being forced back into a much more modest position.

The Chinese throughout history have been great people for compromise. I would suspect some rather muddily compromise resolution of this problem. It may leave the whole situation rather indistinct for a period of time. But I think the whole experience will eventually register in their minds as just one more failure, one more frustration. They have had a great number of frustrations at home and abroad and, therefore, I have felt that perhaps within a few years, 2 or 3

years, this latest frustration might induce them to take some turn toward a different kind of policy, because obviously they are coming to a blank wall in what they are doing. Their progress economically has just been terribly slow from their point of view, so I would not be too surprised within a few years to see them trying to patch up their relationship with the Soviet Union, perhaps, so that tensions might relax a bit, or if that is too painful for them, perhaps making greater efforts to be friendly and have even more satisfactory, economic relations with Japan, first of all, and then with the Western European countries that can best help them in their need for foreign sources of materials.

Senator JORDAN. You mentioned one of the results of the present turmoil in China was the fact that the better part of a year of schooling has been lost by these young revolutionaries which, you say, is a tragic matter in a country already low in technical skills and so on.

What is the present level of literacy in China? How thoroughly do they go in for universal education?

It seems to me this is one of the most serious things that is happening over there now.

Mr. REISCHAUER. I do not dare give you a statistic because I have seen so many different ones that I have gotten myself rather confused on what might be the most accurate. They would all be guesses at the best. Literacy has obviously gone up quite appreciably under Communist rule, but it is very far from being anywhere near a hundred percent. Nor do they even, I think, have all their children yet in school, let alone giving adult education to the older ones, so the literacy rate is still a lowish one, around the 50-percent level, I should imagine.

Senator JORDAN. But the loss of a school year by these young people who are engaged in the demonstrations and so on is very serious.

Mr. REISCHAUER. I think it is a tragically serious thing.

Senator JORDAN. Yes.

Mr. REISCHAUER. Because probably the most important, the most fundamental thing in the modernization and economic development of a country is the acquiring of skills, and these are done fundamentally through education. The Chinese had all their high schools out of use from summer all the way around until I think the 1st of March.

The colleges and universities are still out of session, I believe, and some of them had gone out of session in the spring.

So while this is not something that would show up in economic growth rates immediately, it is obviously a factor of drag on the whole development of China.

Senator JORDAN. Mr. Ambassador, would you care to comment on whether the Vietnam war has imposed any significant strain on the Chinese economy and whether China could support an increased level of assistance to North Vietnam without strain?

Mr. REISCHAUER. I think these questions take me beyond my competence, but I would not imagine there has been any real strain involved through the Vietnam war at all. Remember the Chinese maintain a foot soldier army in the millions. Not a very appreciable percentage of their normal supply of weapons and munitions for such an army would be needed to supply completely the Viet Cong and North Vietnam.

There would be only a very small drain from what they would normally have. So I think it has had no really appreciable effect.

Senator JORDAN. I take it from your testimony, Mr. Ambassador, that you see a more dangerous China in one that is "contained" or kept out of the community of nations through sheer frustration. They might be led into violent action under those circumstances whereas if some measure of accommodation was found for them in the community of nations, this danger might be eliminated or at least diminished.

Mr. REISCHAUER. Yes, that would be the negative way to say it, that, through pressures from the rest of us, we may build up the frustrations to an explosive point, and through accommodation we may relax these pressures.

I would like to put it in a more positive way, that in the long run China eventually will make its peace with the world. There is no way for it to go along except in that direction, and I feel we postpone that positive achievement by the maintenance of some of our pressures now that have no effect except as psychological and political pressures and, therefore, are hurting our long-range interests in moving to the time when China will make this accommodation, so I would speak in terms of our helping them to make accommodations rather than our making the accommodations ourselves.

Senator JORDAN. Thank you.

Chairman PROXMIRE. Congressman Rumsfeld?

Representative RUMSFELD. Mr. Ambassador, I was most impressed reading your statement last evening and I have been most interested in your additional comments here. One or two have raised some questions in my mind.

You indicated that in the nuclear field you feel the limiting factors with respect to China are technological rather than economic. It is my impression that the technology in the nuclear field today at the level they are working is relatively simple, and that the basic problems facing countries that are considering whether or not they should move into the nuclear area are essentially economic. I am therefore surprised to hear your comment. Maybe it is a matter of definition of words because it seems to me that it is resources rather than skills that are limiting China in this field and I think that for the record it might be helpful if you would expand on this or correct me if you feel I am incorrect.

Mr. REISCHAUER. Well, again you get me in areas in which I do not consider myself an expert. But when I said technology, I was really not thinking of the highest technology so much as the fact that a development of this sort requires hundreds or thousands of very, very well-trained people, and it is limitations of that sort, the second level of technology, that I am speaking of, rather than the more advanced scientific knowledge.

Representative RUMSFELD. I see.

Turning to another comment you made, you indicated that you felt that China's reason for moving into the nuclear field was a "fear of the United States," and you said they were "driven to it by a genuine fear of the United States."

I find this difficult to accept, and I wonder whether you would agree that possibly their movement into this area may be attributed, at least in part, to their desire for prestige, their desire to influence not the United States, not the Soviet Union, but rather the undeveloped

countries in southeast Asia or Africa or Latin America or elsewhere.

It would seem to me that this would be a more realistic response, and I was surprised that you place so much emphasis on a fear of the United States.

Mr. REISCHAUER. Well, I think I probably overstated it, and I think you are probably quite correct in picking me up at this point. I was speaking of the purely military aspect of the problem. I would doubt that they thought in terms of nuclear bombs being usable weapons against weaker countries around them, and insofar as it was a weapon of meaning, they thought of it as giving them protection against us.

Obviously a bigger consideration is this matter of prestige. They feel that they are a great country and therefore they must have this thing, which they feel would help restore China to its position of what they would consider natural leadership in the world.

Representative RUMSFELD. I was interested also in your comment that you are not so sure that the China watchers know all about China. That has been my view. I would be interested to know what extent some of the people you had contact with in Asia during your stay in Japan anticipated the present turmoil in China. Do you know of people who reasonably accurately predicted the present political unrest?

Mr. REISCHAUER. First of all, I do not want to sound critical of the China watchers. I think they do a marvelous job in a very, very difficult situation, and what little knowledge I have of what is going on there is obviously derived from them. At the same time I do not know of anybody in the United States or Japan or anywhere else who predicted anything remotely like this, and I doubt that anybody in China really predicted it either. History is not very predictable.

Representative RUMSFELD. I was not meaning to be critical of them either. They are certainly able students, and this is a fine thing. I was trying to point out what seems to me a serious problem, and this is the marked lack of sufficient and accurate information so that other nations of the world, including the United States, can anticipate trends and develop appropriate policies.

Mr. REISCHAUER. Well, if we have learned anything from the experience of our relationships with Asia over the last 20 years, it is that we did not have enough knowledge and information about it, and we have to have more if we are going to set a wise course in this country in our relationship with Asia.

Actually we probably met this challenge a little better in the Chinese field than in most because we have tried to develop a lot of experts and they are doing a fine job.

But look at the Vietnam situation, how we wandered into that with no expert knowledge in that area, and then look at all the other parts of Asia about which we have only very, very thin knowledge.

I have a certain amount of trepidation about the future.

Representative RUMSFELD. Even Japan with its proximity and knowledge of Asia, its trade with Communist China—I believe a number of the prominent statesmen of Japan consider Japan a window to China—even there the ability to predict, or anticipate, or even guess with respect to China, does not exist to any accurate degree; is this correct?

Mr. REISCHAUER. That is quite true. The Japanese have, of course, many more contacts than we do, and people go back and forth all the time, so there is a lot more detailed information of a certain type available in Japan than there would be in this country through talking to people who have been there.

But they actually have less in the way of developed China watching and China studies than we have, and for all their great feeling of cultural affinity with China, they are a very different society, with a very different history over the last century and more, and they find China as difficult to understand as we do, I think.

Representative RUMSFELD. In your comment to which Senator Jordan has referred there is the somber comment that the political gyrations of the past year have probably further darkened Mainland China's economic prospects.

Would you say it would be fair to reverse that and suggest that the political gyrations were a result of China's economic prospects or the lack thereof or the difficulties in the area? Do you relate them at all?

Mr. REISCHAUER. Yes, I think so. Obviously they would not have tried to do something very new and different, you would not have had this whole approach to the cultural revolution and the rest of it, if they had been satisfied with what was happening. They are obviously as dissatisfied over their economic progress as over other things.

So the Maoist effort to find some new way to solve this problem of economic progress clearly lies behind what has happened there.

Representative RUMSFELD. Is there any factor other than the economic situation that you consider to be of equal importance in having caused the political gyrations?

Mr. REISCHAUER. Yes, I think there are many other factors.

Representative RUMSFELD. Could you tell us some of them?

Mr. REISCHAUER. It is very hard for us to try to enter into the minds of people who are so different from us in their basic assumptions and their whole background. After all, Mao and his friends have been revolutionaries out in the backwoods of China for the last several decades, which gives them a little different background from ours. But I think these are political factors. I think Mao or else people close to him are very distressed to see their great, pure revolution, as they felt it to be, becoming more and more bureaucratic and taking on what they called bourgeois characteristics. It is perhaps that that bothers them more than anything else. They just did not want to admit that people were people and were going to act like human beings. That is one of the great failings of communism everywhere. It has always tried to change people into something else, and then it finds it cannot.

Mao saw what had happened to Stalin when he was looked upon as being out of date by the people who followed him. I think this was a horror to him.

So I think probably the political worries were as great as the frustrations over the lack of economic growth.

Representative RUMSFELD. Thank you.

Chairman PROXMIRE. Senator Symington?

Senator SYMINGTON. Thank you, Mr. Chairman.

Mr. Ambassador, it is a privilege to see you. I am sorry I was late; I had another hearing this morning.

I read your statement last night and was much impressed with it, as I am with just about everything you say on subjects incident to the Far East.

Let me also congratulate you on your recent article in "Look," which was interesting and instructive to me.

As I understand it, what you would like to see us do is improve our normal trade relationships to the best of our ability on the proper terms, believing that in so doing we will merely be following the lead of the other developed countries of the world; that you feel in adopting a policy of that character in the long run we will be better off than if we do not. Is that a fair summation?

Mr. REISCHAUER. Yes, that is exactly it. All the advanced free nations of the world do trade with China, and the list of the major Chinese traders turns out to be our allies in the free world. And so our refusal to trade has been meaningless in economic terms. It has also divided us from our allies. They have not understood our position. Beyond that it has been, I think, a barrier to allowing the Chinese in time to modify their attitude toward us, which is really what we want them to do.

Expressing a willingness to trade could only be part of a broader statement of our hope that they will want to live peacefully and eventually in a cooperative manner with us, and so it would be a re-definition of what our attitude toward them is.

Senator SYMINGTON. I realize it is only a square on the checkerboard, but it is a pretty important square.

It has seemed to me that inasmuch as all other developed countries are doing their best to lay the groundwork for a good trading position with Red China, the market is bound to improve because of their great economic potential, along with their increasing population, already the largest. This would be a way in itself perhaps of breaking down some of the political resistance set up arbitrarily.

Somebody gave me a statement last night about some of the things some Soviets have been saying about the United States, and I do not think they are much more reasonable than what Mao has been saying about us.

This grading of who we should or should not trade with to me seems a fine way to lose markets which some day we may need very badly in order to stay competitive in our capitalistic system.

I would like to shift, if I may, to a subject on which you are the authority in this country, Japan, and ask a question which embraces not only the economic leg of the platform of our security and well-being, but also the political leg.

If we do not adopt a more understanding attitude toward China, does that not almost automatically guarantee that we will have increasing difficulties over the years with the Japanese, at least from an economic standpoint?

Mr. REISCHAUER. Well, as I have said earlier, I think this is, perhaps, a declining strain on American-Japanese relations but still a very major one, and so there is a whole argument in favor of a different attitude toward China just on the basis that this would help strengthen our relationship with Japan.

It would help if we were a little bit more in line with their basic attitude toward China, which I might define as being one in which they think trade and other relations with China will have a long-range beneficial influence by giving the Chinese a chance to learn about the outside world and therefore gradually adapt to it.

I think there is probably more hope that the Chinese will learn about things abroad through Japan than through any other window, because I have noticed that they have tended to be a little bit more sensitive in their reactions to what the Japanese say and think, than they certainly have been to our reactions or the Russian reactions or almost anybody else's reactions. They obviously have an interest in Japan and an ability to understand things there a little bit better than elsewhere.

Senator SYMINGTON. The reason I ask that question is that, as the chairman of this committee has so often pointed out, money is not inexhaustible in this country.

When I asked Defense, in a hearing that has now been printed, how long they thought we could afford spending billions of dollars a month in the South Vietnamese war, the answer was startling: "Forever." This is justified on the basis that increased costs of defense nevertheless are no larger a percentage of the gross national product, because of the growth of the latter. I suggested, therefore, that they foment some 50 strikes, pay all asked for, then put the additional cost in the price of the tickets and merchandise.

Then next year, even if we spent nearer \$3 billion a month in Vietnam instead of 2, we could still say it is not important because it is no greater percentage of our gross national product.

The truth is, however, that it would not take much for us to become relatively noncompetitive with many of these new industrial giants like West Germany and Japan and Italy. That could have a bad effect on the one thing which has held up our balance of payments, namely, our net excess in the private sector.

Mr. REISCHAUER. Yes.

Senator SYMINGTON. These problems are largely economic, but I think they also have a potent political background.

As I read your statement, it seemed the trade angle you were emphasizing is one of showing that even though we continue to resist, it does not really bother the trade very much. As I remember it, your figure was 70 percent now as non-Communist trade.

Mr. REISCHAUER. Actually it is closer to 80 percent in this last year. I was using earlier figures.

Senator SYMINGTON. The truth of the matter is, for ideological reasons we are automatically cutting ourselves out of the world's largest potential market from the standpoint of population, is that correct?

Mr. REISCHAUER. Yes. In terms of population it is. I said earlier in this hearing that I thought that even if we and they were willing to trade together, there would probably not be a very large trade because of their limited ability to export and their ability to draw on the kind of industrialized goods they want from a wide variety of sources—Europe, Japan, as well as ourselves.

But there is one aspect in which our attitude has even a further influence on our competitive position in the world. Companies in, let

us say, Japan or Western Europe will sometimes be a little reluctant to utilize American machinery or American patents and so on because these might then make it impossible for them to export part of their product to China. We probably make ourselves less competitive in the European and Japanese markets because of our attitudes toward trade with China.

Senator SYMINGTON. That is interesting.

I have been following the Kennedy round with interest, and it looks as if the French are saying to the Germans, "If you will scratch our agricultural back, we will scratch your industrial back. Then let us together build a fence around Europe and keep out the products of the Anglo-Saxons." Now, if the developments in Central and South America result in a common market down there, and they develop a General de Gaulle later on, we might find we would be very glad to follow the lead of our friends in Europe and the rest of the world and see if we could do business with these countries behind the curtain. That would be a fair surmise, would it not?

Mr. REISCHAUER. Yes, I think it would, and actually that is one of the reasons why we should look at this Japanese proposal for a Pacific community.

There has been a lot of talk on the part of the new foreign minister, Mr. Miki, about a community of ourselves and the Canadians, Japanese, Australians and New Zealanders.

I saw a statement that these five nations surprisingly enough do 40 percent of the world's business and do a lot of business with each other, so this is a very important grouping.

Senator SYMINGTON. My time is up. I would make one comment on that which is possibly pertinent. I asked Mr. Roosa, formerly with Treasury—and if anybody truly understands money, I think he is in the forefront of those who do—whether, if he was a member of EFTA, the Outer 7, he would rather join a dollar bloc or whether he would rather join the Common Market. Mr. Roosa said he believed he would rather join the EEC. To me that gives us something to think about.

I thank you for coming down, and must say that, of all the people who appear here, I get at least as much constructive information from you. It is a privilege to hear you once again.

Mr. REISCHAUER. Thank you very much.

Chairman PROXMIRE. I would like to ask you, Professor Reischauer, a little further about what your position adds up to. As I understand it, you favor our increasing trade but you imply this would not be very meaningful quantitatively for several reasons. For one thing they hate us, they have been told to hate us, and they have had this propaganda against us, and they have these other alternatives which can provide them with what they can afford to buy at approximately the same prices.

You have indicated that you would not favor any extensive credits, and you certainly do not favor aid, you indicated that. So that this, you feel, would perhaps help a little psychologically, but in terms of material differences our trade with China in your view would not amount to very much, is that much correct?

Mr. REISCHAUER. Yes, I do not think it would be a great factor

in American trade if we were trading with them quite freely, although, as I say, it has an influence in our trade with other industrialized nations where our products sometimes are not as competitive as they might be because of fear of their influence on the other countries' trade with China.

Chairman PROXMIRE. Now, let me ask you a little further about what this suggestion—the suggestion to me that the real container of China is not the United States but the U.S.S.R., that in the period up until 1958 the U.S.S.R. was a country that was not only trading with China but aiding China very, very greatly, and that this was a period also that coincided with China's, Red China's, development and growth.

At the same time it did not coincide with any pacific or cooperative or friendly attitude on the part of China toward the world and ended up with a very hostile attitude on the part of the Chinese leaders toward the Soviet Union which has been giving them aid and trade.

So I wonder if this experience suggests that it may be if we start with aid and work in the direction possibly of making trade more meaningful with credits and then with some kind of technical assistance and so forth, that we might be building up a country which now has a very limited military potential, because they are so feeble economically, into a nation which might conceivably become a very serious military threat because they would become strong economically through our assistance.

Mr. REISCHAUER. Well, I do not think we should compare it with the relationship between the Soviet Union and China in any way. I think the problem there was that China had dependence only on the Soviet Union, making a very embarrassing relationship, and they both had the Communist faith, and they both wanted to be the interpreter of the true Communist faith, and this was another grave problem. There was such an exclusive Russian influence in China that one could predict this was going to lead to trouble between the two because the Chinese have tended to resent any country that had a major influence in their own country.

I certainly would not expect us to go to the point where we were the great dominant nation in China's relationships with the outside world.

As for the building up of China, the massive efforts by the Soviet Union to send technicians and provide aid, although the Chinese may have paid for it in the long run, obviously did help them in that first surge forward quite a bit.

I cannot see any country in the world wanting to play that role in China at the present moment.

Chairman PROXMIRE. I am very concerned about that because while it is, it may be, a perverse say to look at this situation, I am not convinced that it is in our national interest to have an economically strong China. It may be, and a lot of wonderful people feel that way and a lot of very able and convincing and thoughtful people think that way. But, after all, China is a country that ever since the—ever since 1945 has been militant and aggressive and has not really changed its viewpoint toward the world and world cooperation very much, and I suspect that the reason that they are not in Vietnam right now is because,

not for any love of us or any restraint toward any other nation, but because they just economically cannot do it. They do not have the railroads, they do not have the other resources that are necessary to transport troops. They do not have the technology to fight against the kind of firepower that we can put in there.

Maybe they will come in through some irrational act which would be very terrible for us as well as for them, but if their economy were more powerful, they would be a much greater nuclear threat.

You have indicated the economic restraint is one of the reasons why that is not a serious threat. And in the second place they would be a much greater threat in terms of conventional force.

Mr. REISCHAUER. Well, there is one other factor, I think, that helps explain their not going into the Vietnam war besides their economic difficulties and the fact that they cannot match us militarily and would not be able to do anything against the kind of blockade of China and the destruction of their cities that we could be capable of.

Another factor is that intervention in the Vietnam war does not, I think, really fit their basic philosophy, because they do not really advocate spreading communism through their own armies. They think in terms of helping other countries stir up revolutions rather than doing it themselves.

Senator SYMINGTON. Will the Chairman yield?

Chairman PROXMIRE. Yes, indeed.

Senator SYMINGTON. If I may pursue the point, it seems to me we have three legs to the platform of our national security and well-being: The military, a component part of the political, the political itself, and the economic. One can move around from one to the other, but they all sort of tie in at the end.

I have done business abroad. The first thing you do when interested in a country is send a man. He talks to the government. If he gets approval, then you place distributors say in three or four main cities. Take an article perhaps we were good at, say sewing machines. They were anyway very important in foreign countries. You have distributors distribute into the smaller towns. Then you get dealers in those towns. There are breakdowns sometimes, whereupon the distributor would send out servicemen, and so forth.

This is a common, normal development among all countries in the world who trade. Of course, the trade would be very small to start with, especially in a poor country. On the other hand, nobody has ever criticized the British or the French for not being smart about trading, and they have been working along these lines for years. In our following their decision we might develop something which would show that all these wall posters and so forth were not entirely accurate in their extremely unfavorable picturing of the American people. Would we not have a chance of developing something which could turn into somewhat of a political success that in turn might prevent a military problem.

Mr. REISCHAUER. Yes.

Senator SYMINGTON. Does that make sense to you?

Mr. REISCHAUER. Yes, Senator Symington, I agree with you completely. I think all these things tie together, but they are of different weight. To get back to Senator Proxmire's point, whatever we do one way or the other, such as blockading China, or refusing to trade

with China, or even going to the point of giving her some aid, is going to influence the growth of that economy very, very little. It is not going to produce a major change one way or the other. She will probably continue to grow in any case at 3, 4, 5 maybe even 6 percent, largely because this is a self-generated thing produced by their own capacities for work and so on, and our influence on the rate of growth would be very slight.

So their economic capacities for being more aggressive or less aggressive do not change very much.

What can change very greatly and, therefore, is a much larger factor in this equation, is their attitude. I think we should be working primarily on attitudes, by our posture, by the kind of contacts that you are advocating, and so on, because these other things will not change the equation very much one way or the other.

Chairman PROXMIRE. I certainly agree wholeheartedly we should do everything we can to change China's attitudes. It comes to a question of a matter of timing. If we can take steps and do things that will help change the Chinese attitude without—and have some evidence that it is being changed—without at the same time, well, building an economic power that would be threatening, I would say we certainly should do it. But I think we ought to learn something from the Russian experience and in which, as you say, they provided the massive technical assistance, they very greatly helped their economy move forward, and end up with a very hostile competitor.

Mr. REISCHAUER. Yes.

Might I make comment on that, sir?

Chairman PROXMIRE. Yes, I wish you would.

Incidentally, I do not say this. I am just trying to bring out the arguments in this thing.

Mr. REISCHAUER. Yes.

Chairman PROXMIRE. I hope to learn a great deal from these hearings. I certainly have learned a great deal this morning, but I think you should be challenged because I think many people feel this way about the situation, and I must say that in the back of my mind, as I was reading these Chinese studies, I began to cheer for Mao because he is the fellow who is ruining the Chinese economy, making it difficult for them to grow, and giving us the kind of—maybe it should not be assurance, but the kind of feeling you get when your potential adversary is growing weaker.

Mr. REISCHAUER. I think the lesson we should learn from the Soviet failure with China and also with some of our own failures is that we should not get ourselves overcommitted anywhere in the sense of becoming the exclusive patron of a country in Asia. This is a very dangerous situation to be in, and the Russians have paid a very heavy price for it, and I think we have paid heavy prices for it.

You used the words "a matter of timing." I think that is terribly important and that is one of the reasons why I am so eager for us to make some changes in our stance today, because during this time of turmoil in China is perhaps the best time to do it. China is likely to become more flexible, one way or the other, more likely to move, over the next few years than she has been in the past, and, therefore, actions that we take now may have much more influence than if they had been taken either earlier or were to be taken later.

Also the very fact that China is in such trouble and, on the other hand, we are taking such a strong stand in Vietnam, I think, makes our actions less susceptible of misinterpretation as being concessions to Chinese communism or something of that kind. In fact this is one of the easiest times to make these changes in our stance and, perhaps, the best time.

Chairman PROXMIRE. Did I understand you to say in your judgment it is most unlikely that China would come into the Vietnam situation in view of her practices and policies in the past of letting others fight these wars, not getting involved herself?

Would you extend that to a situation in which North Vietnam were about to collapse?

Mr. REISCHAUER. I think it is unlikely that the Chinese will want to come in themselves into this war unless it so escalates that they feel that they are keeping us away from their borders. If we did things in North Vietnam that gave them the same sort of fright they had when we went across the line into North Korea, then I think there would be a very serious danger.

Chairman PROXMIRE. Is it much harder for her to move into North Vietnam or South Vietnam than to move into Korea?

Mr. REISCHAUER. Yes, they do not have the industrialized base of Manchuria next door.

Chairman PROXMIRE. The transportation system is worse and much longer.

Mr. REISCHAUER. The transportation system is worse and much longer.

Chairman PROXMIRE. And the use of our firepower has become so much more sophisticated and so much more effective than it was in Korea that they would be at a greater disadvantage.

Mr. REISCHAUER. That is correct. But I think we would not run great dangers of having them react in the same way in Vietnam as they did in Korea, if, let us say, North Vietnam were about to make a deal with us. At that point I do not think they would come in just for that. I do not think they have ever looked upon this as being their war in that sense.

Chairman PROXMIRE. Just one other area: You dismissed the nuclear threat rather readily. Is it not true, however, that both the technological and the economic problems are becoming easier each month, with each passing year, getting to the situation where Israel can develop a nuclear power with 2½ million people; Egypt can develop her nuclear power perhaps? Those countries have some real restraint from this country on them; China has none. China has 750 million people; the nuclear technology, as I say, is becoming far easier.

Can we expect it will be relatively simple in 1970 and 1975? Under these circumstances is it not possible that Japan might be forced into developing her own nuclear power and with her massive economic industry and technological proficiency she could well become an outstanding nuclear member?

Mr. REISCHAUER. Yes, I think the real tragedy of the Chinese entry into the nuclear field is its general encouragement to proliferation of nuclear weapons, and one of the countries that could be influenced is,

as you suggest, Japan. The Japanese have obviously been much distressed by what the Chinese have been doing in developing nuclear weapons. Some of them also are influenced by the argument that for prestige purposes a first-class nation has to have nuclear weapons.

Chairman PROXMIRE. Japan is so vulnerable, it is so concentrated.

Mr. REISCHAUER. Yes.

Chairman PROXMIRE. And even a relatively simple nuclear power on the part of China could take her out pretty swiftly.

Mr. REISCHAUER. And, therefore, there is some talk about having an anti-ballistic-missile system in Japan, specifically for defense against China, which would be less predictable than the Soviet Union. They could not really build a defense system by themselves against the Soviet Union.

So I think there will be a great deal of discussion of this possibility of going into the nuclear field by the Japanese over the next few years.

My own guess, on the basis of the whole political situation there, the strong pacifism, the revulsion against nuclear weapons and so on in the country, is that they will probably decide against it.

Chairman PROXMIRE. You are talking about Japan?

Mr. REISCHAUER. Yes, but they are certainly going to discuss it seriously.

Chairman PROXMIRE. Senator JAVITS?

Senator JAVITS. I just have a question or two, and I am glad I came back, Ambassador Reischauer, to again compliment you on the great aid you have been to this committee and the great service you rendered our Nation and the world.

Do you see any difference between the Japanese China watchers and the U.S. China watchers? Is there anything we can learn from them?

Mr. REISCHAUER. Some of the best experts are very close to each other, but I do think there is perhaps a depth of the understanding of Chinese emotions and underlying attitudes in Japan that would be very useful to our people, and I do think it would be very useful to have the two groups get together more often and talk more to each other.

Senator JAVITS. Do you think we might in some way invite Japanese China watchers to air their views in this country, conceivably even before this committee, although congressional committees—

Mr. REISCHAUER. Yes, I think it would be a very good idea.

SENATOR JAVITS. Congressional committees are extremely reluctant to call in foreign nationals, but it has been done.

Mr. REISCHAUER. Well, I think it would be a little difficult to do it in those terms. Perhaps there might be some resentment in Japan or worries about an American congressional group summoning Japanese. It harks back too much to the feeling of the occupation time, so I would advise strongly against it.

On the other hand, I think if you can devise means whereby such experts and people who visited China recently could have meetings and informal talks with Members of the Congress, it would be very valuable.

Senator JAVITS. Mr. Ambassador, I suggest you are in the best spot, a much better spot than we, because I agree with you about calling

them here—at Harvard—and I hope that some great institution like that will give consideration to some really important meeting of Japanese observers and thinkers and U.S. observers and thinkers to open up their feeling to us on this subject, and I think it could have conceivably a material effect.

I hope you have that in mind.

Mr. REISCHAUER. Yes, sir, there are some possibilities of this sort, and what you have just said will certainly encourage them.

Senator JAVITS. If we can help you, I certainly will, and I have little doubt my colleagues will, too.

Mr. REISCHAUER. Very good.

Senator JAVITS. What do you think about the possibility of the Soviet Union and Communist China getting together? We know they are very far apart. But looking down the road, what do you think of the possibility of their getting together and its desirability.

Mr. REISCHAUER. Well, if the Chinese do take a different turn, as I expect they will, and try to find new approaches to their problems, I would not be surprised to see them trying to patch up their relations with the Soviet Union a little bit better than they are now, relaxing tensions, and I assume the Soviet Union would be responsive to this, and so you might have a certain amount of papering over of the differences, but I think the differences run so deep emotionally and in all other ways that you could not have a restoration of the close relationship that they had a decade ago.

Senator JAVITS. But you do look, looking down the road a little while, for something of a detente between Communist China and the Soviet Union.

Mr. REISCHAUER. It is certainly a real possibility, yes. I do not—

Senator JAVITS. Do you think this poses any threat for our country?

Mr. REISCHAUER. I do not think so. In some ways it might make for a somewhat more relaxed world if there should be a little bit of a detente there. I do not think it is necessarily to our advantage to have them as hostile to each other as they are.

Senator JAVITS. When I was in India some years ago the Chinese example of agricultural progress was constantly raised in India as some indication that the Communist system moved things faster than the non-Communist system.

Now, do you think that is water over the dam, and that the failure of China, failure politically, has lessened the prestige of Communist China to the less-developing countries but non-Communist countries in Asia?

Mr. REISCHAUER. Well, in the specific Indian case there has been the great animosity toward China ever since the border war.

And then on top of that there has been the obvious failure of Chinese agriculture during the great leap forward period, and since then, so I think there has been a very marked shift in India away from looking toward China and looking toward other models.

Obviously, Japan and Taiwan seem to them much more promising areas to study, as well as the United States which has also been a great success in agriculture.

Senator JAVITS. So would you say this is rather a good moment,

notwithstanding the Vietnamese war, to try for economic improvement and economic integration in non-Communist nations?

Mr. REISCHAUER. Oh, yes, I think at any time that is a good thing.

Senator JAVITS. But this is a good opening because of the very low prestige of the Communist Chinese.

Mr. REISCHAUER. The prestige of the Communist Chinese, particularly in the agricultural field, is extremely low. I doubt very much we would have anything to fear from that in the foreseeable future.

Senator JAVITS. But it was a fact, was it not?

Mr. REISCHAUER. Very much so. You go back 10 years, and it was a very strong factor then.

Senator JAVITS. I have other questions. I, too, when I was out there—I was out recently to Vietnam, et cetera—there was always a big thing about Communist China attracting college students from among the overseas Chinese as contrasted with Taiwan. Could you make any comment on that situation, in view of the fact that the overseas Chinese, although relatively small in number when you look at the population of China, are people of very great influence in the Far East, in the countries in which they reside.

Mr. REISCHAUER. It was a very important problem insofar as these people might go to China and then come back again, particularly in an area like Singapore with an overwhelming Chinese population. If you had most of its leaders trained in China, this would have a serious effect on its future. I think there has been in recent years some decline in this tendency for students to go to China for their education because they found conditions there rather disrupted and many of them never came back, so I think this will be less of a danger in the future than it has been in the past.

Senator JAVITS. Is there anything special you think we ought to do about it?

Mr. REISCHAUER. Well, I think our private agencies should give what encouragement they can to the great Chinese institutions of education elsewhere, the schools in Malaya, Singapore, Taiwan, and also in Hong Kong.

Senator JAVITS. If the chairman will allow me, I will ask a cultural question which interests me greatly.

It is said our museums are being terribly disadvantaged because of our embargo on the importation of Chinese antiques which have a Communist Chinese origin, and that the other museums of the world do not have those qualms but we do, and our collections are falling behind while important treasures come out of Communist China and go to other museums.

In view of the fact that perhaps contrary to popular impression we are not quite as uncultured as many people think around here, what do you think about that?

Mr. REISCHAUER. Well, if that is the situation, I think it is a deplorable one. The economic influence it could have on the situation would be virtually nil. The cultural influence would be rather unhappy. We already have great collections of Chinese art in this country, but we would like to go on building them up. Actually, I think the political repercussions of the situation are even worse, because

the rest of the world just laughs at us when we do things like that.

Senator JAVITS. Will you use your influence with the State Department to get us a better break on that?

Mr. REISCHAUER. If I had any influence I would be glad to use it.

Senator JAVITS. Thank you, very much.

Chairman PROXMIRE. Thank you, Senator Javits. And, Professor Reischauer, thank you very much for an excellent session. We have learned a great deal this morning and we are grateful to you.

The committee will resume its hearing on Monday morning at 10 o'clock when we have three very eminent economists who have devoted much of their lives to studying the Chinese economy who will testify at that time.

(Whereupon, at 11:50 o'clock a.m., the committee recessed, to reconvene at 10 o'clock a.m., Monday, April 10, 1967.)

MAINLAND CHINA IN THE WORLD ECONOMY

MONDAY, APRIL 10, 1967

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The joint committee met at 10 o'clock a.m., pursuant to recess in room 1202, New Senate Office Building, Hon. William Proxmire (chairman of the joint committee) presiding.

Present: Senators Proxmire and Jordan of Idaho; and Representative Griffiths.

Also present: John R. Stark, executive director; James W. Knowles, director of research; and Donald A. Webster, minority economist.

Chairman PROXMIRE. The Joint Economic Committee will come to order.

This morning we continue our hearings on the Economy of Mainland China by hearing from three experts in various fields of Chinese matters. While we have assigned individual topics to each of the participants, we expect and hope to proceed largely on the basis of a panel discussion in which the participants will be urged to raise questions with each other and with members of the committee so that we can all learn as much as possible about this great and mysterious country. While we will want to operate as a panel, it would probably be better if I introduce them all at one time rather than interrupt the substantive discussion.

Our first witness is Prof. Ta-Chung Liu, Goldwin Smith professor of economics, director of the program on comparative economic development at Cornell University, and visiting professor of economics at Brandeis University. Dr. Liu has also been on the staff of Johns Hopkins University, the International Monetary Fund, and the Rand Corp. He is one of the contributors to our compendium¹ and will give us the general background of the size and trends of the Chinese economy. I hope that he will also address himself to the question of the accuracy and interpretation of the information which we have on China, especially with respect to the national income accounts.

Our second witness will be Miss Audrey Donnithorne. We are very fortunate to have Miss Donnithorne who is regularly associated with the University of London in the department of political economy and working in the field of Chinese economic studies. During the current academic session, she is a Visiting Professor at the American University here in Washington. Her present field of study, is indeed, politi-

¹ "An Economic Profile of Mainland China," studies prepared for the Joint Economic Committee, February 1967, 90th Cong., first sess.

cal economy in the true sense of the word rather than with economics as such since her work involves the economic relationships of the central and provincial governments. China is such a large country that regional and provincial differences must present a great administrative problem. I don't know whether this fits into her remarks, but someone has noted that the differences between the rich and poor countries are probably no greater than often happens between the rich and poor areas within a country. We know these differences in the United States, and I am sure we will learn a great deal about these regional differences in China from Professor Donnithorne.

Our third witness is Prof. Barry M. Richman. Professor Richman has had the rare privilege and experience of visiting in 11 major cities in Communist China last year, giving him the opportunity to study a wide variety of companies. Parenthetically, I might explain that Professor Richman has had this unique experience, denied to most American scholars, of actually visiting continental China by virtue of the fact that he is a Canadian citizen. His research projects in China back up earlier first-hand research in India, the Soviet Union, Czechoslovakia, and Poland. He is the author of "Soviet Management," published by Prentice Hall in 1965. Random House will very shortly publish a book-length version of his observations in China under the title "Management, Industry, and Ideology in Communist China." He is the joint beneficiary of a substantial grant from the Ford Foundation for 1966-69 to continue work in the area of comparative management. I am sure that the members will be interested in the observations of one who has so recently been in China.

Once again, I am just delighted and pleased and proud with this most impressive panel.

Professor Liu, I hope before you proceed you will correct me on the pronunciation of your name.

STATEMENT OF PROF. TA-CHUNG LIU, GOLDWIN SMITH PROFESSOR OF ECONOMICS, AND DIRECTOR, PROGRAM ON COMPARATIVE ECONOMIC DEVELOPMENT, CORNELL UNIVERSITY; JACOB ZISKIND VISITING PROFESSOR OF ECONOMICS, BRANDEIS UNIVERSITY

Mr. LIU. Your pronunciation of my name is perfect, Senator, Chairman PROXMIRE. Thank you very much. I also want to say, Professor Liu, I very much appreciate the fact that you have a detailed statement, and also a brief summary. You may proceed any way you wish. I presume you will give us your brief summary.

Mr. LIU. Yes, indeed, sir.

Mr. Chairman, research workers are indebted to the Joint Economic Committee for including in the volume on "An Economic Profile of Mainland China" many valuable papers prepared by government economists heretofore unavailable to the public. Most of these papers contributed data useful for estimating the national product and its components. A good estimate of the national product of the Chinese mainland is especially difficult to obtain because of the paucity and unreliability of the basic Communist data. Nevertheless, if only for posing

questions on U.S. policies concerning Asia in an intelligent manner, a rough picture of the economy of the Chinese mainland must be pieced together through an estimate of its national product.

(I) INCONSISTENCY AND IMPLAUSIBILITY OF CERTAIN
U.S. GOVERNMENT ESTIMATES

The academic community looks to the Federal Government agencies for the systematic compilation of economic data on the Chinese mainland. The papers prepared by Government economists in the profile are serious studies of high quality, especially those made by the Census Bureau. There are, however, serious inconsistencies between the estimates by different agencies of the Government, and some of the estimates are implausible. The following examples are offered in the spirit of constructive criticism. If a closer agreement between the different estimates cannot be reached, it is important that the judgment and analyses underlying the different estimates be explained explicitly. The sources of confidential information, if any, need not be disclosed, but there seems no reason to keep any data or judgment secret.

Example 1.—For the grain output in the recent years 1961–65, Edwin F. Jones¹ of the State Department used the estimate by the former U.S. Agricultural attaché in China rather than the estimate of the present agricultural officer attached to the U.S. consulate general in Hong Kong. The former estimate is substantially higher than the latter, especially for 1963–65. No reason is given for this choice. There are grounds to believe that the Hong Kong estimate is more plausible than the former. (See my supplementary statement, item I.)

Both Jones and I estimated that the 1965 national product was about 13 percent higher than in 1957,² but the compositions of the total product are different in the two estimates. Jones' estimates of the value added by agriculture show an increase of 8 percent from 1957 to 1965, whereas my estimates of the net product of the traditional sectors show a decline of 4 percent during the same period.³ This is due mainly to the fact that Jones used the estimate of agricultural output by the former agricultural attaché in China, whereas I used that by the present agricultural officer attached to the U.S. consulate general in Hong Kong.

Example 2.—According to Jones, industrial output increased by 100 percent from 1957 to the first half of 1960,⁴ whereas Field puts the increase at 72 percent.⁵ Both rates are untenably high (see my supplementary statement, item II), but the difference between the two estimates is also large. No explanation has been given for this dif-

¹ In his paper on "The Emerging Pattern of China's Economic Revolution," *An Economic Profile of Mainland China*, pp. 93–94.

² See Jones, *ibid.*, p. 96, and Liu, T. C., "The Tempo of Economic Development of the Chinese Mainland, 1949–65," *An Economic Profile of Mainland China*, p. 50.

³ See Liu, T. C., "Quantitative Trends in the Economy of the Chinese Mainland, 1952–65," in *Economic Trends in Communist China*, edited by Walter Galenson, Alexander Eckstein, and Ts-Chung Liu, the Aldine Publishing Co., 1967.

⁴ Jones, *ibid.*, p. 95.

⁵ Field, R. M., "Chinese Communist Industrial Production," *An Economic Profile of Mainland China*, p. 273. The index numbers of industrial production are 109.4 and 188.5 for 1957 and 1965, respectively.

ference. Did Jones imply that the output in the second half of 1960 was 50 percent higher than in 1957?

Example 3.—Field believes the 1960 industrial output to be the peak of the post-great-leap years. This is typified by his estimate of 15 million tons of steel produced in 1960 (almost three times as large as the 5 million tons in 1957, a year for which economic data are relatively reliable).⁶ On any reasonable estimate, 15 million tons of steel could not have been absorbed by investment and government uses on the Chinese mainland in 1960. If this amount of steel had actually been produced in 1960, would not the Communists have sold the excess amount of this standard commodity in the world market in exchange for food in the near-famine years of 1961 and 1962? If much of the steel produced in 1960 was below standard quality and therefore could not be exported, why did Field include the excess amount in his estimate of industrial production? In fact, there are reasons to believe that the peak industrial output occurred in 1959 (not 1960, as Field believes) and that it was much below the peak estimated by Field. (See my supplementary statement, item II.)

Example 4.—Field estimates steel production in 1965 at 11 million tons,⁷ whereas K. P. Wang of the Bureau of Mines puts it at 15 million tons.⁸ Similarly large differences exist for coal and cement in all post-great-leap years. Both sets of estimates appear high, especially the Wang estimate. (See my supplementary statement, item II.) But such large differences between different Government estimates should be explained.

Example 5.—According to Field's estimates, coal, steel, and cement outputs in 1965 were respectively 35, 28, and 33 percent below those of 1960, and cotton cloth production in 1965 was 35 percent below the level of 1960.⁹

Yet, Field says that, "Most of the capacity not now in use is concentrated in light industry, especially in textiles."¹⁰ This statement is inconsistent with his own estimates given above. It appears that the statement is probably correct, but his estimate of heavy industrial outputs in 1960 is too high. (See my supplementary statement, item II.)

To conclude my comments on the estimates by Government economists, let me say that I fully realize how difficult it is to make even an educated guess of the levels of production during and after the Great Leap. It seems clear, however, that many Government economists have not yet sufficiently expunged from their mind the illusions created by the excessive Communist claims of achievements during the Great Leap years. As a result, their estimates of the performance of the Communist economy during 1958-60 erred substantially on the high side. If Field's estimates for 1959-60 are correct, then the Communists would have no difficulty in increasing their heavy industrial output by 50 percent from the present level in the immediate future simply by utilizing their plants at the 1960 level, a possibility even Field himself has not suggested.

⁶ Field, *ibid.*, p. 293.

⁷ Field, *ibid.*, p. 293.

⁸ Wang, K. P., "The Mineral Resource Base of Communist China," *An Economic Profile of Mainland China*, p. 174.

⁹ Field, *ibid.*, pp. 293-294.

¹⁰ Field, *ibid.*, p. 285.

(II) IMPLICATION FOR U.S. POLICY IN ASIA

We are interested in the estimates of national product of the Chinese Mainland and its components only because these data are helpful in posing questions on U.S. policies in Asia. I may therefore be permitted to venture a few words on the implications of the performance of the Chinese economy for U.S. policy.

(1) Western trade with the Chinese Mainland

Jones estimates that military expenditures, military investment, and research and development expenditures in industry amounted to US\$8.1 billion in 1965, about 62 percent more than the \$5 billion spent for these purposes in 1957.¹¹ During the same period, GNP increased by only 13 percent.

While the per capita product of the Chinese Mainland is small, the population is large. It is therefore possible to increase significantly the resources allocated to military expenditure and weapon development by even a slight reduction in per capita consumption. In recent years, development of weapon systems by the Chinese Communist regime has made important progress. Unless the Communist regime should lose effective control of the economy, it can and will in all likelihood continue to allocate an increasing volume of resources to military expenditure and weapon development.

It is reasonable to assume that military expenditure on the Chinese Mainland will go up at least proportionally with the national product in the future. From the point of view of economic strategy, any expansion of Western trade with the Chinese Mainland will help to increase her national product and hence result in further expansion of the Communist military budget even if the commodities traded are not directly military in nature.

(2) Communist economy as a model for Asian countries

Since the mainland economy recovered from the effects of the Second World War in 1952, the Communist regime has had 15 years of uninterrupted peace without foreign invasion or civil war within its territory. No previous regime on the mainland since the Republic revolution in 1911 had such an opportunity. The economic performance of the Communist regime during 1952-65 as a whole is unimpressive, significantly poorer than that of most other underdeveloped countries. What is often not realized by the people in this country is that per capita consumption on the mainland in the best year of the regime (1957) was still significantly below that in 1933¹² when China suffered Japanese occupation of Manchuria and the Chinese economy was under constant threat of Japanese intrusion into north and central China.

Even during the First Five-Year Plan period, when economic development on the Chinese Mainland was orderly and steady, the rate of growth was 6 percent per year (not 9 percent as claimed by the Communists), lower than the growth rates of 12 of the 44 countries studied by Prof. Simon Kuznets;¹³ and in none of the 12 countries

¹¹ Jones, *op. cit.*, p. 96.

¹² See Liu, T. C., "The Tempo of Economic Development of the Chinese Mainland, 1949-65," *An Economic Profile of Mainland China*, p. 65.

¹³ See Liu, *ibid.*, p. 63.

had there been governmental measures curtailing individual freedom as tightly as those in the Chinese Mainland. (With regard to the criticism of the estimated 6-percent growth rate, see my supplementary statement, item III.) Moreover, as we have witnessed during the Great Leap and the present turmoil on the mainland, there apparently were elements inherent in Chinese Communist ideology that tended to restrict incentives and to impose impractical controls and procedures just when the economy was beginning to do better. The consequences were that sustained growth and normal development were made impossible. The Chinese people suffered unprecedented misery and deprivation on massive scales at least twice since 1949, and the group hit hardest was the peasants.

The evidence seems to indicate that the Communist system is no solution to the economic problems of Asian countries. We have often heard the statement that the difficult situation in South Vietnam cannot be solved by military means without commensurate economic and political reform measures. This is absolutely correct. But what are the alternatives? I hope that no one assumes that the Communist system is a desirable solution of the economic problems of the South Vietnamese people.

Mr. Chairman, I have prepared a supplementary statement which I shall not read, but I hope to have your permission to put it in the record.

Chairman PROXMIRE. Yes, indeed. Your supplementary statement will be placed in the record. Thank you very much.

(The prepared supplementary statement of Professor Liu presented for inclusion in the record follows:)

PREPARED SUPPLEMENTARY STATEMENT OF TA-CHUNG LIU

Certain technical points raised in my main statement are discussed here in some detail.

(1) TWO ESTIMATES OF GRAIN PRODUCTION, 1960-1965. (REFERRED TO IN MY MAIN STATEMENT, SECTION I, EXAMPLE 1)

The estimate of grain production by O. L. Dawson, the former agricultural attache in China, is cited in Jones' paper.¹ It is clear that Jones uses the upper limit of Dawson's estimate of grain production for 1965 (200 million tons) in deriving the national product estimate for that year.² Jones has not made any reference to the estimate by the Agricultural Officer attached to the U.S. Consulate-General in Hong Kong. This estimate is given in my paper.³

Dawson's estimate is significantly higher than the Hong Kong estimate, especially for 1963-1965. A rough estimate of the level of per capita grain consumption implied in the two estimates is presented in Table 1. Both estimates show that total production and per capita consumption fell sharply from 1957 to 1960-1961. The 1960-1961 per capita consumption, according to both estimates, was about 12 per cent lower than that in 1957. This decline, however, does not reflect fully the actual deterioration in food supply from 1957 to 1960-1961, as supplementary foods obtained from "subsidiary farm production" must

¹ Jones, E. F. "The Emerging Pattern of China's Economic Revolution", *An Economic Profile of Mainland China*, pp. 95-94.

² In Jones' estimate of GNP, agricultural value added increased by 8 percent from 1957 to 1965. (Jones, *ibid.*, p. 96.) Dawson's estimate of grain production for 1965 is in the range of 193-200 million tons. (Jones, *ibid.*, p. 93.) The upper limit, 200 million tons, also represents an 8-percent increase over the 1957 output of 185 million tons.

³ Liu, T. C. "The Tempo of Economic Development of the Chinese Mainland, 1949-1965," *An Economic Profile of Mainland China*, p. 70.

TABLE 1.—*Estimates of production and per capita consumption of grain, 1957 and 1960-65*

	Population ¹	Dawson's estimate of output ²	Per capita consumption implied in Dawson's estimate of output ³	Estimate of output by the agricultural officer attached to the U.S. consulate-general in Hong Kong ⁴	Per capita consumption implied in the Hong Kong estimate ⁵
		Millions of tons	Kilograms	Millions of tons	Kilograms
1956.....		175-180			
1957.....	645	185	0.278-0.281	185	0.278-0.281
1960.....	676	160	.246	160	.244
1961.....	680	170	.247	167	.246
1962.....	687	180	.262	178	.259
1963.....	697	185	.270	179	.264
1964.....	712	195	.274	183	.261
1965.....	728	193-200	.275-.279	180	.257

¹ Jones, E. F., "The Emerging Pattern of China's Economic Revolution," *An Economic Profile of Mainland China*, p. 93.

² Quoted in Jones, *ibid.*, p. 93.

³ To account for the lag in time from production to consumption, total grain available for consumption in a given year is estimated at the average of the output of the current year (plus imports and minus exports) and that of the preceding year (again adjusted for exports and imports).

⁴ Quoted in Liu, T. C., "The Tempo of Economic Development of the Chinese Mainland, 1949-65," *An Economic Profile of Mainland China*, p. 70.

⁵ Computed in the same way as explained in footnote 3 above. The 1957 range is taken from the 3d column.

have fallen even more than grain production. In 1957, the value added by subsidiary farm production was as large as 32% of the value added by agriculture proper.⁴ As peasants were more highly regimented during 1960-1961 than in 1957 with less time at their own disposal, this ratio must have been much smaller during 1960-1961 than in 1957. However, we have no information on this ratio for 1960-1961.

Both the Dawson and the Hong Kong estimates of total production and per capita consumption increased from 1960-1961 to 1964-1965. According to Dawson's estimate, per capita grain consumption in 1965 reached the 1957 level; whereas the Hong Kong estimate puts the 1964 and 1965 per capita consumption at about 7 percent lower than that in 1957.⁵ Controls over the peasants were loosened from 1960-1961 to 1964-1965. The Communists have claimed that subsidiary farm production again contributed one third of total farm output.⁶ Hence, the total food supply during 1964-1965, including sources from subsidiary farm production, was better than that during 1960-1961 by a margin greater than the Hong Kong estimate of grain production alone reflects.

One would have serious doubt about the validity of the Dawson estimate. On the basis of all four models of population projection developed by Aird, the proportion of the Chinese population in the age bracket zero to 14 years increased slightly from 1957 to 1965.⁷ Children in this age bracket consume less food per head than older people. According to Dawson's estimate, per capita grain consumption in 1965 had regained the 1957 level. After adjustment for the difference in age composition, the Dawson estimate would suggest that per capita grain consumption was somewhat better in 1965 than in 1957. If this was actually the case, it would be very hard to explain why the Communist regime was willing to spend roughly 30 percent of their entire foreign exchange earning from exports on food imports during 1965-1965.⁸ If a saving as large as 30 percent of the

⁴ Liu, T. C. and Yeh, K. C., *The Economy of the Chinese Mainland: National Income and Economic Development, 1933-59*. Princeton University Press, 1965, p. 223.

⁵ Because of the severe drought in North China, the 1965 figure is lower than the 1964 one. Dawson's estimate for 1965 does not seem to reflect the drought in North China sufficiently.

⁶ Jin Ming Jih Pao, February 12, 1966.

⁷ Aird, J. S., "Population Growth and Distribution in Mainland China," *An Economic Profile of Mainland China*, pp. 264-265, and additional computations for 1957 supplied by Dr. Aird.

⁸ Price, Robert L., "International Trade of Communist China, 1950-1965", *An Economic Profile of Mainland China*, p. 586.

entire foreign exchange earnings could have been made merely by reducing per capita food consumption by less than 2 to 3 percent from the 1957 level (total grain imports being about 2 to 3 percent of Dawson's estimate of grain output in 1964-1965),⁹ it is rather surprising that the Communist regime would not have done so.

Moreover, Jones has himself given a vivid account of the "permanent damage to farm resources during the Great Leap".¹⁰ The two important causes, quoted by Jones from the Communist press, were "salinization of land in the North through improper irrigation schemes and excessive removal of land in ill-planned and grandiose irrigation schemes"¹¹ during the Great Leap years. There were, of course, a number of additional unfavorable factors which led to a drop of the draft animal population by more than half from 1957 to 1961; and Jones reported that the draft animal population in 1965 was only a little over 60 percent of the 1957 level.¹² Recovery from the ill effects of the alkalization of land would not be much faster than the recovery of the draft animal population. The reported increase in farm labor¹³ could not have effectively substituted for large draft animals. It would be unreasonable to assume that all these unfavorable considerations had not resulted in a loss of grain output in 1964-1965 at least equal to 10 percent of the 1957 amount. The only really favorable factor in the agricultural picture in 1965 was the increase in the use of chemical fertilizers. Estimates of the increase in chemical fertilizer supply from 1957 to 1965 by government economists contradict each other. According to Jones, it was at least 7 million tons,¹⁴ but it was only 5.2 million tons as estimated by Larson on the basis of sources in the U.S. Department of Agriculture.¹⁵ It takes time, however, for the peasants to acquire the knowledge to use chemical fertilizers properly.¹⁶ Moreover, chemical fertilizers can be effectively applied only in well irrigated region where natural fertilizers were relatively abundant; and the yields of chemical fertilizers would be subject to diminishing returns. At the most,¹⁷ it can only be assumed that the beneficial effects of the increased application of chemical fertilizers¹⁸ may have more or less compensated for the loss of draft animals and the deteriorated quality of land in 1964-1965,¹⁹ with the level of output roughly restored to the 1957 level. This is the picture presented in the Hong Kong estimate. To say that grain output in 1965 was 15 million tons larger than in 1957 (as Jones did), one has to assume that all the unfavorable factors mentioned by Jones had disappeared by 1965. This is an untenable assumption which Jones himself does not seem to have made.

(II) IMPLAUSIBILITY OF CERTAIN GOVERNMENT ESTIMATES OF INDUSTRIAL PRODUCTION, 1958-1965. (REFERRED TO IN MY STATEMENT, SECTION I, EXAMPLES 2-5)

The inflated Communist claims of agricultural production during the Great Leap Forward years are now generally realized. But even trained economists are still not sufficiently careful in using the exaggerated Communist data on industrial output during these years. This situation is illustrated by the data on steel production presented in Table 2.

⁹ The reduction in per capita consumption would be less than 2 to 3 percent because of the change in the age composition of the population.

¹⁰ Jones, *op. cit.*, p. 82.

¹¹ Jones, *op. cit.*, pp. 82-83.

¹² Jones, *ibid.*, p. 82.

¹³ Jones, *ibid.*, p. 83.

¹⁴ Jones, *op. cit.*, p. 83.

¹⁵ Larson, M. R., "China's Agriculture Under Communism", *An Economic Profile of Mainland China*, p. 246.

¹⁶ Larson gives "Application by suspicious farmers who are slow to attempt new and progressive methods of crop cultivation" as one of the reasons for the lack of evidence of an increase in overall agricultural production. (See Larson, *ibid.*, p. 246.)

¹⁷ At a return of 2 to 3 tons of grain to 1 ton of chemical fertilizers applied, a very high rate to assume for the Chinese mainland where the use of chemical fertilizers is a new experience and where the supply of complimentary factors (e.g., water) could hardly have kept pace with the reported rate of increase of the supply of chemical fertilizers.

¹⁸ Additional yields of grain in the range of perhaps 10 to 20 million tons.

¹⁹ A loss of output at least equal to 10 percent (18.5 million tons) of the 1957 output.

TABLE 2.—*Estimates of steel production in Communist China, 1957-65*

	Communist claims ¹	Wang ²	Field ³	Yeh ⁴	Liu ¹
1957	5.35	-----	5.35	5.35	5.35
1958	8.00	-----	8.00	6.89	6.3
1959	13.35	13.35	10.99	8.63	8.9
1960	18.45	18.45	15.22	-----	8.4
1961	-----	9.5	12.00	-----	7.9
1962	-----	10.0	8.00	-----	7.5
1963	-----	12.0	9.00	-----	8.0
1964	-----	14.0	10.00	-----	9.0
1965	-----	15.0	11.00	-----	10.0

¹ Liu, T. C., "The Tempo of Economic Development of the Chinese, Mainland, 1949-65," in *An Economic Profile of Mainland China*, p. 71.

² Field, R. M., "Chinese Communist Industrial Production," in *An Economic Profile of Mainland China*, p. 293.

³ Wang, K. P., "The Mineral Resource Base of Communist China," in *An Economic Profile of Mainland China*, p. 174.

⁴ Yeh, K. C., "Capital Formation in Communist China," in *Economic Trends in Communist China*, edited by Walter Galenson, Alexander Ekstein and Ta-Chung Liu, the Aldine Publishing Co., 1967.

The output of steel was first announced as 11.1 million tons for 1958. The Communists later admitted that of this total 3.1 million tons were "native steel", probably produced from the famous backyard furnaces. Presumably, therefore, only 8 million tons were really steel. But even the 8 million tons of so-called modern steel amounted to a 50 percent increase over the amount produced in 1957. In 1959, modern steel production was reported to be 13.35 million tons, a 67 percent increase over 1958. A further increase to 18.45 million tons was reported by the Communists for 1960. Relative to the probably reliable figure of 5.35 million tons for 1957, the 1960 claim is 3.4 times as large.

In view of the fact that 1958 was the beginning of the Great Leap Forward when cadres were under severe pressure to exaggerate achievements and when statistical reporting was admittedly confused, a serious research worker must raise the question whether a 50 percent increase of output from 1957 to 1958 was possible and plausible. This is admittedly an exceedingly difficult question. But, to accept such a figure merely because it was official Communist information without a careful study of all pertinent considerations would be rather unsatisfactory. Field accepts the 8 million tons figure for 1958. There are, however, two ways to examine the plausibility of this figure. One is to check it against the capacity figures and the planned figure of production. K. C. Yeh did this, and estimated steel output in 1958 at 6.89 million tons.²⁰ Second, steel production and machinery output had a very good relationship during 1952-1957. Extrapolated on the basis of this relationship and the 1958 figure for machinery output, the steel output in 1958 would be about 6.3 million tons.²¹ These two estimates are rather close, and they throw very serious doubt on the 8 million ton figure accepted by Field for 1958.

The Communist figure for 1959, 13.35 million tons (67 percent higher than in 1958), is even more suspect. Field could no longer accept this figure; he adjusted it downward to 10.99 million tons without any explanation. The Communists themselves, however, have reported that, of the 13.35 million tons, 4.72 million tons were obtained from "small and medium furnaces". During the confusion of the Great Leap Forward when steel was being produced in every city and village, it would not have been possible to differentiate the output from the backyard furnaces and those from the "small and medium furnaces". K. C. Yeh estimates the 1959 output at 8.63 million tons (i.e., the difference between 13.35 and 4.72 million tons).²² This is roughly the same as the Liu-Yeh estimate, 8.9 million tons.²³

Even on the basis of the Yeh and the Liu-Yeh estimates, the rates of increase of steel from 1957 to 1959 are very rapid, respectively 61 and 66 percent in two

²⁰ Yeh, K. C., "Capital Formation in Communist China", in *Economic Trends in Communist China*, edited by Walter Galenson, Alexander Ekstein and Ta-Chung Liu, the Aldine Publishing Co., 1967.

²¹ See Liu, T. C. and Yeh, K. C., *The Economy of the Chinese Mainland: National Income*

²² Yeh, *ibid.*, pp. 46-47.

²³ *Economic Development, 1933-1959*. Princeton University Press, p. 118.

²⁴ Liu, *op. cit.*, table 10, p. 71; and Liu and Yeh, *ibid.*, pp. 681-683.

years. The basic capacity for steel production may have increased substantially during 1958-1959, as a number of large plants were completed during that period. It is, however, doubtful whether, during the confusion accompanying the Great Leap, skilled labor, raw materials and the transportation and distribution facilities required for such large increases of steel production could all have been available even if they had been carefully planned for. The 100 percent increase implied in Field's estimate of steel production during 1957-1959 seems impossible to achieve. The same criticism is applicable to Field's estimates of other industrial commodities for these years.

The upward bias in Field's estimate of industrial production in 1960 seems even greater than those in his estimates for 1958 and 1959. The Great Leap collapsed in 1960. The transportation system was badly out of order. The supply of raw materials required by the light industries was severely reduced. Yet Field's estimate of industrial production in 1960 was 3.8 percent higher than that in 1959. The reasons for this upward bias seem obvious. First, Field does not include in his post-1959 sample the important food processing industries (except sugar)²⁴ which suffered severe cutbacks in 1960. Second, steel production in 1960 is given at 15.22 million tons, an increase of 38 percent over 1959 on the heels of his estimated 50 and 37 percent increases during 1957-1959 and 1958-1959 respectively. There are many reasons for doubting the validity of this estimate. First, the sudden withdrawal of Soviet technical personnel in the summer of 1960 must have exerted a serious effect on industries in Communist China immediately. Not only would it have been difficult to maintain a large percentage increase of steel production for the third consecutive year since 1957, the demand for steel itself must have reduced very considerably during the second half of 1960 on account of the Soviet withdrawal. Second, it has been pointed out in the statement I have read before the Committee that such a large amount of steel would not have been absorbed by the domestic economy in 1960. Yet, there were no comparable increases in the export of steel²⁵ from Communist China during the near-famine years of 1961-1962 when foreign exchange was sorely needed. Third, this estimate of 15.22 million tons for 1960 significantly exceeds the sum of the estimated capacities of all the large plants *in existence five years later in 1965*.²⁶

Wang's estimates of the output of mineral commodities are even higher than Field's.²⁷ Field's estimates gradually come down to more reasonable magnitudes after 1961, but Wang's data remains much too high. Take steel production in 1965 as an example. Wang estimates it at 15 million tons,²⁸ compared to Field's estimate of 11 million tons.²⁹ Both are higher than the estimate (10 million tons) I used.³⁰ I have made an analysis of the relationship between steel production and investment. Estimates of steel production in excess of 10 million tons would result in an investment too large to be plausible for 1965.³¹

While not exactly the same in scope, Field's estimate of industrial production is compared with my estimate of the value added by the relative modern sectors of the economy in Table 3. According to my estimate, the peak level of output during the Great Leap was reached in 1959, rather than in 1960 as indicated in Field's estimate. Relative to 1957 as 100, Field's estimate of the 1960 peak industrial output (172.3) far exceeds my own estimated peak of 129.5 in 1959. The two estimates coverage together during 1964-1965.

(III) THE GROWTH RATE PRIOR TO THE GREAT LEAP FORWARD (REFERRED TO IN MY STATEMENT, ITEM II)

Before the collapse of the Great Leap Forward, there had been uncritical acceptance by many Western economists of Chinese Communist economic data.

²⁴ Field, *op. cit.*, pp. 293-294.

²⁵ A standard commodity for which there is always a market.

²⁶ The capacity estimates are those by K. P. Wang in his article on "The Mineral Resource Base of Communist China", *An Economic Profile of Mainland China*, pp. 177-179.

²⁷ See Field, *op. cit.*, Table 9, pp. 293-294, and Wang, *op. cit.*, p. 174. For the 1958-1960 estimates, Wang gives the Communist data without adjustment, but he has pointed out in the "Mineral Yearbooks" (where his data originally appeared) that the Communist data are biased upward.

²⁸ Wang, *ibid.*, p. 174.

²⁹ Field, *ibid.*, p. 293.

³⁰ Liu, *op. cit.*, p. 71.

³¹ Liu, T. C., "Quantitative Trends in the Economy of the Chinese Mainland, 1952-1965", in *Economic Trends in Communist China*, edited by Walter Galenson, Alexander Eckstein and Ta-Chung Liu, the Aldine Publishing Co., 1962.

The statistical fiasco during the Great Leap awakened most economists to the strong probability of upward biases even in the Communist data for the earlier years. By this time, very few economists would contend that the growth rate of the national product of the Chinese Mainland was as high as 9 percent per year during 1952-1957 as claimed by the Communists. The main sources of the upward bias in the Communists data are: 1. the underreporting of agricultural production during the early years of the period, 2. the exaggeration of the increase in the output of consumer's goods, and 3. the omission from the national product estimate of the output of many traditional sectors and workers with low rates of growth. There is more or less general agreement on the existence of these upward biases, but the important question is the extent to which the Communist data exaggerate the actual rate of growth.

TABLE 3.—*Industrial production and value added by relative modern sectors, 1957-65*

[Index numbers, 1857=100]

	Field's estimate of industrial production ¹	Liu's estimate of the value added by relative modern sectors ²
1957.....	100	100
1958.....	131.4	116.2
1959.....	166.0	129.5
1960.....	172.3	115.0
1961.....	113.8	105.7
1962.....	110.2	104.7
1963.....	110.3	113.4
1964.....	123.3	124.8
1965.....	134.9	135.1

¹ Computed from data in Field, R. M., "Chinese Communist Industrial Production" op. cit., p. 273.

² Computed from data in Liu, T. C., "Quantitative trends in the Economy of the Chinese Mainland 1952-65," in *Economic Trends in Communist China*, edited by Walter Galenson, Alexander Eckstein, and Ta-Chung Liu, the Aldine Publishing Co., 1967.

The growth rate of the net domestic product has been estimated by K. C. Yeh and myself at about 6 percent per year.³² This estimate has been considered by some economists as the lower limit of the range in which the true magnitude of the growth rate probably lies. The main reason for this belief is that, by assuming the per capita consumption of food grain in 1952 to be the same as in 1957, Yeh and myself have probably underestimated the rate of growth of the agricultural sector. This criticism does not seem valid. The assumption we made was in part based on the belief that by 1952 agricultural production on the Chinese Mainland had regained the prewar level.³³ Grain output in 1933 was about 173 million tons.³⁴ The Communist figure for grain production in 1952 is 154 million tons;³⁵ whereas the Liu-Yeh estimate is 177 million tons.³⁶

Our opinion that the 1952 level of production was about the same as the prewar level is shared by both Dawson³⁷ and Larson.³⁸ It is reasonable to assume that the recovery from the effects of war took no more than three years from 1949 to 1952.³⁹ A corroborating evidence is that, according to the Communists'

³² See Liu, T. C., "The Tempo of Economic Development of the Chinese Mainland, 1949-1965", op. cit., Table 6, p. 62.

³³ Liu, T. C. and Yeh, K. C. *The Economy of the Chinese Mainland: National Income and Economic Development 1933-59*, Princeton University Press, 1965, p. 53.

³⁴ Computed from data in piculs given in Liu and Yeh, *ibid.*, p. 135. Potatoes are included at one-fourth of their natural weight.

³⁵ Computed from data in Liu and Yeh, *ibid.*, p. 361.

³⁶ Computed from data in Liu and Yeh, *ibid.*, p. 132.

³⁷ Jones, *op. cit.*, p. 93. Dawson estimates both the 1952 and the prewar peak output at 170 million tons.

³⁸ Larson, *op. cit.*, p. 257.

³⁹ By the spring of 1949, fighting had ended on the Chinese Mainland. The effects of the Second World War and the ensuing internal conflict on agriculture were quite different from the abuses inflicted on land resources during the Great Leap Forward. The damage of war on agriculture occurred mainly through neglect by a relatively small proportion of peasants during the war. The area affected shifted with the fortune of war, and was in fact quite limited at any moment of time. The mutilation of land resources during the Great Leap Forward through the harmful practice of deep ploughing and the construction of improper irrigation systems and leaking canals cover most of the arable area, and the salinization had long lasting effects.

own data, livestock and poultry utilization in 1952 (including the important category of hogs) had more than regained the 1933 rate.⁴⁰ This also means that animal manure production (especially hog manure) had also regained the prewar level, and animal manure was the chief source of fertilizer during both 1933 and 1953. While the assumption of a constant per capita grain consumption in the Liu-Yeh study is admittedly crude, the estimated average annual rate of growth of the value added by agriculture during the period 1952-1957 as a whole is unlikely to be an underestimate of the true magnitude.

I have come across no significant criticism of the adjustment made in the Liu-Yeh study for the exaggerated rate of increase of consumer's goods. Since no adjustment has been made in the Liu-Yeh study with regard to the probable exaggeration in heavy industrial output (for instance, the well known Gerschenkron effect), the estimated average rate of growth of the domestic product of 6 percent per year during 1952-1957 may still contain some upward bias.

While both the Communist claim of an average annual growth rate of 9 percent during 1952-1957 and our estimate of 6 percent are high rates of growth, the difference between the two is not trivial. The difference is mainly reflected in the very substantially divergent estimates of the rate of increase of private consumption.⁴¹ If one were to believe in the Communist claim of a 9 percent rate of growth of the total product, one would also have to agree that the rate of increase of *per capita* consumption was as high as 5.2 percent per year during a period of rapid population growth and forced industrialization drive. There was no corroborating evidence that such a rapid increase in per capita consumption had occurred on the Chinese Mainland.

One last caution. The average rate of increase in the national product during the period 1949-1957 may have been substantially higher than 6 percent per year, as the rehabilitation of the economy during 1949-1952 was very rapid. But this is not a rate of *growth*. GNP would naturally have increased faster during rehabilitation and recovery to regain the previous normal level than it could grow further. Whatever the rate of increase of the national product of the Chinese Mainland was during 1949-1957, it should not be compared with the rates of growth of other countries during the same period. For the other countries, the War was over since 1944-1945, and recovery was completed by 1949-1950. In the case of the Chinese Mainland, the recovery was not completed until 1952.

Chairman PROXMIER. Next we will hear from Miss Audrey Donnithorne, who will tell us about the economic relationships between the central and provincial governments in China.

STATEMENT OF MISS AUDREY DONNITHORNE, READER IN CHINESE ECONOMIC STUDIES, UNIVERSITY OF LONDON; VISITING PROFESSOR OF ECONOMICS, AMERICAN UNIVERSITY

MISS DONNITHORNE. First I should like to say how very grateful I am, as a visitor to this country, to have been asked to appear before this very distinguished committee. It is really a great privilege. I thank you for it.

In the early days of the Communist regime in China, emphasis was placed on economic, as well as on political, centralization. This was a natural and reasonable reaction to the fragmentation of the country which had occurred owing to international and civil war and to the administrative weakness of the Nationalist Government. Military and monetary unification were the two great achievements of those early days, resulting in the restoration of peace and order, and in the ending of inflation.

⁴⁰ Liu and Yeh, *ibid.*, p. 398. There is no reason to believe that 1952 was a year of abnormally high utilization of livestock. Livestock and poultry were private property in 1952.

⁴¹ See Liu, "The Tempo of Economic Development of the Chinese Mainland", *op. cit.*, Table 6, p. 63.

During the First Five Year Plan period (1953-57) this policy of economic centralization was in general continued; indeed it can be said to have been carried further after the abolition in 1954 of the six great administrative regions into which the country had been divided. By 1957 the burden on the economic ministries of the Central Government had been increased through the expansion and development of the economy; this made it imperative for them to offload responsibility to local authorities.

The eve of the Second Five Year Plan period provided the occasion for reshaping the economic administration of the country. A series of decrees to this end were promulgated in 1957 and 1958. These included the decrees on the reform of the industrial management system and of the commercial management system, measures of financial decentralization, of decentralization of grain administration, of price control and of economic planning.

The result of these measures was greatly to increase the powers of the provincial level authorities. These authorities comprise 21 provinces, five so-called autonomous regions and the cities of Peking and Shanghai: for convenience the term "provinces" will be used to denote them all.

Many industrial, mining and transport enterprises previously controlled by ministries of the Central Government were handed over to provincial control and the provinces also got a bigger role in the allocation of materials. As far as manufacturing industry was concerned, the decentralization decrees were principally to affect factories making consumer goods, while most plants of importance in the producer goods industries were to be retained under direct central control. Even enterprises still retained under the control of central ministries were to be subject (in most cases) to greater local influence. For these enterprises, "the central-local dual leadership system" was to be followed, "with the central authority as the main," while "the leadership and supervision exercised by the local authorities over these enterprises" was to be strengthened. In other words, the production branch vertical links were to be paramount for these centrally controlled enterprises, but the local horizontal ties were to be stronger than before. For example, in the future centrally controlled enterprises were in most cases to apply to the planning organs of provincial authorities for their raw material supplies.

In any event, the decentralization movement appears to have been extended to a wider range of enterprises, including many in heavy industry, than was originally envisaged in the decree of November 1957. Local influence has been considerable too, in respect to those "under dual leadership," such, for example, has apparently been the case even with the national railway system, for in 1959 a Soviet work described "dual subordination" to provincial as well as to central authority as a "characteristic peculiarity" of Chinese railway organization.

In commerce, the system of "dual leadership" was to be applied to the largest wholesale depots and granaries. Provinces were also given considerable authority over prices. In grain procurement, it was laid down that while targets for the collection and sale of grain within each province were to remain under central control, these

figures were henceforward to be subject to adjustment at the provincial level. The main concern of the center was to be with the inter-provincial balances—the grain to be transferred to or from each province. Provinces with bad harvests were normally to solve their problems themselves, although in the case of major natural disasters the Central Government might adjust the interprovincial balances.

The same concentration of central concern on marginal transfers was evidenced in the changes in the fiscal system decreed in 1957 and carried further in 1958–59. The situation brought about by these measures was that the centrally approved figure for a provincial level authority's budgetary expenditure would be compared with the figure for the total revenue the authority was responsible for raising (this comprised all the revenue from its area except customs duties and the profits of enterprises under direct central control). Approved deficits would be made up by the Central Government to which a proportion of any estimated excess revenue had to be transferred. All this is liable to give rise to tough negotiations between the province concerned and the Central Government. A participant at some of these negotiations emphasized the importance of the relative ranks (especially party ranks) of the negotiators concerned. In this the central representatives usually had the advantage. [I am indebted to the unpublished papers of Ezra Vogel of Harvard University and Michel Oksenberg of Stanford University for this information.] In 1958 the "normal annual expenditure" of a province officially excluded capital investment which was to be covered by central grants. This may have been changed later; certainly much capital expenditure has been financed by provinces and lower local authorities out of extra-budgetary funds over which there has been little central control.

Local authorities at all levels have been given fairly free rein (and have taken more) to use their initiative in raising funds by what devices they choose. A good measure of improvisation has characterized financial affairs, especially of the lower local authorities. At each level of the administration, the budget is inclusive of the budgets of all lower levels of local authorities in the unit concerned.

In 1958 local authorities were responsible for collecting 77 percent of the national budgetary revenue, and for 44 percent of total budgetary expenditure. No subsequent figures for the local percentage of budgetary revenue is known, but in 1960 the local share of budgeted expenditure had risen to 52 percent. The excess of the relative share of local authorities in budgetary revenue over their relative share in budgetary expenditure indicates the extent to which the Central Government is dependent on revenues collected at lower levels. In one respect these figures underestimate the true rise in the relative financial position of local authorities as they omit extra-budgetary funds which accrue largely to local authorities.

The 1958 reform of the economic planning system laid down the chief planning targets to be retained under central control. These included certain overall production totals for the most important commodities such as steel and grain, but it was stated that these might be adjusted locally so long as those targets concerning transfers of commodities and of revenue were fulfilled as well as plans for major investment projects.

The upshot of all the decentralization measures is that the attention of the Central Government has been focused very largely on inter-provincial transfers (including transfers from provinces to the center). At times in the 1960's the central authorities have appeared nervous at the degree of economic decentralization that had come about, and made attempts to reverse it. Not much success has probably resulted and what evidence we have suggests that the authority of the provinces has grown greater than the decentralization measures envisaged.

The following conclusions can be drawn:

1. China is a cellular economy, not a monolithic one. Therefore economic aggregates for China may not be very meaningful.

2. Any direct revenue or expenditure by the Central Government (for example on the nuclear program, other military expenditure, foreign aid, et cetera) should, to determine its relative internal significance, be estimated as a percentage of direct Central Government revenue or expenditure and not only as a percentage of total budgetary revenue or expenditure; similarly with the quantities of grain and other commodities at the disposal of the central authorities. In other words, the Central Government cannot draw directly on the total taxable capacity of the country; its ability to mobilize the total resources of China is less than often thought. The center can always, of course, call on the provinces to increase their contributions of cash or commodities. The real limit on the expansion of central revenues and supplies lies in the relations between the center and the provinces. The center depends on the cooperation of the provinces in many different ways and only in an extreme situation can it afford to use crude force to secure increased levies of revenue or commodities. The tension between center and provinces in respect to transfers in cash and kind must be seen in the context of their mutual dependence. This becomes especially the case at the present when the center's relations with many provinces are very delicate and it is far from sure of their loyalty.

3. When linked with the question of provincial-central relations, China's imports of grain take on an additional significance. While 6 million tons a year represents only some 3 percent of China's total grain output, it is the equivalent of around 12 percent of total grain procurement, and probably a good deal more of total interprovincial grain transfers. Hence the imports of grain have served to ease relations between the center and the provinces, as otherwise Peking would have been forced to try to squeeze larger grain transfers out of grain-surplus provinces. The significance of these imports must be particularly great at the present time when the Central Government's ability to extract grain from Szechuan (normally a large grain exporter to other parts of China) is likely to have been reduced.

4. The large amount of local (especially provincial) autonomy in economic matters which has existed over the last 8 or 9 years went hand in hand with an attempt to enforce a high degree of political centralization. The instability of this situation has become evident in the course of the cultural revolution. We may now be seeing a modification of the political structure—by increasing *de facto* local political autonomy—so as to bring it into alinement with the preexisting degree of local economic autonomy.

5. Perhaps the outside world should concentrate its attention less on the questions of who is going to win at the center in China and consider more what is happening in the provinces. If greater local autonomy is the pattern for China in the immediate future, it matters much less who controls the Central Government.

Senator PROXMIRE. Thank you very much, Miss Donnithorne.

Our last witness is Prof. Barry M. Richman of the University of California.

Mr. Richman, I see you have prepared, as you call it, a brief summary. It is an excellent statement. I have read both that and your fuller paper. They will both be placed in the record completely. I hope that you can confine your remarks to 15 minutes if possible. Of course, in all these cases, all of you witnesses have excellent statements. And you may proceed in your own way.

Mr. RICHMAN. Thank you, Mr. Chairman. I will try to confine my remarks to about 10 minutes.

TESTIMONY OF BARRY M. RICHMAN, CHAIRMAN, MANAGEMENT AND INDUSTRIAL RELATIONS DIVISIONS, GRADUATE SCHOOL OF BUSINESS ADMINISTRATION, UNIVERSITY OF CALIFORNIA, LOS ANGELES

Mr. RICHMAN. During my dress rehearsal of this paper it ran about 25 minutes, so I will ad lib it in summary form, just picking up the highlights, and try to get down to 10 minutes.

As Senator Proxmire pointed out, I was in Communist China last year for a period of approximately 2 months, researching the Chinese system of industrial management, focusing primarily on the industrial enterprise level, since this is the key unit of management in any economy. And I was there at a rather interesting time. I was there just as the "cultural revolution" was becoming intensified, and I left just at the time that the Red Guards were being formed. So industrial management in China was actually in a transitory state.

It seems, historically, since the Communists came to power, that they have followed an oscillation theory of industrial management, with the pendulum swinging between ideological extremism, and managerial, technical and economic rationality. There seems to be a vicious circle in play there. After several years of fairly favorable economic performance, such as during the first 5-year-plan period of 1952-57, following several good years of economic performance, the regime gets concerned about revisionism in ideology, and has sort of an intensive ideological campaign, such as the Great Leap Forward, which results in a type of economic crisis or substantially contributes to economic crises, and therefore they have to sacrifice much of their pure ideology, and bring back practices conducive to greater managerial, technical and economic rationality. This is what happened following the Great Leap in the early 1960's. The regime started sacrificing its ideology in favor of rationality, to around 1965—in the mid-1960's they became concerned about revisionism and ideology. And in 1966 there were trends, which I will get into in a minute, indicating that they were going towards the ideological extremism pendulum again

in their system of industrial management. Such trends are most noticeable at the grassroots and factory level.

However, this time they have run into a great deal of opposition, not only from workers and managers and experts and technicians, but local party functionaries, and top level leaders, too, because they learned from the Great Leap Forward experience that this ideological extremism is in conflict with economic development, and they seem to favor economic development at this stage.

During the Great Leap period, they thought this pure ideology could be compatible with economic development and managerial rationality, but it turned out that it hasn't been, and it turns out that the Soviet Union has given up certain aspects of ideology several decades ago that Mao-tse Tung is still interested in having implemented, along with achieving economic development.

So my remarks will be primarily confined to this ideology versus rationality pendulum. But in the way of background, I should briefly point out that the Chinese economic system is basically like the Soviet economic system. Resources are allocated through state planning. There is very little use made of market prices or competition, and therefore profit is not a particularly meaningful measure of economic efficiency at the enterprise level. And because of the economic system constraints, you find similar types of inefficiency problems at the firm level in both Russia and China, where you cannot get perfect planning, the supply system breaks down, there are errors in the planning, there are errors in investment decisions and so forth. This is so even though the Chinese economic system is somewhat more flexible and decentralized than the Soviet system.

But despite these restraints, China, I feel, can make considerable economic progress, and need not worry about the type of things that the Soviets are worrying about at present, such as market prices and competition, and a meaningful profit motive. I don't think that they have to worry very seriously about such problems for about another decade, if not longer, because they will have to become a more complex economy for these factors to lead to very serious constraints on performance at the enterprise level.

So compared to ideological extremism, the type of constraints inherent in their economic system I think are relatively insignificant, when compared to the constraints that arise from ideological extremism.

I studied 38 industrial enterprises, and there is a wide range of autonomy that management at the enterprise level has in Communist China. And I will be glad to go into this in the question period, about the type and degree of authority at different types of enterprises. But I can summarize it by some analogies, I think.

The enterprises where managements have the greatest economy in Communist China are those which produce a wide range of products that change significantly from year to year. It becomes impossible for higher level authorities to plan and control their product lines in detail. For example, clothing factories, or large factories that make custombuilt output have a high degree of autonomy, and the autonomy of their management would compare with a U.S. corporation's product division, where the product division has a fairly low degree of

autonomy. They would have more autonomy—the clothing or large machine tool factories of the type I described in China—in decision-making than a U.S. factory per se, because a U.S. factory isn't engaged in as many functions as a Chinese industrial enterprise. A U.S. factory is not typically as involved in marketing or in finance or in accounting, for example. A Chinese industrial enterprise with the highest degree of autonomy would be roughly analogous to a U.S. product division, corporation with a fairly low degree of autonomy.

At the other end of the spectrum, enterprises producing a fairly narrow product line, a standardized product line, like cotton textiles, for example, or wool fabrics, and if they are under municipal corporations, they have a very low degree of autonomy. The autonomy of their management would be like a U.S. factory per se where, management can decide very little for itself, except for example material utilization norms or labor utilization norms. But they have practically no say in the pricing of the products or the factors of production, and very little say in sources and uses of funds. So this would be at the other end of the spectrum. Rather than dwell on this, I would be glad to answer questions on this subject if you want more examples of the degree of decisionmaking autonomy at the enterprise level in Chinese industry.

Another factor that I should touch upon briefly is managerial know-how. The Chinese of course are substantially behind even the Soviets in terms of managerial technical skills. They are building up a large pool of technical manpower, but they are weak in management education and social science education per se. But one thing that did impress me, and this is also when ideological extremism isn't pushed too far—is what the Chinese manager, technician, or worker lacks in know-how, he overcomes in large part through motivation, pragmatism, resourcefulness, and hard work. I was very impressed with the achievement drive of these managers and technicians. Their effort to overcome their lack of know-how. Lack of managerial know-how will certainly become a bigger constraint in the future. But here, too, they can still make substantial progress I feel for several years to come, in spite of the lack of managerial and technical know-how.

Now, to the crux of the problem: Ideological extremism in industrial management seems to have four prongs, and I will touch on the four prongs briefly. And these all shift together. They shift in periods, in cycles, although they are meeting with significant opposition at this moment in time, as you are well aware.

The first prong is the Red versus expert dilemma.

Industrial management at the enterprise level is officially under the Communist Party Committee at the enterprise level. But management is made up of a combination of Reds and experts. By Reds I mean enterprise party leaders, and by experts I mean people that are department heads and workshop chiefs and directors and vice directors, because of their education, training or experience, and they are interested in technical and economic feasibility, and managerial rationality. They are the professionals, and they are interested in transforming things—for example, inputs into outputs. And the Reds are interested in transforming people, and they are primarily concerned with values, human values. And this pendulum swings back and

forth. When the regime is interested in economic development per se, the experts are in control of industrial management on a day-to-day basis. The party functionaries set basic policy, but have little to do with designing or implementing the details of the operational plan. And in Russia the experts have been in charge of industrial management for some time at the grassroots level on a day-to-day basis. So this is one aspect of the pendulum—who is in charge. And when I was there in 1966 there were some clear signs that the Reds were gaining more decision-making powers for detailed affairs at the enterprise level.

The second aspect of this prong of ideology versus rationality is material incentives and self-interest versus moral stimuli and altruism. And here again, they swing back and forth. And in 1966 they were in transition. They were deemphasizing monetary incentives again as they did during the Great Leap Forward. There were no factories on piecework, as there had been a few years earlier in the sixties. The top level managers of the enterprise, the director, vice director and party secretaries, were not entitled to any bonuses of any type for overfulfilling plans, as they had been a few years earlier. And even the workers and middle level managers, where they were on some type of bonus system achieved their bonus not only for economic criteria or productivity, but also for political factors and ideologically correct behavior, and in many cases they were receiving collective rather than individual bonuses, in order to deemphasize self-interest. At a number of the enterprises the managers had voluntarily undertaken pay cuts to bring their pay more in line with their peers, or with the workers in general. The pay scale differentials between the top paid people and the average wage and the lowest wage in China's industry are about the smallest in world to begin with. But they were cutting pay more, especially of the experts, while I was there in a number of instances.

So that is the second prong—self-interest and material incentives versus altruism and moral stimuli. And incidentally you need the Reds in control of enterprises if you are going to try to motivate the people along nonmaterial incentive factors. The experts are not typically capable of doing this.

The third prong is class struggle and elimination of class distinctions. And here, too, there were signs in 1966 of the regime reverting to the Great Leap Forward policies. All managers at all levels were required to spend at least from one to two days in physical labor on the production line. And workers were involved in managerial decisionmaking, actually to a rather surprisingly high degree. They were even electing managers at many of the factories, but this was a pseudo-election, since it was under party direction, and the candidates were probably rigged—except for the frontline supervisors. I think the workers really were electing frontline supervisors. But in a number of these factories, workers were overruling managerial decisions, and they had a big say in grading each other in terms of pay and distributing bonuses. I should point out that this elimination of class distinctions, having managers participate in physical labor and workers in management has some favorable motivating effects, and has had to date in China—and the Soviet Union. But when you carry it too far,

and make it a form of punishment to make the managers spend as much as two or three days in physical labor, I don't think it does have a motivating effect. Or where you have workers actually make decisions where they are completely unqualified to make, I don't think it is very conducive to productivity.

So they were sort of exceeding the boundaries of rationality in these practices and policies aimed at eliminating class distinction.

And the last prong of the ideological extremism is the amount of time spent on the job in political education and ideological indoctrination. And by the end of my stay, in June of 1966 the managers were deeply involved in meetings tied to the cultural revolution. In April and May of 1966 they were not too involved, and apparently from what they told me, they did not spend more than about a half a day at meetings on the average. But by June they were getting called to special meetings even while I was interviewing them, and things were in chaos, and there were ideological training sessions on the factory floor in a number of cases. So this is the fourth prong of the ideological extremism. There is considerable opposition to ideological extremism at this stage because I think a large number of the Chinese, including the leaders, feel that this type of extremism is inconsistent with economic development. And something has got to give in the future in China. They probably cannot achieve their ultimate power goals, economically and military, or even international political power, and at the same time have their ideology persuade the universe, because they seem to be incompatible. So I personally think that they are going to go in the direction of the Soviet Union, and sacrifice ideology within the next 2 years.

I will end my remarks on this note, and if you want me to elaborate on anything, I will be happy to do so.

(The complete statements of Mr. Richman follow :)

PREPARED SUMMARY STATEMENT OF BARRY M. RICHMAN*

AUTHOR'S NOTE.—I would like to acknowledge the University of California, Los Angeles; The Ford Foundation; and the Massachusetts Institute of Technology for their support and cooperation in my research project on Communist China.

INTRODUCTION

Industrial progress and economic power in any nation depend primarily on how well industrial enterprises at the grass-roots level of the economy are managed and performed. Not a great deal is known in the West about the management or performance of industrial enterprises in Communist China.

Being a Canadian citizen, I was allowed to undertake a two-month study of Chinese industrial management during the April-June period of 1966. I visited 11 major Chinese cities and briefly surveyed for periods of one to two days, in most cases, 38 enterprises in a fairly wide range of industries. In addition to interviewing and observing managers. Communist Party and trade union officials, technicians and workers at these enterprises, I also met with key personnel at various central, provincial, and municipal-level planning, industrial, commercial, and retail organizations, as well as faculty members at a number of major educational institutions.

This paper is based primarily on my visit to Communist China. Since I did little more than scratch the surface with regard to Chinese industrial management much of what I have to say is suggestive rather than conclusive. For those

*Summary statement of paper "Managerial Decisionmaking and Performance at the Enterprise Level in Communist Chinese Industry," which is printed in full, beginning p. 60.

who might be interested I have prepared a fairly lengthy paper with accompanying exhibits for the published record of these hearings.

KEY ISSUES OF THE PAPER

The aim of my paper is to examine key factors pertaining to managerial decision making and economic performance at the Chinese industrial enterprise. There are various constraints inherent in a Communist economic system of the Chinese or Soviet-type which hinder enterprise and managerial efficiency. This topic is dealt with briefly in the way of pertinent background information, but it is of secondary interest in the paper. Our major concern is with what goes on at and in Chinese enterprise. The major questions considered in the paper are the following: Is economic efficiency a priority desideratum of performance? How is economic performance measured and evaluated? How much authority and independence do enterprises and their managements—management includes the party committee and key party officials—have in decision making? What about the level of managerial know-how derived through education, training and experience? Do managers and other employees seem to be motivated to work hard and perform efficiently?

The question which seems to be of greatest importance in Red China is how and how much does ideological extremism hinder managerial, technical and economic rationality, and hence productivity efficiency? When I was in China the Great Proletarian Cultural Revolution was already underway, but the Red Guards were not formed until shortly after I had left. However, in looking back there were some emerging forms of ideological extremism at the industrial enterprise level which are probably at the heart of the current political crisis and civil strife in China. These symptoms of ideological extremism resembled those that became pervasive during the Great Leap Forward period which ended in severe economic crisis. I shall deal briefly with them shortly.

CONSTRAINTS ON ENTERPRISE EFFICIENCY INHERENT IN CHINA'S ECONOMIC SYSTEM

The method of deciding important economic questions in Chinese industry is comprehensive state planning. What is done largely and rather automatically by market forces, competition, and the profit motive in the U.S. must be done for the most part through conscious bureaucratic state action in China. Formally approved detailed plans, buttressed by "rules" of behavior and various types of incentives—both material and non-material—must guide managerial decisions and operations at Chinese firms. A huge intermediate industrial bureaucracy is required between the central agencies and the industrial enterprises, and the enterprise managers themselves are called on to plan an important role during the planning process and in making operating decisions in executing the plan.

Given the nature of China's economic system and industrial organization, enterprises are frequently confronted with externally imposed constraints on productive and managerial efficiency. They are similar to those common in Soviet industry, even though state planning is more flexible—probably too flexible—and there is greater decentralization of authority, particularly at the provincial and municipal levels, in China as compared to Russia, at least until now. In both countries planning and resource allocation errors lead to numerous breakdowns in the supply system and production bottlenecks, much idle resources, misutilization of resources, and waste, and undesirable managerial practices. And in both countries it has proved extremely difficult to devise a system of success indicators which can provide effective decision guidelines or serve as a relatively accurate measure of economic efficiency at the enterprise level. Such problems will grow more critical—as they have in Russia—as Chinese industry expands and grows more complex.

But in spite of the significant constraints and efficiency problems inherent in its economic systems and industrial organization, China has achieved impressive industrial progress, except when ideology has been pushed to extremes.

MANAGERIAL AUTHORITY AND INDEPENDENCE IN DECISION MAKING

Let me comment briefly on managerial authority and independence at the enterprise level in Chinese industry. By managerial authority and independence I really mean enterprise autonomy, since the organization is officially under the

collective leadership of the enterprise party committee. The degree and extent of autonomy varied quite substantially at the enterprises I surveyed; although all of them do play important roles in the planning process and in carrying out their plans. A Chinese industrial enterprise is typically some hybrid of a U.S. factory and a U.S. Corporation.

Those enterprises having the greatest autonomy in decision making typically produce a wide and heterogeneous product line which changes quite substantially from year to year. Some of the enterprises I visited in this category were two clothing firms, most of the small machinery and instrument manufacturers, and a number of the large heavy machine tool plants which produce much custom-built output.

Enterprises directly subordinate to industrial corporations, particularly municipal corporations, generally seem to have less authority than firms directly under municipal industrial bureaus, provincial industrial departments, and central ministries. Some of the enterprises surveyed that seem to have a relatively low degree of authority and independence include the cotton textile and woolen mills and a pharmaceutical firm.

Those Chinese enterprises with the least autonomy may be roughly compared to factories *per se* of U.S. corporations where the managers have relatively little autonomy in decision making. However, the managements of such Chinese firms would tend to be at least somewhat more involved in functions other than production, such as finance accounting, and possibly marketing. Many of the Chinese enterprises surveyed have roughly the same amount of autonomy as U.S. factory managers who have a moderate or fairly high degree of authority and independence, with the likely exception of freedom in deciding prices to be paid for various factors of production. Those Chinese firms having the greatest autonomy are roughly analogous to product divisions of U.S. corporations where management has a fairly low degree of autonomy. Industrial corporations in China—they are in charge of a number of enterprises or factories—are generally more comparable to U.S. product divisions than to U.S. factories.

If there are any questions about the precise forms that managerial authority and independence take in Chinese industry, I would be happy to elaborate. More detailed information is included in the paper prepared for publication.

MANAGERIAL KNOW-HOW AND MOTIVATION

Chinese enterprise managers still lag substantially behind their Soviet counterparts in managerial know-how and technical skills. Although China has gone far in building up a stock of technical manpower, it has neglected management, business administration, and social science education and training. (The educational process has been halted with the closing down of the higher and secondary schools last year.) When ideology is not pushed too far, what Chinese industrial managers—as well as technicians and workers—lack in know-how and skill they seem to make up for in substantial part through their motivation, dedication, pragmatism, resourcefulness, effort, and persistence. But if the country is to progress from a developing to a relatively developed economy, managerial skill and ability of a much higher order are essential.

IDEOLOGY VERSUS MANAGERIAL, TECHNICAL AND ECONOMIC RATIONALITY

As significant as the above types of constraints may be with regard to efficient management and economic performance at the enterprise level, they appear to be but midjets as compared to the giant constraints arising from ideological extremism. Such ideological constraints arise from the regime's—as represented by the orthodox Maoists—desire to rapidly create a new society of pure Communist men, as conceived by Mao.

Ideological extremism was a main cause of China's severe economic crisis emerging from the Great Leap Forward, and ideological extremism could well lead to a similar crisis under current conditions or in the future. The Red Chinese regime seems to follow an oscillation theory of industrial and general economic management, with pure ideology implemented most intensively when economic conditions are relatively good and relaxed when the reverse is true. For the regime has seen from the Soviet experience in particular that economic progress and relative affluence can lead to revisionism and softness with regard to pure Communist ideology. This may explain much about the current political

and civil crisis in China; the regime's growing fanatical emphasis on ideology at all levels of society follows several years of substantial economic progress—or economic recovery. Hence a type of vicious circle is in operation where economic progress results in extreme stress on ideology, which in turn leads to economic crisis, which in turn leads to a relaxation of ideology.

How long this cycle can or will go on is anyone's guess. However, Mao and his dwindling body of loyal orthodox supporters have met with great opposition during the current phase of ideological extremism, not only from the intelligentsia, professionals, and experts, but also from the worker and peasant "masses," party cadres, even top level national leaders. Mao's opponents have apparently learned from the disastrous Great Leap experience that China can't have ideological extremism and managerial, technical, and economic rationality, and hence economic development, at the same time. And they clearly seem to prefer economic development.

Ideological extremism in Chinese industrial management seems to have four key prongs: These are (1) the Red vs. expert dilemma or pendulum; (2) material incentives and self-interest vs. non-material stimuli, altruism, and self-sacrifice; (3) "class struggle" and the elimination of class distinctions; (4) the amount of time spent on political education and ideological indoctrination. I shall touch upon these four prongs very briefly.

REDS VERSUS EXPERTS

Reds or party cadres in Chinese industry have been primarily concerned with the transformation of people in terms of shaping their attitudes and values. The experts—professional managers and technicians who have obtained their jobs primarily because of their education, training and/or long experience—are typically interested in transforming things (e.g. inputs into outputs). In this connection the experts tend to stress managerial and technical feasibility and economic efficiency, while the Reds are chiefly interested in ideology. Furthermore, the Reds tend to be concerned with policies and ends rather than plans and means, which are the chief concerns of the experts. Plans involve managerial, economic, and technical criteria and analysis, while policy in Chinese industry tends to be intimately linked with ideology as well as with basically abstract goals of the regime.

During China's First Five-Year Plan (1952-57) the experts—though very limited in number—played the dominant role in industrial management and enterprise operations. Under this system there was very substantial industrial progress. During the ideologically inspired Great Leap, the Reds gradually assumed virtually complete operational authority in the design and execution of plans. The party cadres were required to implement the ideological campaigns and policies decided on by the regime. With the Reds in charge it was also felt that they could organize and motivate the work force to respond effectively to non-material incentives. In reality, the system of state planning broke down as policies, as interpreted by the local party cadres, superseded plans at the enterprise level. Chaos and inefficiency became serious problems throughout industry. By 1961 a severe economic crisis had taken place. The regime then called on the experts to help pull the country out of this crisis. Once again enterprise managers and technicians assumed considerable operational authority—and status. During the next several years there was a very substantial general economic recovery and much industrial progress was achieved.

Then came the Cultural Revolution of the mid-1960's, with its extreme emphasis on ideology. During my visit to China in 1966, there were clear signs at a number of the enterprises surveyed that the Reds were once again coming to play the dominant role in industrial management. At these firms there tended to be considerable confusion and inefficiency. No doubt after I left China, with the further intensification of the Cultural Revolution, Reds at numerous enterprises took charge of management, often at the great expense of productive efficiency. Where Red Guards have actually gone into factories to revolutionize management—probably where regular party cadres could no longer be relied on—the results in terms of efficiency and industrial progress have probably been even worse. For the Red Guards are much less qualified or experienced in industrial management than the regular industrial party cadres, many of whom have at least worked in industry for several years. The military cadres and people's militia troops who have taken over the management of enterprises are probably typically not much more qualified than the Red Guards.

MATERIAL INCENTIVES VERSUS MORAL STIMULI

During the 1952-57 period in China increasing stress was placed on material incentives for spurring productivity. Many workers were put on piece-rate schemes, and enterprise managers as well as party officials were paid bonuses for fulfilling key targets of the enterprise plan. Top managers and key experts were also typically paid substantially higher wages and lived significantly better than the workers. During the Great Leap the regime attempted to wipe out material incentives and self interest as a key motivating force. In the early 1960's the emphasis on material incentives—and hence self-interest was revived; until the Cultural Revolution of the mid-1960's.

During my visit to China there were signs that material incentives were once again being deemphasized. Piece-rate incentives for workers had been abolished at all of the enterprises I visited. While a majority of the enterprises surveyed still paid bonuses to workers, middle and lower level managers, and technicians, a number of them had recently abolished this practice, and others were contemplating a similar move. At those firms where bonuses were still being paid to eligible personnel, they were typically not based solely on productivity or job performance. Ideological and political criteria were also important. Moreover, bonuses paid to employees in many cases were for group or collective performance rather than individual contributions. It is interesting to note that Mao's opponents have very recently been promising industrial personnel in Shanghai and other major industrial centers more monetary incentives and better pay for their support.

A state regulation adopted a few years ago prohibits the payment of extra monetary incentives such as bonuses to enterprise directors, vice directors, party secretaries, and vice party secretaries. This regulation was apparently enforced at all of the enterprises surveyed. I also found that the wages and living standards of high level enterprise executives and key experts were not substantially better than those of the workers. In fact I was told by some relatively high paid managers and technicians that they had recently "voluntarily" taken a pay cut or refused a pay increase in order to keep their incomes in line with their fellow employees. In many cases top level enterprise executives received less pay than lower level personnel, including workers. Such policies, practices and campaigns are pursued in the name of "class struggle" with the aim of eliminating significant class distinctions.

ELIMINATION OF CLASS DISTINCTIONS

In the spring of 1966 a number of other policies and campaigns were being pursued at the enterprise level with the aim of reducing significant differences between managers and workers, leaders and followers, experts and nonexperts, intellectuals and the poorly educated, and mental and physical labor. Among the most important were worker participation in management and management participation in physical labor. Worker participation in management takes the form of committees, meetings, suggestions, criticism, and elections. There was a distinct trend of having workers elect their enterprise managers, but this seemed to be rather pseudo since this was done under party leadership. The workers did, however, really seem to elect their group leaders. In many cases they also played major roles in grading each other according to job skills and performance, in determining who gets what size bonus, and in electing leading (called "five-good") workers. In all cases they decided various other matters of relatively minor importance through elections and other organizational devices.

The regime prescribes that all enterprise executives must spend at least one to two days each week in compulsory physical labor in the factory. This regulation was also apparently enforced at all of the enterprises surveyed, and in some cases high level executives spent more than two days each week in physical labor.

Worker participation in management and management participation in physical labor in Chinese industry can and actually do seem to have some positive effects in terms of motivation and economic performance, as long as such practices are not pushed significantly beyond the boundaries of managerial, technical, and economic rationality—as they were during the Great Leap. However, at many of the enterprises visited these practices were on the fringes of

irrationality, and at some they seemed to be substantially hindering managerial efficiency and economic performance.

TIME SPENT IN POLITICAL EDUCATION AND IDEOLOGICAL INDOCTRINATION

Not nearly as much productive working time was being lost in formal on-the-job political education and indoctrination sessions at the enterprises visited—as compared to the Great Leap period, according to a number of Chinese managers interviewed. This is no doubt true. However, there did seem to be a lot of informal on-the-job activity revolving around ideology and politics at many factories. Moreover, high level executives—both Reds and experts—at many of the firms surveyed said that they did spend about a half day or one full day each week at meetings and study sessions that deal primarily with politics and ideology. By June of 1966, with the intensification of the Cultural Revolution, it was becoming more difficult for me to get appointments with key executives at enterprises I wanted to visit because they were tied up with political meetings pertaining to the Revolution. On some occasions enterprise executives were called out of my sessions with them to attend special political meetings.

With the onslaught of Red Guards, and more recently military cadres and the people's militia at Chinese enterprises, no doubt a great deal of time is being spent in political meetings and intensive ideological sessions, as they attempt to "revolutionize" industrial management. Productive efficiency and industrial progress are clearly the losers when a substantial part of the working day is taken up by politics and ideological indoctrination.

CONCLUSION

To conclude: There appears to be a basic conflict between the pure ideology and ultimate objectives that the Communist Chinese regime—as represented by the orthodox Maoists—is pursuing. The regime clearly wants China to be a leading world economic, political, and military power, with its ideology dominating the universe. In order to achieve such international power and influence, the Chinese domestic economy, and industry in particular, must develop on a sustained and very substantial and impressive scale. The effectiveness of their industrial management system is crucial, since it is at the enterprise level that the economic progress, wealth, power, and influence of a nation are so largely determined. However, key aspects of Maoist-Marxist ideology are in basic conflict with effective and efficient industrial management, and, hence, with the attainment of Peking's ultimate national and international objectives. It is true that various aspects of Maoist-Marxist ideology have had a favorable impact on productivity and industrial development in China to date. Yet at the same time the Chinese regime stubbornly tries to implement certain aspects of pure ideology which the Soviets have long abandoned because the ideas were found to be unworkable from a managerial, technical, and economic point of view. These aspects pertain to the four prongs of ideological extremism discussed above.

Centuries of world history and experience strongly indicate that the Red Chinese regime will not be able to eliminate self interest and material gain as key motivating forces—for managers, technicians or workers—and at the same time achieve sustained and impressive industrial progress over time. If by some miracle the regime succeeds, this would have a very great philosophical and cultural impact on the world. But I am betting against such a miracle. I am also betting against the workability of a classless society with no noticeable distinctions between managers and workers, experts and nonexperts, leaders and followers, and mental and physical work. Then there is the crucial question of Red vs. expert. If the Red—whatever form they may take—maintain the dominant upper hand in Chinese industrial management this would surely lead to serious efficiency problems, possibly economic stagnation, or even regression at a certain point. Finally, managerial efficiency and economic performance are also the chief losers when an excessive amount of time is spent on politics and ideological indoctrination at industrial enterprises.

It remains to be seen if, how, or when the Red Chinese come to grips with their ideological dilemmas. If they do not, it is very unlikely that they can achieve their national and international objectives of economic and political

power; truly effective international military power in the long run would also seem to require a relatively strong and effective economy. If Communist China does ever evolve into a truly first rate power, it appears that the more important aspects of pure ideology would have to be abandoned in the process.

MANAGERIAL DECISIONMAKING AND PERFORMANCE AT THE ENTERPRISE LEVEL IN
COMMUNIST CHINESE INDUSTRY*

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INTRODUCTION

Industrial progress and economic power in any nation depend primarily on how well industrial enterprises at the grass roots level of the economy are managed and perform. Not a great deal is known in the West about the management or performance of industrial enterprises in Communist China.

I was fortunate to be extended an opportunity to undertake a two month first-hand study of Chinese industrial management during the April-June period of 1966. With my Canadian citizenship and letters of introduction from a number of leading Canadian educators and businessmen who had recently been to Red China, the Chinese were quite willing to issue me a visa which enabled me to pursue my research project. I visited 11 major Chinese cities and surveyed briefly for periods of one to two days, in most cases, 38 industrial enterprises in a fairly wide range of industries.

In addition to interviewing and observing managers. Communist Party cadres, trade union officials, technicians and workers at these enterprises, I also met with key personnel at various central, provincial, and municipal-level planning, industrial, commercial, and retail organizations, as well as faculty members at a number of major educational institutions.

When I was in China the Great Proletarian Cultural Revolution was already underway, but the Red Guards were not formed until shortly after I had left. However, in looking back there were some merging forms of ideological extremism at the industrial enterprise level which are probably at the heart of the current political crises and civil strife in Red China. These forms of ideological extremism resembled those that became pervasive during the Great Leap Forward period which ended in severe economic crisis.

This paper is based primarily on my firsthand research in Communist China. Since I did little more than scratch the surface with regard to Chinese industrial management, much of what I have to say is suggestive rather than conclusive. Moreover, because of space and time limitations I must overgeneralize and oversimplify some of the key points I wish to make.¹ For those readers who might be interested I am including a number of exhibits containing quantitative data for the published record of these hearings.

Our aim in this paper is to examine some of the key factors bearing on managerial decision making and economic performance at Chinese industrial enterprises. It is often difficult to determine whether a particular Chinese enterprise is managed and performing relatively well or poorly primarily because of internal or external reasons. For example, there might be much idle time, resources, waste and/or substandard output because of errors in the state plan or failures in the external supply system, or because of internal inefficiencies in operations and managerial incompetence.

There are various constraints inherent in a Communist economic system of the Chinese—or Soviet-type which hinder enterprise and managerial efficiency. We shall deal briefly with this topic in the way of background information, although it is of secondary interest in this paper. We are primarily interested in what goes on at and in the Chinese enterprise. The major questions of

*This paper has been prepared by Barry M. Richman, University of California, Los Angeles, for the hearings on The Economy of Mainland China, before the Joint Economic Committee of the U.S. Congress, April 10, 1967. No part of this paper may be published or quoted without the written consent of the author.

¹ A comprehensive analysis of management and industrial progress in China is presented in my forthcoming book, "Management, Industry and Ideology in Communist China," to be published by Random House in 1967.

interest in this paper are the following: Is economic efficiency a priority desideratum of performance at the enterprise level? How is economic performance measured and evaluated? How much authority and independence do enterprises and their managements have in decision making? What about the level of managerial know-how derived from education, training and experience? Do managers seem to be motivated to perform effectively and efficiently? And of greatest importance in Red China, how and how much does ideological extremism conflict with managerial, technical, and economic rationality, and hence productive efficiency.

CHINA'S ECONOMIC SYSTEM

With very few exceptions, the more than 100,000 industrial enterprises in Red China are state owned.² The virtually complete state ownership of industry in China—as in other Communist states with the notable exception of Yugoslavia—has had the effect of destroying the market price system, since without effective competition among rival firms for factors of production or in the sales of their products there could be no meaningful price competition. This in turn has rendered the profit motive rather impotent as an automatic economic and managerial decision-making regulator.

The method of deciding key economic questions in Chinese industry—e.g. what to produce, how much of each item, with what combination of factor inputs, for whom, when, where, and the allocation of resources necessary to achieve the desired production—is through comprehensive state economic planning. Hence; what is done largely by market forces in the U.S. must be done for the most part through conscious bureaucratic state action in China. Formally approved detailed plans, buttressed by rules of behavior and various types of incentives—both material and nonmaterial—must guide managerial decisions and operations at Chinese enterprises.

In reality, the complexities and problems involved in planning and controlling the economic activities of even a relatively poor country like China, are beyond human imagination. Without market prices very great reliance must be placed on physical rather than monetary units of measure in state planning and control. Literally billions of interrelated planning decisions are entailed, and a reasonable amount of consistency is required in order to achieve a tolerable level of economic efficiency. Predetermined production tasks and resource allocations of factor inputs, rather than competitive buying and selling, regulate the activities of the myriad interdependent enterprises on the basis of the comprehensive state plan. The number of planned interconnections called for increases much more rapidly than the size of the economy, and since China started comprehensive state planning in 1952 the economy has expanded several fold in terms of industrial production.

While the Chinese system of state economic planning, resources allocation, and control is more decentralized than has been the case in the Soviet Union, a huge intermediate administrative bureaucracy is still required between the central agencies and the industrial enterprises.³ As we shall see shortly, even though the freedom of enterprise managers is greatly restrained by the plan, they are also called on to participate substantially in the planning process and to make many operating decisions in carrying out the plan. For it is physically impossible for superior authorities to plan in any detail without consultation with enterprise executives, or to exert instantaneous effective control over the execution of plans at the vast number of industrial establishments. The men on the spot are in the best position to determine the specific productive capabilities and resource needs of their firms and to adjust the plan to unforeseeable changing conditions. In addition, enterprise innovation—in products, processes,

² Even the joint state and private enterprises which were expropriated from the capitalist—for interest payments based on assessed value of capital investment—are actually state owned in Red China. See, B. Richman, "Capitalists and Managers in Communist China," *Harvard Business Review* January-February 1967.

³ For detailed studies dealing with industrial organization, state economic planning, and enterprise management in the Soviet Union, see B. Richman, "Soviet Management: With Significant American Comparisons" (Englewood Cliffs, N.J.: Prentice-Hall Inc., 1965); B. Richman, "Management Development and Education in the Soviet Union" (East Lansing, Mich.: Institute for International Business and Economic Development Studies, Michigan State University, 1967); A. Nove, "The Soviet Economy" (New York: Frederick A. Praeger, 1961).

procedures, methods, etc.—depends in large part on what the local managers choose to do or not to do. Those who imagine the Chinese economy to be a pure “Totalitarian Command Economy” in which enterprise merely carry out orders and behave as automatons have no conception of reality.

INDUSTRIAL ORGANIZATION AND THE ENTERPRISE

The management of the Chinese industrial enterprise is officially under the collective leadership of the enterprise Communist Party Committee. Therefore, although the director is responsible for day to day operations, the managerial staff in Chinese enterprises also includes the party committee with the party secretary and his key deputies as its chief representatives, as well as those individuals holding jobs that would be regarded as part of management in an American firm.

The Chinese enterprise, like the Soviet firm, is typically some hybrid of an American corporation and an American factory. Although production is the major function of the Chinese enterprise, in most cases it also undertakes procurement, marketing, financial, accounting, applied research and development, and personnel activities of various types. It generally operates as an autonomous financial entity with its own bank account; and it operates on a profit-and-loss basis, although the earning of profits is not a requisite to survival, nor is it necessarily a meaningful measure of economic efficiency given the absence of a market price system and effective competition. The Chinese firm is typically a juridical entity—it can sue and be sued—but it owns none of its assets. Its key managers are appointed by higher state authorities with the formal approval of higher party committees.

The chain of command in Chinese industry is predominantly territorial, extending down from the center in Peking—with the State Council and Central Committee of the Communist Party at the acme—through provincial industrial sector departments, municipal branch of industry bureaus, and finally the industrial enterprises. Parallel Communist Party Committees at every level play a major role in the industrial management process. There are enterprises directly under organizations at all territorial levels, but most of them are under the immediate jurisdiction of municipal authorities, including municipal corporations to be discussed below. Exhibit I indicates the direct superior organization above the 38 enterprises surveyed in 1966.

Within the overall Chinese industrial hierarchy there is another organizational link not common in the Soviet Union. This is the industrial corporation which is most often under municipal industrial bureaus, and in a lesser number of cases central industrial ministries. This type of corporation is in charge of a number of similar types of enterprises or factories. Where enterprises subordinates to corporations produce a relatively homogeneous, standardized and/or stable product line it is common for the corporation to act as the juridical entity, regarding such matters as contracts with suppliers and customers, for its enterprises. In such cases the enterprise much more closely resembles an American factory per se than a U.S. Corporation, and it frequently has substantially less authority and independence than Chinese enterprises not subordinate to corporations, particularly municipal corporations.

There is still a relatively small proportion of important enterprises—e.g. large machinery, transportation equipment, steel and chemical plants, and enterprises engaged chiefly in military and defense production—directly under central branch of industry ministries. In 1958 the industrial ministerial system—which was patterned after the Soviet system in the 1950's—was for the most part dismantled in favor of a substantially more decentralized geographic system. The number of central industrial ministries was reduced to 7. In recent years many of the former ministries have reappeared, some now ones have been created, and there are currently about 21 corresponding to all major branches of industry.

An enterprise is only likely to be directly subordinate to a central ministry if one or more of the following conditions exist to a high degree:

1. If it is producing primarily for the defense and military sector. There are 5 central industrial ministries dealing with this sector.
2. If the firm's products are considered of major national importance—this would typically be expensive producer goods and materials—and many of its important customers are located in other provinces.

3. If a large proportion of the firm's important suppliers are in other provinces, and the commodities which they supply are considered of major national importance.

4. If the firm is utilizing new and expensive techniques and/or technology on a substantial scale—for example, a Peking Steel mill using a new oxidizing process.

5. If the firm is or has recently been set up with foreign assistance and/or makes extensive use of recently introduced foreign techniques. In 1966 there were a number of enterprises involved in foreign collaborations with Western European and Japanese Companies, especially in the chemical industry.

It is common to find that a large enterprise—such as the Shanghai Steel Mill No. 3, with 13,000 employees—is under municipal authority because none of the above conditions exist to a very high degree. For example, the above mentioned steel firm is supplied by and sells to firms primarily in the Shanghai area. It uses relatively conventional technology and processes for the most part. Although some of its output is earmarked for the defense sector, the bulk of it is for Civilian use. On the other hand there are much smaller steel mills in more remote and less self sufficient areas under central ministries.

The Chinese industrial ministries exert functional rather than direct line authority over the large majority of enterprises. They play a major role in the allocation of investment funds, the planning and design of important capital investment projects, the development and installation of new technology, and the design and development of important new products, as well as training high talent manpower for enterprises. They also disseminate information among plants pertaining to improved techniques, processes, and methods.

Even with the existence of a large number of central industrial ministries in China, there still is more decentralization of authority—particularly at the provincial and municipal levels, but also at the enterprise level in general—as compared to the 1952–57 period of the First-Five-Year-Plan. Provincial and municipal authorities have maintained considerable powers and independence—especially in relatively self sufficient areas—with regard to production planning, target setting, establishing commodity prices, allocating resources among enterprises, and in generally determining the “rules of the game for enterprises under their jurisdiction.” The Chinese regime has relied primarily on fairly broad financial and investment controls—and the central allocation of a substantially smaller number of commodities as compared to the Soviet Union—at the provincial and municipal levels, more so in relatively self sufficient areas. There are also central controls regarding the staffing of key industrial positions and the assignment of new university graduates to jobs. But, in general, as long as external commitments are met the provincial and municipal level have been allowed considerable autonomy in industrial administration.

In 1966 there seemed to be greater decentralization of authority to territorial bodies in China than ever existed under the regional economic council (Sovnarkhoz) system in the Soviet Union. There is a vast number of small enterprises in China and this makes a high degree of central planning and control extremely difficult. Major deficiencies in the Chinese statistical and accounting system, including the critical shortages of adequately trained personnel, also makes a high degree of centralization unfeasible.

ECONOMIC SYSTEM AND INDUSTRIAL ORGANIZATIONAL CONSTRAINTS ON ENTERPRISE EFFICIENCY

Given the nature of China's economic system and industrial organization, enterprises are frequently confronted with externally imposed constraints on productive efficiency, similar to those common to Soviet industry.⁴ There was much evidence of this at a number of the factories that I visited. Several Chinese officials—including a few from national level organizations—whom I interviewed were quite candid in their discussions about such problems.

In numerous instances the formally approved enterprise plan does not provide for enough of various factors of production, and at times too much of some factors, required to fulfill output and sales targets—in an efficient manner. In carrying out the plan numerous unforeseen breakdowns in the supply and dis-

⁴Ibid.

tribution system and serious bottlenecks in production arise resulting in idle resources, misutilization of resources, and much output of improper specifications and substandard quality.

However, on a national scale such problems do not tend to be as serious in terms of economic progress as compared to the much more advanced and complex Soviet economy. The opportunity costs and constraints on industrial progress which arise from errors in resource allocation, planning, information feedback, and control tend to be greater in an advanced Marxist type economy since there tend to be higher tolerances in product quality, specifications, and lead times, and less leeway to combine factor inputs in different ways because of the complexity of technology and production processes utilized.

In Chinese industry the chances are probably better that a consumer product, raw material, machine, or component, not according to specifications stipulated in the plan can still be adapted to serve the functional or end use intended, and factor inputs can be juggled more easily to achieve deserved outputs since the production process is typically not as complex as in Soviet industry, particularly heavy industry. Similarly, if a given firm overproduces product A, and underproduces product B in terms of the plan, or if the state commits an error in allocating capital investment funds to project X rather than project Y, the resulting waste or inefficiency is not likely to be as great as in Russia since there are greater shortages of products and productive facilities of many more types in China.

It appears that the Chinese system of state planning is more flexible than the Russian's. The Soviets have a highly monolithic and fairly clear cut system of planning. The vast majority of Soviet enterprises have their annual plans—reflecting quarterly subdivisions—and resource allocations approved around the same time each year. Changes in aggregate targets during the operating year are not very common. The Chinese system of planning and resources allocation is much more flexible, to the point of being very sloppy in many instances. Most enterprises do go through the motions of getting some type of annual plan approved—through a down-up-down process of negotiations with higher authorities. However, the annual plan is approved in the middle of the operating year at some enterprises. For some the annual plan is the key operating document, and for many it is the quarterly, monthly and in some cases the weekly plan. For example, the large Shanghai Heavy Machine Tool Factory works primarily according to an annual plan, which is revised quarterly; for the Peking Pharmaceutical Factory the quarterly plan is the key one; for the Tientsin Shoe Factory it is the monthly one, and for the Hangchow Clothing Factory its monthly plans are often revised weekly. Regardless of the time perspective of planning, formal revisions tend to be quite common.

With too much flexibility in planning it is natural that many important decisions get overlooked and serious coordination problems arise in a centrally planned economy. For example, in mid 1965 the Tientsen Instrument Factory was ordered to begin production of two types of expensive scientific equipment. As of May 1966, the factory's 1966 plan was still not approved, and they were continuing to produce the two new types of equipment as fast as suppliers came up with the necessary components. By May the plant had produced 30 pieces of equipment, which accounted for about half of its total production. Yet the equipment was lying in the warehouse since no customers had yet been assigned. In fact a sales price for the equipment had not yet been formally established.

In spite of serious problems, flexibility in planning does not normally get completely out of hand in Chinese industry, since there is a higher degree of decentralization of authority than in Russia. This means that administrators closer to the operating level have the authority to take more timely action in light of changing local conditions.

Territorial decentralization has never really worked very well in the Soviet Union because of strong tendencies toward economically irrational self-sufficiency—also referred to as "localism" and "autarky" and deep rooted vested interests on the part of regional industrial administrators. The Chinese regime is trying to provide long-run regional economic self sufficiency and does not seem very concerned about the short run inefficiency that results from the system. There are of course localistic regional tendencies and vested interests which hinder economic efficiency in China, but this has evidently not been as acute a problem as in Russia. A major reason has been, until recently, more

effective party control by the party Committees at the provincial and local levels. The Chinese party cadres have evidently been more inclined to identify with national as opposed to local interests than their Soviet counterparts. This has enabled the regime to decentralize authority, but under close party surveillance. To achieve a workable balance between national and legitimate local interests, provincial governors and municipal mayors—both government rather than party positions—are usually local persons, and key party officials at these levels are typically from other parts of the country.

Industrial structures and relations have of course changed dramatically with the current widespread political crisis and civil strife in China. Party control in the industrial hierarchy and indeed the economy at large, has now broken down. Whether and when it will become effective again remains to be seen. Hastily formed Red Guards have been sent to factories to revolutionize industrial management, but this campaign has apparently failed. In the spring of 1967 the army and newly formed people's militia have evidently taken over much of the work formerly done by the industrial Party cadres. If this continues for long a national economic crisis seems inevitable. It is not possible to have effective state planning and decentralization of authority in the industrial hierarchy with poorly qualified and ill-suited military cadres and corps of people's militia in charge of industrial management. The constraints on enterprise and managerial efficiency are sure to be overwhelming.

It is important to point out that as long as ideology has not been pushed to extremes in industrial management—such as during the Great Leap Forward and in the current crisis—Communist China has achieved impressive industrial progress in spite of the constraints and efficiency problems inherent in its economic system and industrial organization.

However, as Chinese industry expands, grows more complex, and approaches Soviet level, the interrelationships among factors of production will become much more delicate and crucial problems. The problem of supplying enterprises through state planning with proper materials, machinery, components, manpower, and financial resources to achieve desired and useable outputs will become increasingly more difficult to do with a tolerable level of efficiency.

It is likely that in the next decade or so the absence of market prices, competition, and a meaningful profit motive as effective and relatively automatic regulators of managerial and economic activity in China will become just as serious a constraint on industrial progress and managerial performance as it has already become in Soviet industry. At that time the Chinese, like the Soviets in current times, will undoubtedly have to undergo the same vexing and agonizing process of considering and introducing economic and managerial reforms that are ideologically distasteful, but which are essential for sustained economic progress. To date the Soviets have still not been very successful in devising an economic system which effectively combines state planning with enterprise level decision making, freedom and initiative.⁵

BASIC OBJECTIVES OF THE CHINESE INDUSTRIAL ENTERPRISE

The state prescribes the ultimate objective to be pursued by all Chinese industrial enterprises. With regard to basic economic objectives, the enterprise is supposed to achieve as great a quantity of production as possible with given resources; or, given certain production targets, they should be achieved with minimum practical resources and costs. The production program is supposed to be carried out in accordance with a predetermined time schedule. Within the overall output targets and resource limits prescribed by the plan, the detailed product mix, including the quality of output, is supposed to conform to the requirements of customers as agreed upon in the plan. The enterprise undertakes on its own innovations and improvements in operations within the limits of the plan. A balance between short-run and long-run consideration is also called for so that current decisions and activities should not endanger future operations, but rather, should enhance them and further the future needs of society.

In addition to these basic economic objectives the state prescribes certain policies to be followed for their achievement; for example, the use of the most progressive factor input norms in planning and the constant improvement of technical processes, products, and employee skills.

⁵ Ibid.

Since these ultimate enterprise objectives represent a high level of abstraction—like the profit maximization goal in an American firm—they must be translated into concrete operating terms. A system of interconnected plan indices which constitute the annual enterprise operating plan with its quarterly and monthly subdivisions, and which is directly linked to the state economic plan, is the device utilized for this purpose.

The Chinese do not generally seem as concerned as the Soviets about short term economic inefficiency at the enterprise level which results from state planning and resource allocation problems. During periods of ideological extremism—such as the Great Leap Forward and the current political crisis—economics becomes subservient to politics and ideology and an economic crisis typically emerges on a national scale. To pull the country out of its economic crisis it is necessary to emphasize economic, managerial and technical rationality at the enterprise level at the expense of ideology and politics.

Even during periods of relative ideological moderation, however, the Chinese enterprise is not viewed as a purely economic entity, although economic efficiency is a priority desiderata of performance. There are still other objectives pursued pertaining to education, training, politics, ideology, and welfare, but they are often compatible with improving longer term economic results.

Moreover, in their overpopulated country with huge surpluses of unskilled labor and very low wages, the regime is not as concerned about underemployment or disguised unemployment of industrial manpower—which lowers per capita productivity—as compared to the Soviet Union where there is a shortage of labor, and where the cost of labor has become quite expensive. But the Chinese regime does not seem to want excess manpower at the enterprise level to the point where the law of diminishing returns sits in the production process. There have been reports in the Chinese press of substantial retrenchments and layoffs of personnel at enterprises, sometimes involving as much as $\frac{1}{3}$ of their employees or more.⁶ I was also told of cutbacks in excess personnel at a number of enterprises which I visited.

While there were signs that the pendulum was swinging from economic, managerial and technical rationality in the direction of greater emphasis on ideology and politics at a number of enterprises surveyed in 1966, economic results generally still seemed to be of major importance. This situation may well have changed with the late 1966 and early 1967 onslaught of Red Guards, followed by the military and people's militia, at Chinese factories with the aim of "revolutionizing" industrial management.

In the spring of 1966 the Chinese industrial enterprise seemed to be a place where much ideological indoctrination and political education occurs—though largely after working hours—at both the group and individual level, with the twofold aim of developing the pure Communist man as conceived by Mao, and motivating personnel to work harder and more efficiently. It was a place where illiterate workers learn how to read and write, and where all types of employees can and do improve their work skills and develop new ones through part-time schools and self education, and formal and informal training on and off the job. It was a place where housing, schools, recreational and welfare facilities, roads, shops, and offices were often being constructed or remodeled by enterprise employees. It was also a place from which employees sometimes go out into the fields and help the peasants with their harvesting when there was not much to do at the factory, often because of breakdowns in the plan. In general, Chinese factory employees spend considerably more time at activities not directly related to the firm's economic plan or performance than is the case in Soviet industry.

Hence, if for example, supplies do not arrive according to the plan, Chinese enterprise employees generally do not remain idle or unproductive—at least, by the regime's standards. In enterprises I visited where this type of situation arose, workers undertook some functional education or training during the period of delay in order to improve their skills; or they studied and discussed Chairman Mao's works; or, as was the case at the Tientsin Shoe and Wuhan Diesel plants, they undertook various construction and modernization activities; or they worked on developing new or improved processes and products often not stipulated in the plan.

This type of activity makes more sense than meets the eye in a nation where illiteracy has been widespread, the level of industrial skills generally low, and

⁶ Cf., Jen-min Jih-pao, July 7, 1965 (article titled "Retrenchment Improves Labor Productivity").

enterprise shops, offices, housing and other welfare facilities inadequate and sparse. The benefits of political indoctrination seem more questionable, but even this activity, when not carried too far, seems to have a favorable, motivating impact which is often difficult for the capitalistic Western mind to grasp fully.

MEASURING AND EVALUATING ECONOMIC PERFORMANCE AT THE ENTERPRISE LEVEL⁷

In spite of many limitations and problems, profits earned or profitability computed in relation to invested capital or sales generally serves as a meaningful and typically the best, all-inclusive measure of economic and managerial efficiency for firms in American industry. In Chinese industry this is generally not so, since most commodity prices are fixed by state authorities at infrequent intervals, rather than determined by market or competitive forces, and such prices typically do not reflect true scarcity values.

Profit or profitability can serve as a meaningful success indicator for the Chinese firm to the degree that it accurately reflects reductions in unit costs achieved through a more efficient utilization of factor inputs and/or greater volumes of output and sales achieved without proportionate increases in real costs. However, because of the price system, profit or profitability loses its meaningfulness or accuracy as a success indicator to the degree and extent that there are significant changes in the enterprise's product mix and/or factor inputs utilized from one period to the next. Similarly, profit or profitability would not be a particularly useful measure for comparing the relative degrees of efficiency for two or more Chinese enterprises if there are substantial differences in their product lines and factor inputs.

In the 1950's gross output was the priority success indicator in Chinese industry. Under this system there were widespread violations in product mix plans, much substandard output, considerable resistance to major innovations, and cost plans were frequently exceeded. However, gross output as the key success indicator worked reasonably well at that stage of China's development—as it did in the past in Russia—since most any type of production could adequately serve the functional or end use intended.

In the 1960's profit and profitability typically computed in relation to total enterprise costs and expenses emerged as the key success indicator throughout much of Chinese industry. Considerable industrial progress has occurred under this system, but the regime soon found that profitability alone was not a very good success indicator in numerous instances. Moreover, by the mid-1960's, with the pendulum swinging in the direction of ideological extremism, profit as a top priority success indicator has been increasingly attacked as a "revisionistic," capitalistic practice.

In reality, a combination of success indicators—some of them in consistent and in conflict in terms of managerial behavior and firm performance—is generally required for any meaningful evaluation of the economic efficiency and overall performance of Chinese enterprises. In 1966 such a combination was used at the enterprises which I visited. In the discussion that follows I use the term success indicator in reference only to those major enterprise targets which required higher approval, and which were also utilized as the key measures for evaluating overall enterprise and managerial performance.

The combinations of key success indicators varied somewhat among enterprises in different industries and in different parts of the country. The most common success indicators were profit and profitability, sales, quantity of production in value and physical terms, product quality, reduction in unit and total costs, labor productivity, and to a lesser extent the development and introduction of important new technological processes and products.⁸ The number of key success indicators utilized for evaluating overall performance varied on the average from 3 to 6 at the enterprises surveyed.

⁷ For a historical perspective of success indicators in Chinese industry, see A. Donnithorne, "China's Economic System" (London, Allen and Unwin Ltd., 1967); F. Schurmann, "Ideology and Organization in Communist China" (Berkeley and Los Angeles: University of California Press, 1966); C. M. Li (editor), "Industrial Development in Communist China" (New York: Praeger, 1964); W. L. Yuan "The Economy of Communist China" (New York: Praeger, 1965); D. Perkins, "Market Control and Planning in Communist China" (Cambridge, Mass.: Harvard University Press, 1966).

⁸ The targets or success indicators of the plans of Chinese enterprises are similar to those in the Soviet Union. For a more detailed discussion on how these targets are expressed and measured, see Richman, 1965, op. cit., ch. 3.

Profit was one of the important success indicators utilized for evaluating overall enterprise performance at nearly all of the enterprises that I surveyed in 1966, but it was the clear cut top priority indicator at only a few. At some firms I was told that profit might no longer be used as a major success indicator in the future. Total profits earned was an important success indicator at many firms, but profitability computed in relation to total costs or sales for evaluating performances has become popular only in recent years. This measure is apparently utilized to encourage firms to be more concerned about the product requirements of their customers. If profitability were to be calculated in terms of capital investment this would not be particularly meaningful as there are no interest or rent charges on capital in Chinese industry.

In addition to profit or profitability various other success indicators were utilized for evaluating economic performance at all of the enterprises surveyed. Not much use was made of gross output in constant factory prices. This measure was used primarily at some of the heavy machinery firms where the production cycles for major products extended substantially beyond one year.

Most enterprises had some measure of physical production as a success indicator. In many cases this was stated in broad aggregate terms such as total tons, square meters, kilograms, or total number of items. In a number of cases it was broken down further into numbers of units pertaining to different major varieties of the product line.

Many of the enterprises had total value of marketable (finished) production stated in prevailing sales prices as a major success indicator. Nearly all of them had total sales as an important success indicator, and some also had sales volume for major groups of products as important indicators for evaluating performance.

I was told that product quality was a major success indicator at many enterprises. Officially, items produced are not supposed to be reflected in output or sales results unless they conform to prescribed technical standards. In reality, this is frequently difficult to enforce in a detailed way, thus reducing the potency of product quality as a success indicator. At a number of firms, primarily consumer goods producers, the product quality indices represent grades of output—such as first, second, and third grades—with first grade being the highest. The quality success indicators stipulate that a certain portion of goods produced must conform to each of the applicable grades. The Shanghai Drug and Peking Chemical Coke firms had product yields in percentage terms representing efficiency in avoiding material wastage as an important success indicator for some major products such as antibiotics and coke.

Where cost reduction was a key success indicator, this was stated either in terms of total costs, total costs in relation to sales, or unit costs of major products, sometimes stated in percentage terms in relation to a base period. Where labor productivity was a major success indicator it was usually calculated in terms of total output in physical or value terms in relation to the total number of full time enterprise employees. At those enterprises having major innovation tasks pertaining to technological or product development as success indicators, they were typically stipulated in terms of time schedules, and in a few cases cost budgets as well.

As will be discussed later, top-level Chinese enterprise executives—unlike their Soviet counterparts—are not entitled to any bonuses for fulfilling and/or overfulfilling key aggregate targets of the plan. Therefore, the best way to determine what the key or priority success indicators actually are at a particular Chinese enterprise is to find out what targets of the plan must be fulfilled for the firm to be awarded money for its "enterprise fund." Most of the enterprises surveyed in 1966 did have an enterprise award fund created annually, quarterly, and, in a few cases, monthly by a small proportion of its earned profits when certain key success indicators determined by higher authorities were fulfilled and/or overfulfilled. At some of the enterprises, the practice of creating such a fund had recently been discontinued regardless of their economic results, and a few others indicated that their enterprise funds might also be discontinued in the future.

While the enterprise fund is formed from a portion of profits earned, profit or profitability was the sole success indicator for creating this fund and determining its size at only a small number of the firms surveyed. Similarly total output in physical or value terms and total sales were also the sole success indicators in connection with the enterprise fund at only a few of the firms. In most cases where there were enterprise funds a combination of several success indicators had to be fulfilled and/or overfulfilled for their formation.

When key success indicators are fulfilled the enterprise fund usually ranges in size from 2.5 to 10 percent of total profits earned, with differences among specific firms. The average allowable fund was 5 percent of profits at the firms I visited. Some of the textile firms had the smallest funds (about 2.5% of profits), while Wuhan Heavy Machinery and the Wuhan Steel Corporation and its factories could keep 10 percent of their profits for their enterprise funds if their key targets were fulfilled. At a few of the enterprises surveyed—for example, Peking Steel Wire and Canton Chemical Fertilizer—their funds could exceed 10 percent of earned profits if certain key success indicators such as total output or profits are substantially overfulfilled.

The enterprise fund may be used by management to pay special bonuses to deserving employees, improve and expand enterprise productive operations, and for welfare and recreational activities such as housing, clinics, spare-time schools, canteens, athletics, library acquisitions and employee clubs. For example, Wuhan Steel used most of its enterprise fund one year for building a small ice plant and installing air conditioning in its hostel for foreign visitors. At a number of enterprises surveyed the practice of paying bonuses from the enterprise fund to employees had been stopped recently, apparently for ideological reasons, and a similar move was being considered for the future at several of the other firms.

MANAGERIAL DECISIONMAKING AND AUTONOMY AT THE ENTERPRISE LEVEL

By enterprise autonomy we mean the authority, independence, and influence that the (Chinese) industrial enterprise has in formulating its operating plan and in carrying out its plan and overall activities. We use the term enterprise autonomy here synonymously with managerial autonomy since the Chinese industrial organization is formally under the collective leadership of the enterprise party committee.

The degree and extent of autonomy varied quite substantially at the 38 Chinese enterprises that I surveyed in 1966, although all of them display important roles in the planning process and in the execution of their plans. Exhibit I presents a subjective rating of the degrees of autonomy existing at the 38 enterprises.

Those enterprises having the greatest authority, independence and influence in decision making typically produce a wide and heterogeneous product line which changes quite substantially from year to year. Some of the firms in this category are the two clothing factories, most of the small machinery and instrument manufacturers, and the large heavy machine tool plants—such as those in Shanghai and Wuhan under the First Machine Building Ministry—which produce much custom built output.

Enterprises directly under corporations, especially municipal level corporations, generally seem to have less authority than firms in the same industry directly under municipal bureaus, provincial departments, and particularly central ministries. Some of the enterprises that seem to have a relatively low degree of authority and independence are the cotton textile and woolen mills and the Shanghai No. 3 Pharmaceutical factory.

Those Chinese enterprises with the least autonomy and influence on their plans may be roughly compared to factories *per se* of U.S. corporations where the managers have a low degree of authority or independence. However, the management of such Chinese firms would tend to be at least somewhat more involved in functions other than production, such as finance, accounting, and possibly marketing. Many of the Chinese enterprises surveyed have roughly the same amount of autonomy as U.S. plant managers who have a moderate or fairly high degree of authority and independence with the likely exception of freedom in deciding prices to pay for various factors of production. Those Chinese enterprises having the greatest autonomy, and influence on their approved plans, are roughly analogous to product divisions of U.S. corporations where management has a fairly low degree of autonomy. Industrial corporations in China are generally more comparable to U.S. product divisions than to U.S. factories.

Chinese managers can and do in varying degrees influence the aggregate targets and factor resource limits—e.g., materials, equipment, components, finances, manpower—stipulated in the formally approved enterprise plan through their proposals, calculations, and estimates during the planning process. Such proposals, calculations, and estimates pertain to enterprise capabilities, productive

capacity, and resource requirements. The plan is based on a multitude of detailed technical calculations, and most enterprises independently establish the large majority of their labor, material, and equipment utilization norms. Higher authorities typically tend to prescribe only those factor utilization norms involving new equipment, materials, products or highly standardized methods are involved. The enterprise also prepares estimates of fixed and working capital and general overhead requirements on the basis of many computations and estimates.

Through their important roles in the planning process, Chinese enterprise managers do usually influence—in varying degrees—the types and quantities of outputs, resource allocations, and aggregate factor inputs approved by higher authorities. In addition, at many of the enterprises surveyed the quantities and varieties of products approved by superior organs does not add up to the approved aggregate production targets, and the firms' managers can determine independently from about 5 to as much as 30 percent (in a few cases) of their planned outputs. This production capacity is typically utilized for subcontracting activities, special orders, and the production of relatively minor items. The amount of detailed product mix planning and control undertaken by higher authorities depends chiefly on the nature and extent of the enterprise's product line. Firms producing a wide range of heterogeneous goods tend to have substantially more authority, independence and influence over their detailed product mixes than those producing a narrow line of homogeneous output. For example, the clothing and shoe factories surveyed play major roles in their product mix planning and control which include, in part, holding exhibitions for customers, sending personnel to retail stores to studying consumer demand and tastes firsthand, and even having enterprise personnel work incognito for short periods as salesmen in the stores.

While most commodity prices are set by superior state agencies—and are typically only revised at infrequent intervals—enterprise management plays a key role in price setting under certain conditions. It can usually initiate price proposals for new custom-built, and other unstandardized products, and in many instances where changes in product specifications and designs are undertaken. It can also often independently establish cost plus prices for sub-contracting services of a relatively minor nature. The product prices are also proposed on a cost plus basis—often providing for a 15 to 20 percent profit margin, in order to encourage product innovation. This is much more than the 3 to 6 percent which has typically been allowed in Soviet industry. Although an appropriate superior authority formally approves most of these prices—the most common exceptions being minor products and specifications changes—it seems that the price proposed by the enterprise is generally adopted. Many enterprises also independently determine the technical-quality standards for various minor and unstandardized products that they produce.

All of the enterprises surveyed have an important voice in proposing the types and specifications of factor inputs to be utilized in production. For a limited number of commodities of relatively minor importance, most of the firms had complete discretion over both the specifications and types of inputs to be used. In some such cases they were even free to search out supplies and procure needed items without higher approval. A majority of the enterprises also engaged in direct negotiations with many, and in several cases all of their suppliers and customers. In this connection they determine the detailed specifications of materials, equipment, components, and other products to be bought and sold within the aggregate limits set by their approved plans. They also sign supply and sales contracts which stipulate detailed product mixes, prices, delivery dates, modes and terms of deliveries, and the like. There seemed to be substantially more direct contractual relations and negotiations among enterprises in Chinese industry as compared to the Soviet Union in the early 1960's.

One important way by which a Chinese enterprise can influence the types and costs of its factor inputs utilized in production is through make versus buy decisions. A number of enterprise executives indicated that higher authorities often go along with their desire to make or process rather than buy various materials, machines, and components. This was certainly reflected in the high proportion of auxiliary personnel in relation to direct production workers at many of the plants visited—in a number of cases this ratio was around 1 to 1, and in a few auxiliary workers actually outnumbered direct production employees.

Basic wage and salary scales for all industrial occupations—including general categories such as skilled and semi-skilled labor in different industries—are established by central authorities, with the Ministry of Labor and industrial ministries playing a major role. Small allowances are made for regional differences in the cost of living. For each occupation or type of job there are grade scales which provide for big differences in pay between their maxima and minima. The enterprise has considerable authority and independence in determining the basic pay of its workers and lower level supervisors and managers by assigning them grades. Skill, productivity, experience and general performance are the major criteria applied in grading personnel. Hence, management can do much to spur productivity through its authority to appraise, grade, and determine the wages and salaries of individual employees—but only within the limits of the approved total payroll figure.

Where there were bonuses and monetary incentive schemes in use at the enterprises surveyed, there was considerable local autonomy in determining how the incentive pay is to be divided up among employees. As we shall see later, ideology and politics, not only productivity and job skill play an important role here. However, there was more independence in this sphere of incentive pay at Chinese factories than was the case at Soviet enterprises which I visited in the early 1960's. But this is not true with regard to the classification of personnel by occupation or profession, the recruiting and hiring of new personnel, or the transferring or retrenching of existing personnel. Soviet enterprises tend to have more autonomy in these areas than their Chinese counterparts, and higher level constraints on labor mobility in general are more rigid in Chinese industry. There is also a higher degree of centralization in Chinese industry in connection with the assignment of high talent manpower and new graduates from higher educational institutions, but their members are much smaller in China than the Soviet Union. Such assignments are frequently made by central agencies in China.

Management can influence the cost, inventory, financial, and profit indices of the approved enterprise plan through its decisions, calculations and proposals during the planning process. In the financial sphere, many enterprises have the right to independently negotiate and obtain modest short-term bank loans for seasonal needs, the introduction of techniques, and various other improvements in operations.

Within the limits of their financial plans, enterprise managers typically have at least some official leeway to shuffle funds among various accounts in order to carry out the plan. The directors of all the enterprises surveyed have discretionary funds—ranging from 250 to 1000 yuan; 1 yuan approximately equals 40 cents in U.S. money—which they can use as they see fit, and which are generally replenished if necessary from other sources quarterly, and in some cases more frequently.

In executing the plan enterprise management can and often does initiate changes in its product mix plan as well as other parts of the plan. However, substantial revisions in the plan would only be considered official or "legal" if the proper procedures for ratification and formal approval are adhered to. This would normally entail the sanction of the superior body originally responsible for planning and approving the element of the plan involved. Often, where changes relate to product specifications rather than the total number of products of a given type, the enterprise can undertake them with the consent of the customer. In cases where the items, tasks, standards, targets, or activities are not subject to higher approval, enterprise management has virtually complete independence in making changes in its plan. Most of the enterprises visited also seem to have considerable independence in choosing the types of above-plan output to produce when they overfulfill their plans.

Where enterprise management wishes to undertake major reorganizations of departments, shops and sections it must usually acquire higher approval, although they are free to propose such changes at any time. A few of the firms surveyed had recently initiated and obtained approval for substantial reorganizations involving personnel, activities and facilities. Most of the enterprises had considerable autonomy in connection with relatively minor organizational changes involving employees, activities, and facilities. Management also typically has considerable independence with regard to the training, appraisal, direction and motivation of personnel, and in establishing performance control systems of a relatively minor nature.

The state rather than individuals or enterprises plays the key and omniscient entrepreneurial role in Chinese industry through the state plan. For example, no manager or firm has the right to introduce fairly expensive new technology or a new cost saving device—say, involving an expenditure of \$1000 or more—or develop and market a new product of much importance, unless such an action is sanctioned by the formally approved plan. But in spite of great constraints on grass-roots innovation of a major nature, managers and other employees are encouraged by the regime to initiate and introduce innovations and improvements—in processes, products, procedures, methods, techniques, etc.—of a relatively minor nature at industrial enterprises. In this connection Chinese enterprises have a great deal of autonomy. And in a relatively backward economy, such as China's, substantial gains in productive efficiency and industrial progress can and do result from innovations of this type.

But as Chinese industry develops and becomes more complex, it will become increasingly more difficult for the state to effectively play the role of omniscient entrepreneur. There is a limit to the number of new projects and ventures that can be effectively planned, implemented and controlled through state planning. Hence a growing number of foregone opportunities of a major nature is likely to result because of rigid constraints on entrepreneurial freedom at the individual and enterprise levels in Chinese industry.

MANAGERIAL INCENTIVES AND BEHAVIOR

Illegal and semi-illicit managerial practices and undesirable—by the regime's standards—patterns of behavior at the enterprise level do not seem to be as extensive or intensive in Chinese as compared to Soviet industry. The Soviet manager, responding to top down pressures, inflexibility in planning, and the monetary incentive system, frequently breaks legal and formal rules of the game in order to fulfill key success indicators of his enterprise plan. Such behavior is often functional in terms of productive efficiency and industrial progress. But undoubtedly substantially more often than not it isn't and that is why the Soviets have been struggling so hard to devise a new and more effective incentive-success indicator system for enterprises and their managers in recent years.⁹

It has typically been very difficult for the Soviet manager to get the aggregate success indicators of his plan officially revised downward because of unforeseen circumstances such as planning and resource allocation errors which become evident after the plan is implemented or breakdowns in the supply system. And Soviet firms often get stuck with plans which are too tight and the targets set unrealistically high. Furthermore, Soviet managers can augment their basic salaries each quarter by as much as 50 percent—and in some cases even more—by earning bonuses tied to the fulfillment and overfulfillment of key enterprise success indicators.

Hence Soviet enterprises and their managers frequently resort to a variety of illegal and semi-illicit practices. These include in part illicit procurement activities—such as bribery, gifts, personal influence, "special favors," and illegal barter deals—the concealment of productive capacity and the hoarding of resources as a safety precaution, sacrificing of product quality, the production of items not in accordance with the plan, resisting and ignoring planned innovation measures, particularly of a major nature, and at times even outright falsification of results and reports.

In Chinese industry such managerial practices and enterprise behavior patterns do exist, but they are apparently not nearly as common as in Russia.¹⁰ Because of the Chinese regime's flexible attitude toward planning, the Chinese enterprise is more likely to convince higher authorities that revisions in its plan, including aggregate targets, are warranted. Such provisions are probably often made without making appropriate timely changes in all of the other interdependent plans affected and operations must run out of control at various firms from time to time. During the planning process there does not seem to be the same degree of top down pressure aimed at getting local managers to accept tight or unrealistically difficult plans in Chinese as compared to Soviet industry. In fact, I was told by a number of Chinese managers that their firms quite often propose targets somewhat higher than those that superior authorities are

⁹ Comprehensive analyses of managerial incentives and behavior in Soviet industry can be found in the sources cited in footnote 3, p. 63.

¹⁰ For sources dealing with managerial behavior in Chinese industry see those cited in footnote 7, p. 67.

willing to accept—this is rarely the case in Russia. One may be inclined to treat such Chinese claims with much skepticism, but it is possible that the regime tries to create confidence and a type of democracy at the firm level by relying substantially on the dedication, motivation and social control among employees to propose a reasonably challenging plan rather than relying on top down pressure alone.

In general, as compared to the Soviet Union the Chinese regime seems to rely more on bottom-up and horizontal pressures and social control to spur enterprises and their managers to strive for greater efficiency and better performance. This appears to be the case for a variety of cultural, sociological, and psychological reasons which are beyond the scope of this paper.¹¹

Another important reason why illicit and semi-illegal managerial practices are probably not as common in Chinese as compared to Soviet industry pertains to the absence of additional incentive pay for Chinese top level enterprise executives. A state regulation was adopted in China a few years ago—no doubt largely or entirely for ideological reasons—prohibits the payment of bonuses for plan fulfillment (or for any other reasons) to enterprise directors, vice directors, party secretaries, and vice party secretaries. This regulation was in force at all of the enterprises I visited in 1966. Hence, the Chinese top-level enterprise manager does not have the same material incentive as his Soviet counterpart to break rules and engage in undesirable practices in order to fulfill or overfulfill one or a few key targets of the plan. Where the firm is allowed to have an enterprise award fund, the targets upon which the creation and size of the fund are based probably often serve as the priority success indicators for the key enterprise executives.

When unclear choices must be made by Chinese managers involving inconsistent or conflicting targets to be fulfilled, general state policies as interpreted by the enterprise party cadres in another common way this is resolved in absence of a bonus system for managers linked to clear cut, priority success indicators. If the party cadres are not too extreme in interpreting such policies in one direction, more balanced overall enterprise economic performance can often be achieved than at Soviet enterprises where their managers respond to a clear cut incentive—success indicator system stressing one or a very limited number of key targets. However, the Chinese firm is less likely to maximize results to the same extent in one or two clear top priority areas such as total output, profits, cost reduction, or labor productivity.

It is questionable whether key enterprise executives in Chinese industry can be adequately motivated over time to work hard and perform efficiently without extra material incentives. In addition, their salaries are not very substantially higher—in many cases they are actually lower—than the pay received by other employees, including workers.

In the spring of 1966 there did appear to be considerable zeal, dedication, patriotism, and other non-material stimuli motivating many of them to do the best they were capable of doing. The typical Chinese director and party secretary whom I met did seem to have a deep sense of commitment and purpose, and identified with his country's aims and economic progress. Personal power may also be a motivating force, although individual executive power is fairly limited in Chinese firms. But at least the key enterprise officials are on the fringes of the real seats of power. There did seem to be considerable status and prestige attached to being a key enterprise official, and this may well be a potent motivating force in many cases. For example, at larger Chinese enterprises there are as many as a dozen vice directors, and even at those having only a few hundred employees or less, there are typically several vice directors. Why appoint so many if the title does not mean very much?

Top level Chinese enterprise executives may also be motivated by opportunities—albeit typically somewhat limited—to be creative and to make or at least influence important decisions. The general lack of emphasis on significant penalties and individual responsibility—often powerful negative incentives in Russia and the West—for managerial errors or economic efficiency (but not for “ideologically” incorrect behavior) at Chinese enterprises may also have a positive motivational effect. As is common in Japanese industry, the collec-

¹¹ These sociological, cultural, and psychological factors are examined in some depth in my forthcoming book on Chinese management, op. cit.

tive leadership or managerial groups are typically held responsible for economic and managerial performance in China.

Finally, the fact that middle and lower level managers, workers, and other employees could still earn bonuses, and derive benefits from enterprise and funds at a majority of the enterprises that I visited in 1966, probably serves to keep their top executives on their toes. For if the other enterprise personnel lose their extra incentive pay or benefits because of top level managerial incompetence their voices and criticisms probably tend to be quite loudly heard.

MANAGERIAL KNOW-HOW

With my limited sample of industrial enterprises, and given the very limited amount of time I spent in each, it would be foolish for me to play the role of an expert in any of my findings or impressions about how well various enterprises or industries in China are managed, performing, or equipped. What I have to say in this and the following two sections should be taken as suggestive rather than conclusive.¹²

Thus far Red China has achieved substantial industrial progress, more because of sheer managerial motivation and attitudes than because of managerial or technical know-how. In many respects the Chinese manager is like our commonly held view of an American manager. In both cases they have what David McClelland calls a "high need for achievement."¹³ Industrial managers with a high achievement drive would be inclined to desire and strive to accomplish fairly challenging—but realistic—enterprise plans and objectives. Such objectives would typically pertain to some nation of greater productivity, profitability or efficiency. Such managers would be more likely to take calculated rational risks, to innovate, and to be quite favorably disposed toward change in the direction of greater progress. They would also be inclined to be happy about their successes and worry about their failures or shortcomings at work. One difference between the Chinese and American managers is their attitudes toward individual responsibility, with the former inclined to be more concerned about group or collective responsibility and achievement.

There are two distinct groups or classes of managers in Chinese industry. One group consists of the professional managers and technicians often referred to as "experts" who have obtained their positions because of education, skill, technical competence and/or long experience. The other is made up of the party cadres, commonly called "Reds", who have acquired their executive jobs primarily because of service, dedication, and loyalty to the party. There are relatively few Chinese enterprise executives who are both Red and expert to a high degree as compared to executives in Soviet industry. Moreover, there are many more experts in the Soviet Union.

The Chinese enterprise director, who is always a party member, is typically more Red than expert, as is of course the party secretary. The directors of the enterprises that I visited only had on the average about the equivalent of a junior-high school education, often acquired through spare time programs. The party secretaries had on the average one or two years less formal schooling than the directors. Very few of the directors or party secretaries had attended higher educational institutions.

Most of the university graduates at Chinese firms were vice-directors, department heads and deputy heads, workshop chiefs and vice-chiefs, engineers, and key designers and technicians. In the great majority of cases they were graduates of engineering and technical schools. The Chinese have made considerable progress in building up a stock of high talent engineers and technicians, but still lag far behind the Soviets. Relatively few employees at firms surveyed had attended economic or business administration type programs, and those who did typically worked on planning, accounting, financial supply, labor and wages, and various other white collar administrative and executive jobs. China has nothing comparable to American schools of business and industrial management or American executive development programs.

The Chinese enterprise vice-directors were typically a combination of Reds

¹² Much of the data presented in this section and the section dealing with enterprise and branch of industry performance were originally published in my Harvard Business Review article, *op. cit.*

¹³ See D. McClelland, "The Achieving Society" (New York: D. Von Nostrand Inc., 1961).

and experts. Most of the experts were employed as middle level managers, staff-specialists, and in key technical jobs.

The proportions of higher and secondary school graduates in relation to overall employment, and particularly in managerial positions, are significantly higher at the enterprise level in American, Soviet, and even Indian industry as compared to China.¹⁴ Exhibits II-A and II-B presents some education statistics for the Chinese enterprises surveyed.

Many Indian managers I have met seem to have more potential managerial know-how than most of the Chinese managers. The former often reads the Western management literature and many have even attended formal management education programs. This is not true of the Chinese managers who may read purely technical literature and undergo technical training, but are not generally exposed to much management literature or formal training. However, perhaps because he has a lower achievement drive, the Indian manager frequently does not apply much of his potential know-how effectively in practice. The Chinese manager is typically more pragmatic, inventive, flexible, and action oriented in the direction of improving performance and results. He learns much through trial and error and persistence.

Chinese industry has also made significant progress because of the motivation, dedication, resourcefulness, hard work and other attitudes of its labor force. Here greater credit must be given to the Reds than the experts or career managers. The Communist Party has organized and motivated workers on a national scale to identify with and strive for national economic progress and power. This has been a type of macro motivation, organization and leadership, rather than micro. Hence, enterprise management has much of its job done at the outset in terms of motivating personnel. In fact there is a sharp dichotomy in the managerial job. The Reds typically play the key role in personnel matters, direction, leadership, selection, and to a lesser extent training and appraisal. The managers and Experts are primarily involved in planning, technical decision-making, control, organizing activities, technical training, and some personnel appraisal work. In these latter areas the Chinese managers, and much less than their U.S. counterparts.

At a majority of the Chinese enterprises surveyed, there is an apparent lack of integrated, in depth planning throughout the organization. A systems approach which is essential to well-balanced, and coordinated plans, is clearly lacking. In designing the plans almost complete reliance is placed on historical labor and material input norms, historical inventory norms and other historical relationships based on past performance. Practically no use is made of time and motion studies and little use is made of designs or drawing for determining other factor input standards. At most enterprises there seems to be considerable difficulty in integrating technical and economic factors in decision making. There is also little use made of contingent or alternate plans. If the plan breaks down because of supply failures, for example, a completely new plan would often be drafted.

Control systems found at many enterprises are also far from efficient. Apart from after-the-fact control and information feedback related to aggregate targets, managerial control seems to be weak, and much inefficiency and waste results. Perhaps the Chinese factory is not bureaucratic enough, since more formal reports, procedures and policies would probably improve efficiency in most cases. Chinese managers do not seem to make much use of written control reports or written communications in general. In process cost control or controls over material and labor usage is practically non-existent at many factories. There is much stress placed on finished product quality control—and this generally seems to be done quite well—but in process quality control frequently tends to be quite ineffective. Hence, many rejects are sent back through the production process.

There appears to be a great deal of stress on preventative maintenance in order to preserve and conserve equipment. However, this type of work seems

¹⁴ Educational comparisons involving China, India, the United States, and the Soviet Union are presented in my forthcoming book on China, *op. cit.* For a comprehensive study of education in the Soviet Union see N. Dewitt, "Education and Professional Manpower in the U.S.S.R." (Washington: National Science Foundation, 1961). See also Richman, 1967, *op. cit.* For a comprehensive study of Chinese higher education, see C. Y. Chen, "Scientific and Engineering Manpower in Communist China" (Washington: National Science Foundation, 1965).

to be frequently carried out in an inefficient manner because of no clear cut division of labor. Production workers often do maintenance and repair work, rather than personnel from the repair and maintenance department. Even managers often get involved in this type of work.

Most of the Chinese managers clearly lack experience in organizing work efficiently. Poor organization is also due in part to the too flexible nature of the informal organization and the constraints placed on reorganizing departments and shops by higher authorities. Work flows suffer greatly in many cases because of the lack of specialization or efficient integration of activities. This ties in with poor planning and norm setting. At many plants there are large auxiliary work forces in some cases exceeding the number of production workshops—and this is due at least in part to inefficient planning and organization of activities.

The basic management organization structure of Chinese enterprises—like Soviet firms—is prescribed by higher authorities, and is quite monolithic throughout industry as a whole. As was noted earlier, Chinese managers do not have much autonomy in reorganizing or establishing new departments, sections or workshops. They do, however, have the right to initiate and propose such action. I came across only a few cases where enterprise managers have actually initiated and implemented significant changes in organization structure. They succeeded in integrating several departments and sections, and reducing the size of the administrative staff. Several managers expressed concern that they felt their organization structures could be substantially improved, but that they didn't know how to go about making such an analysis.

Most of the Chinese managers also lack experience in training subordinates in technical and managerial skills. And many are also not very clear on how to appraise their subordinates' performance. Non-economic factors seem to make appraisal of work performance a rather nebulous process.

In general, Soviet industrial managers seem to have more know-how than the Chinese in the functional areas of production, procurement, finance, accounting and research and development, although they often do not make effective use of this know-how because of the incentive system they work under. The Chinese manager however, seems to have a greater flare for and interest in marketing. More attention is typically given to product planning, marketing research, product development and improvement, customer satisfaction, and even analysis of finished inventory levels at Chinese industrial enterprises. This was particularly true at several of the consumer goods firms, but even in the case of industrial goods, Chinese managers generally seem to have more marketing know-how.

It would seem that without considerably more basic and extensive managerial know-how, Chinese industry will undoubtedly run into serious trouble as it develops and grows more complex. It is not too difficult to achieve substantial industrial progress in an industrially backward country even with rather sloppy management, if people have the basic drive, motivation and resourcefulness to improve their economic performance and productivity. However, at a certain point along the development spectrum, managerial know-how becomes just as important as motivation and attitudes. If such motivation and attitudes lose some of their potency, managerial know-how will become more important than much sooner. In any event, the Chinese will have to face up to the problem of managerial know-how in the foreseeable future as the Soviet's are now doing.¹⁵ If they do not, they certainly will not evolve from an effective to an efficient industrial system. Indeed, they probably will not even be able to maintain an effective one.

In Exhibit I, I have subjectively rated the 38 Chinese industrial enterprises surveyed in 1966 in terms of managerial know-how and general operating efficiency within their given technology and physical resources. It is often very difficult to determine whether a Chinese—or Soviet—enterprise is managed and performing well or poorly because of internal or external reasons. For example, there might be much unproductive time and idle resources because the external resource allocation and supply system has failed the factory, or because of internal managerial incompetence. In addition, in a brief visit one may be biased in viewing a factory as being well managed or productive because it is well equipped, or vice-versa. In my grading of enterprises I have tried to isolate the

¹⁵ For a discussion and analysis of evolving trends in Soviet management education and research see Richman, "Management Development," 1967, op. cit.

question of technology and focus largely on managerial know-how and productivity with available physical resources.

AN APPARENT DESIRE FOR BALANCE GROWTH

The Soviets, until quite recently, have followed a course of imbalanced economic growth and industrial development that has led to serious problems. They traditionally have placed great stress on the development of heavy industry at the expense of consumer goods, housing and agriculture. In the 1950's Red China followed quite closely the Soviet development pattern, but in the 1960's they seem to be following a course of more balanced economic growth and industrial development.¹⁶

One sign of this is that I found both modern, well equipped factories as well as old, technologically backward enterprises in most of the types of industries that I observed. In Exhibit III I have subjectively rated what I perceived to be the 8 best and 8 worst equipped Chinese factories of those surveyed in 1966.

From what I saw and was told by some high level Chinese economists and planners, it does seem that the regime has been and is allocating considerable capital investment funds not only to heavy industry, but to a fairly wide cross-section of other industries as well. In the Soviet Union one typically finds the larger heavy industry enterprises such as the Leningrad Sverdlovsk Machinery Plant, Moscow's Red Proletariate Machine Tool Enterprise, or Kharkov's Ball Bearing Factory—to be modern and well equipped. On the other hand consumer goods factories—such as Leningrad's Skhorokhod Shoe Enterprise and the Kharkov Tinakov Clothing Factory—are typically old, highly labor intensive and poorly equipped.

The Chinese regime feels that it is imperative to raise agricultural productivity substantially, given the country's huge population. Moreover, the regime views the Chinese revolution as basically a peasant rather than worker revolution, (the opposite in Russia), and therefore, may feel more strongly about improving the lives and working conditions of the peasants in the short run. A sizeable proportion of the relatively new and well equipped factories that I visited were producing for the agricultural sector.

China also seems to be making sizeable investments in various consumer goods industries as well. In order to earn foreign exchange, which is then used largely for importing grain, advanced machinery, chemicals and various other commodities that they are still far from self-sufficient in, the regime is pushing the exports of some of their older industries, such as textiles, clothing, and processed foodstuffs very vigorously. But in order to compete effectively in world markets, more capital intensive production in certain consumer goods sectors, such as textiles and clothing, is required. As a result one finds some surprisingly well equipped factories in these sectors. The regime also seems sincerely concerned about providing its huge population with more and better consumer goods in the short run, and this is probably another major reason why they are willing to make sizeable capital outlays in various consumer goods industries. There is a surprisingly wide variety of consumer goods of relatively good quality available in the stores even in areas which are seldom frequented by foreigners, such as Wusih and Loyong.

The largest Soviet department store GUM in Moscow doesn't come close to the largest department stores in Peking, Shanghai or Tientsin in terms of variety or quality of consumer goods available. For example, Shanghai's General Department Store No. 1 carries over 50,000 different types of products. Although living standards are substantially better in Russia than in China, the Soviet regime has not until very recently paid much attention to the variety or quality of consumer goods production. Nor have the Soviets followed nearly as vigorous or extensive a foreign trade policy. In Hong Kong alone there are about 33 businesses owned and operated by Red China.

China is by no means neglecting heavy industry, which still receives the largest share of capital investment because of the technology required. However, there does seem to be a more balanced capital investment policy than has been the case in Russia.

The Chinese regime still earns considerable foreign exchange through highly labor intensive and poorly equipped industries such as leather shoes, batteries,

¹⁶ Cf., Li, *op. cit.*

and electrical appliances, such as fans. They apparently feel that sizeable capital investment in these industries will not have as great a payoff as in heavy industry, agricultural or some of the older or larger consumer goods industries such as textiles. Moreover, it would cost more to equip with modern technology a shoe or battery plant as compared to a clothing factory.

Several of the factories that I found to be the worst equipped were relatively small and followed a policy of "self-sufficiency." The state seems to use such factories as a training ground for developing various skills and familiarizing new employees with industrialization, and their economic results may often be of secondary importance. Such plants apparently serve as an important potential source of supply of skilled personnel for more important or larger factories.

Red China's success in delivering a nuclear warhead has aroused interest in the country's military capabilities. Unfortunately, I can say very little about military and defense production in China (few Westerners can). It is significant, however, that five of the eight central machine-building ministries deal almost exclusively with military and defense production, while the other three also do some defense work. In 1959 there were about 1.5 million employees in defense production, and this sector employed 20% of all the engineers and technicians in the country.

It does seem that, as in Russia, enterprises producing important commodities for the military sector are under central control and receive high priority attention. I was told by officials of the Wuhan Iron and Steel Corporation, Wuhan Heavy Machinery factory, and Shanghai Machine Tool plant that an unspecified but fairly significant portion of their production was for national defense. Both of the Wuhan enterprises are also supplying North Vietnam. All three of them are directly under central ministries, and the two machinery enterprises in particular are modern, well-equipped plants. The Wuhan steel plant, which is producing mainly I-beams, has a separate shop for defense production where it produces special sizes and shapes of steel. When I was at this plant, a team of quality control inspectors from unspecified central organizations was inspecting the production—much of it for Vietnam—in this shop.

ENTERPRISE AND BRANCH OF INDUSTRY PERFORMANCE

The reader is justified in asking how representative are the enterprises visited of their branches of industry as a whole; or how much did the Chinese really let me see? It seems that I was not "managed" very strictly since I did visit what I perceived as good, average, and poor enterprises in terms of technology, managerial know-how, productivity, and general efficiency.

In some cases key personnel of the enterprises studied were willing to give an opinion on where their factories stood in terms of technology as compared to others in the same industry. Officials at most of the factories rated as best in terms of technology in Exhibit III, admitted that they were above average in their industry. Several of the machinery factories not in my "best" category and both of the steel mills claimed that they were average or below average. Some of them claimed that the best factories in their industries are in North China (Manchuria), an area I was not permitted to visit. Some of the worst equipped enterprises such as the shoe and battery factories claimed to be about average in their industries. Both of the joint state-private enterprises (Tientsen Wool and Shanghai Sung Sing Cotton) said they were below average in terms of technology, and they were certainly not nearly as well equipped as the other textile factories visited.

Exhibit IV contains some very suggestive labor productivity comparisons involving various Chinese enterprises visited, certain Soviet, U.S. and Indian branches of industry, and some specific enterprises in India and the Soviet Union. Exhibit V contains cost structure data for Chinese enterprises, surveyed and selected industries in the Soviet Union. There is an obviously wide margin of error in many of these comparisons because of significant differences in product mix and quality, employment and expense classifications, the sample of enterprises, and various other factors pertaining to measurement problems.

I have, however, tried to base the productivity comparisons on as similar a classification of enterprise employment as possible, although one typically finds a much smaller proportion of sales personnel at Chinese as compared to American or even many Indian enterprises, and more welfare and service personnel at Chinese enterprises than in any of the other three countries. In terms of employment figures used in calculating productivity, Chinese and Soviet in-

industries or enterprises are the most comparable. Total enterprise and branch of industry employment figures have been used in computing productivity.

The problem of comparability is even greater in connection with the physical outputs used in calculating productivity because of the produce mix and quality problem, using value comparisons is not generally very meaningful because of the system of fixed rather than market prices used in China and Russia, and to a lesser extent in India.

One may justifiably question the accuracy of the physical output—and other—figures given to me by Chinese officials. For the most part I do not believe that they intentionally distorted the figures given to me, although there may be some unintentional errors due to faulty recording or analysis. When persons interviewed in China did not want to give me a figure, they usually said so. For example, no firm would give me its capital investment figure, and some would not give me specific profit, cost, physical output, value of production or various other figures. In some of my Chinese productivity computations I had to take the average of a range—not usually very wide—of annual physical output given to me by the factory. For example, the Wuhan Steel Works gave as their 1965 production 1.3 to 1.4 million tons of pig iron and 1.2 to 1.25 million tons of steel. In a few cases average daily production figures, and total number of days worked, were used to estimate annual physical output. One should also keep in mind the Chinese regimes' non-economic goals in making productivity comparisons.

The productivity figures are calculated as output per man year. Since there are differences in the average man hours worked per year in the different countries there is also a margin of error here. Chinese industrial employees typically work a 48 hour week and have fewer holidays than their counterparts in the other countries. Soviet industrial personnel work about a 41 hour week, Indians around 45 to 48, and Americans approximately 40.

In spite of the complex problems of comparability, the productivity data presented in Exhibit IV are interesting and suggestive, but far from conclusive.

It appears that the Chinese enterprises surveyed in the traditional consumer goods industries such as cotton textiles and clothing are relatively well managed and productive. This is true of the two joint enterprises that still have the old capitalist managers, and relatively old equipment. The Tientsin Jen Yi Woolen Mill does however seem to be running into some noticeable internal managerial and technical problems. This may be because the general manager—a 74 year old capitalist—has been ill for the last year and doesn't come to work very much. Perhaps the Reds are playing a bigger role in running the enterprise than in the past.

Exhibit IV indicates that the 3 Chinese Cotton Textile enterprises surveyed are, as a group, substantially more productive than the Soviet or Indian cotton textile industries as a whole. While the U.S. industry figure is given in linear yards, rather than square meters, it appears that the Chinese factories are not that far behind in productivity. The Peking Cotton Textile Mill is the most productive Chinese plant, producing 14,700 square meters per man year, but with a fairly narrow product line. The Shanghai Joint Sung Sing Mill has the lowest productivity, 8300 square meters. However, this mill has the oldest equipment and produces a fairly wide line of relatively high quality (up to 80 counts) of cotton. Cotton textiles is one of China's key export products.

The two Chinese woolen mills visited are about as productive as the Indian woolen industry was in 1960, less productive than Russia, and much less than the U.S. However, the quality of wool production appears to be relatively high as compared to India or the Soviet Union. The Chinese now export much in the way of wool and cashmere sweaters, wool carpets, and other woolen goods.

It is more difficult to make productivity comparisons in the clothing industry. In the U.S. clothing industry factories produce many more varieties of garments than do the two Chinese factories visited. However, both Chinese factories seemed to be better managed and more productive than the Kharkov Tinakov Clothing Enterprise—which produces products similar to, but heavier than the Peking plant. In terms of value added per employee, the Peking clothing factory's performance seemed quite impressive, in terms of contribution to society at large at least. Net value added per employee at this plant is about 50 times greater than per capita income in China. For the Kharkov Clothing factory value added per employee was only about 10 times per capita income, and for the Soviet Clothing industry as a whole the figure was even less a few years ago.

For the U.S. Clothing industry value added per employee in 1962 was only about 4 times greater than per capita income. The pricing system has a lot to do with value added calculations—even though they do not include the costs of materials, fuel, electricity and other supplies. However, the Soviet and Chinese comparisons in particular are suggestive, because of somewhat similar pricing systems.

In general, the traditional Chinese consumer goods industries have a fairly large pool of experienced and skilled managers—including many capitalists—technicians and workers. The Shanghai Wei Ming Battery Factory—which produces a narrow line of flashlight and radio batteries—is an old factory set up by U.S. and British interests several decades ago. It also seems to be relatively well managed and productive. Many of the personnel have worked there for more than ten or twenty years. The productivity of this battery factory was substantially higher than that of an indigenous Indian firm I visited last year, which is quite comparable in terms of technology—the latter's is somewhat better—and product mix. These Chinese factory has a slightly higher output per man year than one of the battery factories of a U.S. subsidiary firm in India, but the latter has a product line that is much broader and more complex. A second battery factory of this U.S. subsidiary in India, which has a more comparable product line, but better technology, is somewhat more productive than the Shanghai plant. Battery producers in the U.S. and Japan are typically much more productive than the Chinese factory, but their technology is superior.

The newer indigenous Chinese consumer goods industries, such as watches, electrical appliances, and leather shoes (traditionally most shoes have been made of cloth and other non-leather materials) do not appear to be well managed or very productive. This is true even in the case of the Tientsin Watch Factory which is very well equipped with modern Swiss and British technology. Soviet experts helped set up and organize the Tientsin Watch and Shoe factories, the latter being largely an amalgamation of former shoemakers. By coincidence, I surveyed the Kirov Watch Enterprise in Moscow and the Leningrad Skorokhad Shoe Factory—one of Russia's best—a few years ago, and it was these two Soviet enterprises that helped set up the two Tientsin factories.

As can be seen from Table III, in both cases the Soviet enterprises were substantially more productive in the early 1960's than the Chinese ones are today. The Tientsin Watch Factory produces a much narrower product line and is better equipped than the Moscow enterprise. The Moscow watch factory is however well equipped as compared to most Soviet consumer goods producers, since it exports much of its output to both capitalist and Communist countries. The Tientsin Watch Factory is apparently also less productive than the watch factory of the Hindustan Machine Tool Corporation in India. The productivity of the Tientsin Shoe Factory trails far behind U.S. industry, and quite far behind Soviet industry. However, the quality and styling of shoes produced at Tientsin—and evidently at other Chinese shoe factories from what I saw in the stores—seems superior to much of the output of Russia's shoe industry. China is now exporting a growing share of its leather shoe production.

I visited some other Chinese factories which do not seem to have recovered from the pullout of Soviet experts several years ago. These were the huge Wuhan and Steel Works, Loyang Tractor Enterprise, and the Peking Steel Wire Plant.

The Wuhan Iron and Steel Corporation does not seem to be operating as well as the Shanghai Steel Mill that I visited. The former is much larger—with many plants—very vertically integrated, and clearly more difficult to manage. The productivity of both of the Chinese steel factories appears to be better than that of the Indian Steel industry in 1963, substantially below Soviet industry in 1962, a way behind the U.S. The product mix produced at Wuhan in particular is also relatively narrow and simple, and the quality is probably not even up to Russian standards. Of course, this may not be the case in the shop producing for the military sector.

The large Loyang Tractor Enterprise produced 15,000 multipurpose, 54 horsepower tractors in 1959, and had a 1960 target of 30,000 with 23,000 employees.¹⁷ I was told that actual 1965 production was only around 15,000, but employment was down to 20,500. A very modest improvement in productivity over six years. Officials at this factory admitted that productivity in the Soviet Tractor

¹⁷ For the 1960 data see E. Snow, "The Other Side of the River" (New York: Random House, 1961).

industry was substantially greater. There is no comparable U.S. productivity figure. However, American firms producing giant industrial trucks and much bigger tractors produce an average of two units of such equipment, per man year, as compared to the Layong Tractor figure of about .75.

Top officials of the Peking Wire Factory seemed the most upset and were the most outspoken about the Soviet pullout there. This enterprise was in near chaos, and produces only about 1.25 tons of steel wire per man year. It was the first such plant setup in China, and its managers admitted that productivity at the Soviet factory that helped set them up was much greater than theirs.

The Wuhan Heavy Machinery Enterprise seems to have recovered from the pullout of the Soviets. Perhaps, the Experts are in charge of major managerial and technical problems here, but not at the other factories where the Soviets pulled out. However, the Wuhan Heavy Machinery Plant does not seem to be as productive as the Leningrad Machinery firm—which I have visited—that helped set it up several years ago. Both factories produce similar types of heavy machinery—weighing as much as 450 tons per set, but in terms of tons of equipment produced per man year, Wuhan produces about 14.3 and Leningrad about 20.

In general, the performance of Chinese industrial machinery, equipment and component factories vary widely. Soviet enterprises in this sector on the average seem to be better managed, more efficient and produce better quality goods. U.S. firms tend to be far superior. Indigenous Indian firms typically seem to be no better and often worse than roughly comparable Chinese factories.

The largest and most important Chinese Machinery factories visited do seem to be functioning quite well. They also have the largest proportion of University graduates or skilled workers to go around and several of the fairly large and medium sized enterprises in this industry do not seem to be very well managed or productive. Most of the small machinery, instrument and component factories, following a policy of self sufficiency, and probably viewed as a training ground, seem to be functioning quite inefficiently.

The Chinese are apparently having serious problems with management and productivity in various factories producing for the agricultural sector, since this area of industry is quite new to them. Even some of the agricultural machinery, component, and chemical factories that are well equipped, do not seem to be very well managed or productive. We have already considered the Loyang Tractor Enterprise.

The Wushih Diesel Engine Factory produces primarily 30 horsepower, 3 and 4 cylinder, 960 kilogram engines. Output per man year is less than 1 engine. The figure for the U.S. gas and diesel engine industry in 1962 was 133. The Wuhan Diesel Engine Factory is barely functioning at all. The Soochow Cement Product Enterprise, which produces 3 to 5 ton cement boats for communes and a limited number of telephone poles, seemed to be functioning adequately. However, no productivity comparisons can be made since I know of no other cement boat factories. Chemical fertilizer output per man year at two Chinese factories—which produce ammonium sulphate, potassium, phosphates, and sulphuric and nitric acid—was apparently far below that of both Soviet and U.S. industry in 1962, but substantially greater than India in 1961. However, China, like India and Russia, is rapidly expanding its chemical industry and pushing for greater productivity. In fact, firms from several Western countries are building large new chemical plants in China.

The Peking Chemical Coke Enterprise, which also produces a variety of by-products, seemed to be one of the best managed and most efficient of all of those visited. However, productivity here was only about 50% of that in the Soviet Coke industry in the early 1960's. A wider by-products line and a larger proportion of auxiliary and service personnel may be partial explanations for this difference. The two Chinese Pharmaceutical factories surveyed appear to be well below typical American drug firms in terms of know-how or productivity. I was told at the Shanghai Pharmaceutical Factory that its product yields for antibiotics range about 80-82%. In a roughly comparable indigenous Indian firm that I surveyed in 1966 the average yield was about the same, and at a U.S. subsidiary from India the yield was about 86%. In U.S. based firms the yield is typically over 90%.

The Wuhan Paper Mill was not functioning very well, and productivity here seems to be well below Soviet and American performance, but better than productivity in the Indian paper industry in 1961. The productivity of the Shanghai

Truck Factory, and the Changchun Truck Enterprise which I did not visit, seems to be in the same ball park as the Indian truck industry. In both countries very extensive vertical integration, and self sufficiency at the factory level, seem to help keep productivity at relatively low levels.

In spite of numerous managerial and technical problems at many of the Chinese enterprises visited, I was impressed by the wide range of goods that Chinese industry is capable of producing. China seems to be able to produce nearly any product it wants to, but often very inefficiently and at a tremendous cost.

IDEOLOGY VS. MANAGERIAL, ECONOMIC AND TECHNICAL RATIONALITY

The types of constraints—both external and internal to the enterprise—thus far discussed which tend to hamper managerial efficiency and industrial progress in China appear to be but mere midgets as compared to the giant constraints arising from ideological extremism. It is true that various major economic system constraints have an ideological basis in China, but in spite of such constraints considerable positive gains have been and can be made in managerial performance and industrial development. The ideological constraints of interest here are those that arise from the regime's desire to rapidly create a new society of pure Communist men as conceived by Mao. In many respects, Red China is a much more fascinating place for a Western researcher interested in sociology or psychology rather than economics or management *per se*.

Ideological extremism was a chief cause of China's severe economic crisis emerging from the Great Leap Forward, and ideological extremism could well lead to a similar crisis again under current conditions or in the future. The Red Chinese regime seems to follow an oscillation theory of industrial and general economic management, with ideology implemented most intensively when economic conditions are relatively good and relaxed when the reverse is true. For the regime has seen from the Soviet experience in particular that economic progress and relative affluence can lead to revisionism and softness with regard to pure Communist ideology. This may explain much about the current Chinese political and civil crisis; the regime's growing fanatical emphasis on ideology at all levels of society follows several years of substantial economic progress—or economic recovery. Hence, a type of vicious circle is in operation where economic progress results in extreme stress on ideology, which in turn leads to economic crisis, which in turn leads to a relaxation of ideology.

How long this cycle can or will go on is anyone's guess. However, Mao and his dwindling body of loyal orthodox supporters have met with great opposition during the current phase or cycle of ideological extremism not only from the intelligentsia, professionals, and experts, but also from the worker and peasant "masses," party cadres, even top level national leaders. Mao's opponents have apparently learned from the disastrous Great Leap experience that China can't have ideological extremism and economic development at the same time. And they prefer economic development and the building of a strong and powerful China—economically, technologically, and militarily. In fact, the Communists came to power in China because they appealed to the dominant interests, aims, and aspirations of the population, most notably economic development, a better life, and nationalism. But these aims and aspirations cannot be achieved if the implementation of ideology is in serious conflict with managerial, economic and technical rationality in industry.

Looking back at my visit to Red China in the spring of 1966, I see now that there were certain trends of ideological extremism—similar to those of the Great Leap Forward—emerging at the industrial enterprise level. Ideological extremism in Chinese industrial management seems to have four key prongs: These are (1) the Reds vs. expert dilemma or pendulum; (2) material incentives and self interest vs. non-material stimuli, altruism and self-sacrifice; (3) "class struggle" and the elimination of class distinctions; (4) the amount of time spent on political education and ideological indoctrination. I shall discuss each of these ideological prongs briefly.

REDS VERSUS EXPERTS

In the Soviet Union the professional administrators and technocrats, that is the experts, not the party cadres or Reds have long played the major day-to-day and general operating role in industrial management. It is true that the

party formulates basic national goals, plans, policies and programs and plays a very important control function; but the implementation and operation of plans and programs are placed quite firmly in the hands of the experts. In Communist China the pattern has been different. Since 1949 the Chinese have oscillated back and forth between dominant expert and dominant Red Control of their industrial enterprises.¹⁸

Before proceeding, it is important to point out here that the Reds or party cadres in Chinese industry are primarily interested in policies and ends rather than plans and means, which are the chief concerns of the experts. Plans involve managerial, economic, and technical criteria and analysis, while policy in Chinese industry tends to be intimately linked with ideology as well as with the abstract goals of the regime. For example, "democratic centralism" which involves mass or worker participation in the management of enterprises, is a policy which typically receives much attention by factory party cadres. Local party cadres typically have quite a bit of leeway in interpreting and implementing the generally stated policies of the regime, and if they are too fanatical much inefficiency is likely to result.

Another important distinction between Reds and experts in China is that the experts are typically primarily concerned about transforming things—e.g. inputs into outputs—and the Reds with the transformation of people in terms of shaping their attitudes and values. In this connection the experts tend to stress technical and managerial feasibility and economic efficiency, while the Reds are chiefly interested in ideology.

During China's first Five-Year Plan (1952–57), the Soviet system of industrial management was implemented with the experts—although very limited in number—in charge of operations with considerable stress placed on one-man authority. Under this system there was very substantial industrial progress. By 1957 China's leaders felt that conditions were auspicious for the implementation of much purer ideology. This led to the disastrous "Great Leap Forward" of 1958–61. At the enterprise level managerial authority and responsibility were placed under the collective leadership of the party committee; since party cadres were required to implement the ideological campaigns and policies decided on by the regime. The party gradually assumed virtually complete operational authority in the designing and carrying out of plans. In reality, the system of state planning broke down as policies tended to supercede plans at the enterprise level, chaos and inefficiency become serious problems throughout industry. At the same time there was substantial decentralization of authority, under party surveillance and control, at the provincial and municipal levels. The net result was that enterprises, indeed the whole economy, ran out of control.

By 1961 a severe economic crisis has taken place. The deflection of millions of peasants from agriculture into industry, natural calamities such as poor weather conditions for agriculture, and the Soviet pullout involving technicians, technical data and other types of assistance, all contributed to this crisis. However, I feel ideological extremism was the chief cause. The regime called on the experts at the enterprise level—and at other levels of the economy—to help pull the country out of this crisis. Once again enterprise managers assumed considerable independent operational authority. During the next several years a very substantial general economic recovery was achieved and much industrial progress was made. Than around late 1964 articles began to appear in leading party newspapers, magazines and journals calling for purer ideology again in practice.

At the time of my visit to China in 1966 the Great Proletarian Cultural Revolution was underway, but the Red Guards were only formed shortly after I had left. During the spring of 1966, enterprise management was once again officially under the collective leadership of the party committee. However, in most firms the role of the party in management seemed to pertain mainly to formal approval of the major targets of the enterprise plan, defining unclear priorities, major personnel matters, and welfare. At a majority of the enterprises there seemed to be a fairly reasonable balance between Reds and experts, with the latter making the types of managerial, technical and economic decisions they were best equipped to make. There were, however, a number of enterprises where

¹⁸ For an excellent analysis of the Red vs. expert dilemma in China see Schurmann, *op. cit.*

inadequately trained and incompetent party cadres seemed to run the show, and as a result there seemed to be considerable confusion and inefficiency in these places.

At a large majority of the enterprises visited there was at least much verbal stress on ideological policies and slogans. Some of the policies that were constantly referred to—several of which are reminiscent of the Great Leap—included “democratic centralism,” “self-reliance and self-sufficiency,” “technical revolution and mass innovation,” “politics in command,” and “quality means excellence”. However, at many enterprises verbal references to policies and slogans seemed to be in large part merely lip-service paid to ideology. But at a number of the more inefficient enterprises the Reds clearly seemed to be going overboard in implementing various policies. For example, at several factories there seemed to be an irrational stress on “self-sufficiency” even where alternative sources of supply were available. Some plants were making or rebuilding all types of machines and components about which they knew relatively little. At others, so much time was spent on “mass innovation” with the participation of poorly qualified Reds and workers that many production bottlenecks resulted.

No doubt as the Cultural Revolution became more intensified after I left China, Reds at numerous enterprises took charge of management, often at the great expense of productive efficiency. Where Red Guards have actually gone into factories to revolutionize industrial management, the results in terms of efficiency and industrial progress have probably been even worse. For the Red Guards are much less qualified or experienced in industrial management than the regular industrial party cadres, many of whom have at least worked in industry for many years. The military cadres and people's militia troops who have taken over the management of enterprises are probably typically not much more qualified than the Red Guards.

Unless industrial management is soon restored in large part to the experts another severe economic crisis seems inevitable. But even if the Maoists are willing to make this concession the experts might not respond very effectively this time because of the great psychological impact the regime's oscillation approach to industrial management has probably had on them by now.

MATERIAL INCENTIVES AND SELF-INTEREST VS. NON-MATERIAL STIMULI, ALTRUISM AND SELF SACRIFICE

While the Soviet regime has accepted material incentives and self-interest as key motivating forces for both managers and workers for decades, the Chinese regime has oscillated in its use of such rewards.¹⁹ During the 1952-1957 period, increasing stress was placed on monetary incentives for spurring productivity. Many workers were put on piece-rate schemes, and enterprise managers as well as party officials were paid bonuses primarily in relation to gross output results. (This led to complaints in the Chinese press and journals about undesirable managerial practices similar to those found in Russia).

During the Great Leap Forward of 1958-1961, the regime tried to wipe out self-interest—and hence material incentives—as a key motivating force. With the Reds in charge, it was felt that they could organize and motivate the work force to respond to nonmaterial stimuli. When the experts once again gained favor in 1961, worker as well as managerial incentives were also revived. Profit rather than gross output also became the key success indicator. Profit could be a reasonably meaningful measure of efficiency, it was felt, since enterprise managers were given greater independence over product decisions, marketing, and procurement, and more say in the pricing of their products. By late 1964 some articles had begun to appear about the ideological conflict involved in stressing profit as the key success indicator and in emphasizing monetary incentives and personal gain. This was at a time when economic conditions were once again favorable and when China and Russia were engaged in an open, heated feud about proper ideology and revisionism.

I found during my visits to 38 Chinese industrial enterprises that piece-rate incentives for workers had been completely abolished. While at about 80% of the factories workers could still earn some type of monthly or quarterly bonuses,

¹⁹ For an historical perspective of the role of material incentives in Chinese industry see the sources cited in footnote 7, p. 67.

officials at a number of these enterprises said that they were seriously considering the abolishment of their worker bonus systems. In many cases where bonuses were paid to workers they were for group or collective performance rather than individual results. Furthermore worker bonuses were not based solely on productivity; politics and helping co-workers were also key criteria. Much use was also made of moral stimuli such as slogans, wall posters, meetings, political discussions, and the selection of "five-good workers" (good at their job, improvement of their skills through education, helping other employees in their jobs, political and ideological studies, and helping others in their ideological self improvement.)

There was no particular branch of industry where workers could not receive bonuses. But it is possible that some type of campaign was underway in Wuhan since 3 of the 4 Wuhan enterprises surveyed had ended their worker bonus schemes—under party leadership—quite recently: On the other hand, all of the 9 factories visited in Shanghai still had workers monetary incentive schemes in effect. It is interesting to note that the greatest resistance to the regime's current ideological campaign has been in Shanghai where strikes and labor unrest have been widespread. Industrial personnel have been promised better pay, hiring standards, and more monetary incentives by Mao's opponents. Perhaps the local party committees in Shanghai have been supporting the opposition, while those in Wuhan have tended to support the Maoists.

In general, it is too early to make a judgment of the impact of eliminating worker monetary incentives on productivity, and I did not get adequate data from the factories surveyed to make such a judgment. But the 1958-61 experience might indicate what the future may hold in store.

Middle and lower level managers, staff specialists, and technicians could also still earn bonuses at about 80% of the enterprises surveyed, but here too a number of the firms were contemplating an end to such bonus payments. For such personnel to earn bonuses, the fulfillment of certain enterprise success indicators was a required condition at only about 20% of these enterprises. They were more commonly evaluated for their "contributions", which often included factors similar to those applied to the payment of worker bonuses, rather than on the basis of aggregate enterprise performance.

There is a state regulation which permits the payment of monetary rewards to individuals and industrial employees for their innovations, inventions, and technical improvements.²⁰ The size of the reward is supposed to be based on the economies or benefits derived from the innovation or improvement: While this regulation still existed when I was in China, only a few of the enterprises surveyed paid out any rewards of this type to individuals. The monetary rewards derived by the enterprises on the basis of this regulation were usually used for "collective" purposes such as acquiring technical literature, improving operations, buying scientific instruments, and welfare.

As was mentioned earlier top level enterprise executives are no longer entitled to extra monetary incentives. Furthermore their basic incomes and living standards are not substantially better than those of the workers. This leads us to our next section which deals with "class struggle".

CLASS STRUGGLE AND THE ELIMINATION OF CLASS DISTINCTIONS

In a soviet—or for that matter an American—industrial enterprise there are generally clues which enable an outsider to pick out the top managers from the workers, and perhaps even the top managers from the lower-level managers. During my visits to Russian enterprises the salary and wage scales, working and living conditions of employees, dress, appearance, education, work patterns, or even observation of interpersonal contacts typically gave adequate clues for me to guess who is who. But in Chinese enterprises there are less clues than probably any other country in the world.

In order for a Western mind to make sense out of some of the more surprising and strangest things going on in Chinese enterprises, one must be aware of a major Communistic ideological tenet which the regime takes seriously and has gone a long way in implementing. This pertains to the abolition of classes,

²⁰ See Chen, *op. cit.*, pp. 149ff.

class distinctions and elites, and the abolition of distinctions between mental and physical labor.

In the Soviet Union upper level industrial enterprise managers have long been paid substantially better than workers, generally live significantly better with favored housing and an allocated car, and have become a type of elite.²¹ In fact they are recognized as an integral part of the Soviet *Intelligensia* because of their special knowledge, skills, abilities and/or education.²²

At 12 Soviet industrial enterprises that I visited in 1961, the directors typically received from three to nine times more pay than the average enterprise wage, and in most cases the figure was around four or five times more. This is similar to relative pay differentials found in numerous U.S. industrial firms. In India the income gap between management and labor is generally much greater than in Russia or the U.S. The Soviet directors' key deputy managers and engineers also generally received significantly more than the workers. In no case was a worker the highest paid person in a Soviet enterprise surveyed, and in only one did a manager other than the director—a chief engineer who was also deputy director—get the highest salary (by only a small amount). Soviet directors are often provided with chauffeur-driven cars and above average housing. They also often dress significantly better than the average worker.

During China's First-Five Year-Plan high level managers and key experts at industrial enterprises did become an elite. They typically got paid considerably more—especially with the 1956 wage reform—and lived significantly better than the workers. Then with the Great Leap this changed substantially. Moreover, their authority and status were greatly undermined, and those who obtained their high level jobs largely because of their education and training were the target of an intensive anti-intellectual campaign. They were accused of being arrogant, authoritarian, bureaucratic, individualistic and selfish. They were frequently sent down to work on the production line and to do other menial physical tasks, as unqualified Reds and workers took over the management of the enterprise. Such campaigns were aimed largely at eliminating class distinction and obliterating the difference between mental and physical labor.

By 1962 the managers and experts were once again in good favor with the regime. The anti-intellectual campaign had ceased, and the 1963 wage reform benefited them somewhat more than the average worker. However, the gaps in their incomes and living standards as compared to the workers have apparently not reached the levels that existed prior to 1958.

For the Chinese regime has come to realize that one sure way to breed class distinctions or elites is to pay managers and experts substantially more than workers and provide them with substantially better living conditions. Hence, when great stress is placed on pure ideology in practice one can expect such gaps between managers and workers to become much more obscure. There seems to be trends in this direction during the current Cultural Revolution.

At 38 Chinese industrial enterprises the director alone was the top paid employee at only 3, while he shared the top pay slot with the party secretary, experts and/or workers at 12 others. (At the great majority of Chinese factories party secretaries and directors get identical or nearly identical salaries, while at Russian enterprises, the directors usually get more, at times substantially more). At 2 of the Chinese enterprises the party secretary alone got top pay, and at 12 others he shared this slot with other personnel. Vice directors, department heads and engineers were the highest paid at 12 factories, and shared this position at 7 others. Workers were the highest paid employees at 8 factories—mostly fairly small ones—and shared this slot at 2 others. Exhibit I indicates who got the highest basic monthly paycheck, the amounts involved, and the average wage, at the 38 industrial enterprises surveyed.

The vice directors, engineers and department heads who received top pay at their enterprises were typically the Experts. In general they have more formal education than the directors and party secretaries, and are frequently not on the enterprise party committee, and often not even party members.

At some of the enterprises, I was told that the directors and other key managerial and technical personnel had recently "voluntarily" asked and received

²¹ For data on wage and salaries scales in the Soviet Union see Dewitt, op. cit., p. 543 and Appendix VI-W; Richman, "Management Development," 1967, op. cit., chapter V.

²² Ibid. See also J. Azrael, "Managerial Power and Soviet Politics" (Cambridge, Mass.: Harvard University Press, 1966).

cuts in their salaries to put them more in line with the workers. For example, this was the case at the Wuhan Iron and Steel Works, Wuhan Heavy Machinery Factory and Loyang Tractor Factory. The director of the Nanking Chemical Fertilizer Factory claims that he refused a salary increase. At most factories the ratio between the directors' incomes and the average factory pay was less than 2 to 1; and the highest was about 3 to 1.

I would rate nearly all of the enterprises where workers or party secretaries were the only highest paid employees as below average or poor in terms of how well they were managed and operating. In such cases the directors were probably much more Red than expert. On the other hand I would rate as above average, or relatively good most of the enterprises where the director was the highest or one of several top paid employees. Here the directors were probably as much expert as Red—all directors are party members—and his abilities and contributions probably clearly warranted top pay by the various standards applied by the regime. In firms where engineers, technicians or managers other than the director received top salaries, some seemed relatively well run and others were not. Perhaps at those that seemed well run these top paid experts were allowed to play the key roles in running the enterprise, and at the others they were suppressed by incompetent Reds.

At Chinese enterprises there also seem to be no really very substantial differences in the housing conditions of managers, technicians, Reds or workers. At the Nanking Chemical, Wuhan Iron and Steel and Peking Cotton Textile enterprises I spent quite a bit of time inspecting the factory housing. Top managers, lower level managers, engineers, technicians, party cadres and workers were all integrated in the apartment houses, for which a nominal monthly rent—typically 1 to 4 Yuan per room—related to income is paid. However, some of the relatively highly paid employees did live in larger and better furnished flats, and this could be some type of incentive.

All personnel eat together in the same canteen during working hours. Even though the larger factories had cars—some of them old U.S. models—top managers, key Experts and party officials claimed that they walked, rode bikes or took the bus to work. Cars are only for official use or emergencies, and used by all personnel I was told. One can tell usually very little from dress or personal appearances in Chinese enterprises. Most personnel at all levels generally wear the conventional blue suits with caps—even the women. (It is usually difficult to tell the women from the men).

It is also often difficult to tell who's who in Chinese industrial establishments from observing work patterns and interpersonal relations. The reasons here are twofold. First, there are what the regime refers to as two major "taking-parts-ins." Workers take part in management in accordance with the principle of "democratic centralism" and "mass participation;" and managers take part in physical labor. The major ideological purpose of such activity is to obliterate distinctions between mental and physical labor, or intelligentsia and non-intelligentsia. Moreover, the nature of the informal organization at Chinese enterprises makes it difficult to tell who is who.²³

Worker participation in management in Chinese factories takes the forms of committees, meetings, suggestions, and elections. Some Chinese managers interviewed admitted that in the past—apparently the Great Leap Forward period—workers spent too much on-the-job time in meetings, and now most of these meetings are held "voluntarily" after hours.

The major formal on-the-job worker-meeting is generally held monthly or quarterly to discuss the enterprise plan and performance. But even here, at most factories all of the workers do not join in, but only a committee of worker representatives elected by the various shops, sections and departments. The worker representative committees can and apparently do exert considerable influence at times, even to the point of reversing managerial decisions. For example, at the Canton Appliance Factory some managers wanted to buy a new machine but the workers made him reverse the decision and the factory rebuilt an old machine at a fraction of the cost. This, I was told, was in line with the state policies of "self sufficiency" and "innovation". While the factory trade union committee is formally supposed to play a major role in motivating and organizing worker participation, the party clearly plays the dominant role. In

²³ For a more detailed discussion of the informal or human organization at Chinese enterprises see Schurmann, *op. cit.*, especially chapters I and V; and my Harvard Business Review article cited above.

fact, the trade union in Soviet enterprises, although not very strong, seems to be significantly more influential and important than in China.

Much time is spent in after-work meetings (and I did unexpectedly drop in on some when I stayed late at various factories). The workers discuss how to improve performance and their skills, and, of course, much politics and ideology. The workers also vote on who should get what size bonus, as well as who should be elected as five-good workers for the period. Even though management and the party committee formally approve the election results, it does seem that the workers' recommendations are generally accepted.

However, there is one type of worker election that seems to be rather pseudo. That is the "election" of managers. This trend in "electing" managers, I was told, started quite recently, and such elections take place annually or every few years at about 40% of the factories surveyed. Several others were contemplating elections in the near future. (Most of the factories having elections were in Peking and Shanghai). The workers supposedly elect the directors, vice directors and group leaders (who are like front line supervisors). They may play a major role in the selection of group leaders, but it is doubtful that they do with regard to the other managers. The elections, not surprisingly, are under the direct leadership of the party. It seems that all successful candidates are elected with a 99 to 100% majority.

Yet, elections, and worker participation in general, do seem to have some favorable impacts at Chinese factories. It does give the workers a sense of identification, loyalty, belonging and commitment to their enterprise, and this probably has a favorable motivating effect. It also keeps managers on their toes, since the workers must, at least, be listened to. They can and do evaluate the managers and point out what they view as deficiencies in management performance. More important perhaps to the regime, is that worker participation results in a form of bottom-up control not only over economic performance, but also on the proper interpretation of state policy and ideologically correct behavior.

As of the spring of 1966, worker participation in management did not seem to be hindering productive efficiency very seriously at the majority of the enterprises surveyed, and it may well have been playing a positive role at many. It is interesting to note that at a majority of the enterprises visited there were no workers on the enterprise party committee, and at all of the other workers consulted only a relatively small proportion of the Committee's membership. Since I left China it is possible that workers have come to play greater or even dominant management roles at numerous enterprises. If this is so, economic efficiency and industrial progress are no doubt suffering substantially in many instances.

Let us now turn briefly to management participation in physical labor.

During my first visit to a Chinese factory, the Peking Woolen Mill, I thought it was a joke or strange aberration, when during lunch in the cafeteria, I was introduced to the director who was cooking dumplings in the kitchen. He was doing one of his two days a week of physical labor. I soon learned that all enterprise directors, vice directors, party secretaries, and trade union leaders, spend from one to two—in some cases more—days each week in physical labor. So when I later saw the director of the Tientsin Watch Factory cleaning up a shop and vice director of the Shanghai Steel Mill No. 3 working on a machine, I was no longer shocked. In fact, managers, Experts, and key Reds of organizations above the enterprise also come to plants each week to engage in physical labor. For example, when I was at the Shanghai Truck Factory, there were three managers from the Shanghai Bureau of Transportation and Communication working in the shops.

It seems, however, that some of the better managers—experts who may not be pure Red—at fairly well managed factories do not take physical labor very literally. For example, they spend their one or two days each week working out technical and managerial problems through the physical process of writing. But at most factories the upper level managers do partake in some type of actual labor.

Management participation in labor at Chinese factories does appear to have some favorable effects: Historically upper level enterprise managers and educated people in general in China tended to view physical labor with contempt and revulsion. This led to great communication gaps and considerable under-

lying deep-rooted antagonism and resentment. The Red Chinese seem to have been surprisingly successful in breaking down this wall and the related class distinctions between managers and workers, the education and uneducated, and mental and physical labor. Management participation in labor does seem to create a type of cohesive team spirit, and to enable managers to observe and keep in close touch with concrete operating conditions and problems in their enterprises. But where experts—in a country that has a critical shortage of experts—are forced to spend as much as two days or more each week in physical labor, may not the disadvantages outweigh the advantages, especially in terms of economic performance?

TIME SPENT IN POLITICAL EDUCATION AND IDEOLOGICAL INDOCTRINATION

As indicated above, there are numerous meetings, conferences, study sessions, and the like, many of them concerned with ideology and politics at Chinese industrial enterprises. Although I was told that meetings and sessions relating to worker participation in management are usually held after working hours, it would be impossible not to have at least some overlap or infringement on productive economic activities during working hours: Where employees must spend long hours after work in political work their productivity is also likely to suffer on the job. No doubt not nearly as much productive working time was lost in formal on-the-job political education and indoctrination sessions at enterprises during the Spring of 1966 as was the case during the height of the Great Leap Forward. Such formal sessions were not much in evidence during my visits to Chinese enterprises. However, there did seem to be a lot of informal on-the-job activity revolving around ideology and politics at many factories.

Moreover, high level executives—both Reds and experts—at many of the firms surveyed said that they did spend about a half or full day each week at meetings and educational sessions that deal primarily with politics and ideology. By June of 1966, with the intensification of the Cultural Revolution, it was becoming more difficult for me to get appointments with key officials at enterprises that I wanted to visit. The reason usually given was that they were tied up with political and ideological meetings because of the Revolution. This was no doubt true in many instances. On a number of occasions enterprise executives were called out of my sessions with them to attend special meetings and conferences.

With the onslaught of Red Guards, military cadres, and the people's militia at the enterprise level in Chinese industry, no doubt a great deal of time is being spent in political meetings and intensive ideological sessions, as they attempt to "revolutionize" management. Productive efficiency and industrial progress are clearly the losers when a substantial part of the working day is taken up by politics and ideological indoctrination.

CONCLUSION

There are significant constraints on efficient managerial decision making and performance at the industrial enterprise level which are inherent in Communist China's economic system and industrial organization. The lack of managerial know-how and technical expertise also serves to seriously constrain productive efficiency at the enterprise level, although China has gone far in building up a stock of high talent technical manpower. When ideology is not pushed too far, what industrial managers and technicians—and workers—lack in know-how and skill they seem to make up for in substantial part through their motivation, pragmatism, resourcefulness, dedication, effort and persistence. But if the country is to progress from a developing to a relatively developed economy, managerial skill and ability of a much higher order are essential.

As significant as the above types of constraints may be, Red China has achieved impressive industrial progress by any criteria, except during periods of ideological extremism when the reverse has been true. In fact, these constraints appear to be relatively insignificant as compared to the constraints on managerial efficiency and enterprise performance which evolve with ideological fanaticism aimed at the rapid creation of a new society of pure Communist men, as conceived by Mao.

There appears to be an inherent conflict between the pure ideology and ultimate objectives that the Communist Chinese regime—as represented by the orthodox

Maoists—is pursuing. The regime clearly wants China to be a leading world economic, political and military power, with its ideology dominating the universe. In order to achieve such international power and influence, the Chinese domestic economy, and industry in particular, must develop on a sustained and very substantial and impressive scale. The effectiveness of their industrial management system is crucial, since it is at the enterprise level that the economic progress, wealth, power, and influence of a nation are so largely determined. However, key aspects of Maoist-Marxist ideology are in basic conflict with effective and efficient industrial management, and hence with the attainment of Peking's ultimate national and international objectives.

It is true, as pointed out earlier in this paper, that the Red Chinese have learned much from the Soviet Union's experiences and mistakes in industrial management. The Chinese are apparently following a more balanced and flexible approach to industrial development than the Soviets did. It is also true that various aspects of the Maoist-Marxist ideology have had a favorable impact on productivity and industrial development to date. Yet at the same time the Chinese regime stubbornly tries to implement certain aspects of pure ideology which the Soviets have long abandoned because the ideas were found to be unworkable from a managerial, technical, and economic point of view.

There is the basic question of self interest and monetary incentives as opposed to pure altruism and non-material incentives. Centuries of world history and experience strongly indicate that the Chinese regime will not be able to eliminate self interest and material gain as key motivating forces—for managers, technicians, or workers—and at the same time achieve sustained and impressive industrial progress in the long run. If by some miracle they do succeed, this would have a very great philosophical and cultural impact on the functioning of the world. But I am betting against such a miracle. I am also betting against the workability of a classless society with no noticeable distinctions between managers and workers, leaders and followers, experts and nonexperts, and mental and physical work.

There is also the crucial question of Red vs. expert, or ideology vs. managerial, technical and economic reality. If the Reds, Red Guards, the Military, or the People's Militia maintain the dominant upper hand in management as industry struggles to develop, this would surely lead to serious problems, including stagnation, and probably even regression at a certain point. It may be possible to develop a large and adequate pool of managers and technicians who are Red ideologists and experts, but this would take decades, and may prove extremely difficult. Finally, managerial efficiency and economic performance are also the chief losers when an excessive amount of time is spent on political education and ideological indoctrination at industrial enterprises.

It remains to be seen if, how, or when the Red Chinese come to grips with their ideological dilemmas. If they do not, it is very unlikely that they can achieve their national and international objectives of economic and political power; truly effective international military power in the long run would also seem to require a relatively strong and effective economy. If Communist China does ever evolve into a truly first rate power, it appears that the more important aspects of pure Maoist-Marxist ideology would have to be abandoned in the process.

EXHIBIT I.—Grading of 38 Chinese industrial enterprises in terms of managerial know-how and general efficiency with technology available

Grade	Total employment	Average wage (in yuan)	Top paid personnel and amount of basic monthly pay ² (in yuan)	Authority directly above the enterprise	Estimate of relative degree of enterprise autonomy (rated on a 1 to 5 scale with 5 being the highest degree among firms surveyed)
Best:					
Peking Chemical Coko.....	2,100	61.0	Director, party secretary, 150.....	Peking Chemical Industry Corp.....	3
Peking Cotton Textile No. 3.....	5,000	60.0	Director, party secretary, chief engineer, 150.....	Peking Textile Corp. (under Textile Ministry)...	1
Shanghai Cotton Textile No. 19.....	4,800	78.0	Vice director and chief engineer, 200.....	Shanghai Textile Corp. (under local bureau).....	2
Shanghai (Joint) Sung Sing Cotton Textile No. 9.....	6,000	78.0	Party secretary, vice director, 100.....	Shanghai Textile Corp.....	1
Shanghai Machine Tool.....	6,000	70.0	Director, 210.....	First Machine-Building Ministry.....	5
Wuhan Heavy Machinery.....	7,000	66.0	Director, chief engineer, 150.....	do.....	5
Hangchow Clothing.....	400	48.0	Director, vice director, skilled worker, 69.....	Hangchow Handicrafts Industry Bureau.....	5
Above average:					
Peking Wool.....	1,800	60.0	Director, party secretary, 130.....	Peking Textile Corp.....	1
Peking Woolen Carpet.....	2,700	60.0	Director, party secretary, 135.....	do.....	1
Tientsin (Joint) Jen Yi Wool.....	1,800	67.0	Skilled worker, 122.....	Tientsin Wool Corp.....	1
Wush Silk Reeling.....	1,500	52.0	Director, party secretary, 100.....	Wush Silk Industry Corp.....	2
Peking Clothing.....	1,700	65.0	Skilled worker, 110.....	Peking Handicrafts Bureau.....	5
Peking First Machine Tool.....	4,000	52.0	Vice director and chief engineer, 180.....	First Machine-Building Ministry.....	4
Shanghai Machine Tool No. 3.....	1,000	75.0	Vice director, engineer, 126.....	Shanghai Machine Tool Corp. (under local Electrical Machinery Bureau).....	2
Shanghai Wei Ming Battery.....	563	78.0	Director, party secretary, vice director, 120.....	Shanghai Daily Usage Chemical Industry Corp.....	3
Average:					
Peking Pharmaceutical.....	3,000	60.0	Director, party secretary, 138.....	China Drug Corp. (under Chemical Ministry)...	3
Nanking Chemical Fertilizer.....	10,000	62.0	Engineer, 170.....	Ministry of Chemical Industry.....	3
Canton Chemical Fertilizer.....	2,400	65.0	Vice director and chief engineer, 200.....	do.....	2
Canton Machine Tool.....	3,100	67.0	Chief engineer, 140.....	First Machine-Building Ministry.....	2
Wush Machinery.....	3,000	48.0	Skilled worker, 87.....	Wush Handicrafts Industry Bureau.....	5
Shanghai Steel No. 3.....	13,000	71.0	Director, party secretary, skilled worker, 120.....	Shanghai Brueau of Metallurgy.....	3
Shanghai Forging and Pressing Machine Tool.....	405	75.0	Skilled worker, 115.....	Shanghai Machine Tool Corp.....	3
Soochow Cement Products.....	680	50.0	Engineer, department head, 100.....	Soochow Bureau of Construction.....	3
Nangchow Silk Reeling, Dyeing, and Weaving.....	6,200	50.0	Skilled worker, 110.....	Hangchow Silk Textile Corp.....	1

See footnotes at end of table, p. 92.

EXHIBIT I.—Grading of 38 Chinese industrial enterprises in terms of managerial know-how and general efficiency with technology available—Con.

Grade	Total employment	Average wage (in yuan ¹)	Top paid personnel and amount of basic monthly pay ² (in yuan)	Authority directly above the enterprise	Estimate of relative degree of enterprise autonomy (rated on a 1 to 5 scale with 5 being the highest degree among firms surveyed)
Below average:					
Shanghai Pharmaceutical No. 3.....	1,200	66.0	Party secretary, vice director, chief engineer, 174.	Shanghai Branch of China Drug Corp.....	2
Shanghai Truck.....	1,050	72.0	Engineer, 140.....	Shanghai Transportation and Communication Bureau.....	1
Loyang Tractor.....	20,500	49.0	Engineers, 205.....	Eighth Machine-Building Ministry.....	3
Wusih Diesel Engine.....	2,700	52.0	Chief engineer, 190.....	Tractor and Internal Generator Corp. (under Eighth Machine-Building Ministry).....	2
Wuhan Iron and Steel Corp.....	35,000	70.0	Vice chief engineer, 180.....	Ministry of Metallurgy.....	3
Wuhan Paper.....	2,000	54.0	Director, 170.....	Provincial First Light Industry Bureau.....	4
Nanking Machinery.....	1,300	60.0	Party secretary, 120.....	Provincial Machinery Department.....	4
Tientsin North Lake Instrument.....	165	47.5	Skilled worker, 96.....	Tientsin Second Light Industry Bureau.....	4
Worst:					
Peking Steel Wire.....	800	52.0	Director, party secretary, 98.....	Peking Metallurgical Industry Corp.....	3
Tientsin Shoe.....	1,000	62.5	Skilled craftsman, 84.....	Tientsin Second Light Industry Bureau.....	4
Tientsin Watch.....	1,400	50.0	Technician, 150.....	Tientsin Daily Usage Industrial Corp. (under Tientsin First Light Industry Bureau).....	2
Canton Electrical Appliance.....	840	60.0	Skilled worker, 135.....	Canton Electrical Industry Corp. (under local Electrical Machinery Bureau).....	1
Hangchow Machine Tool.....	1,000	61.0	Party secretary, 108.....	Provincial Heavy Industry Department.....	3
Wuhan Diesel Engine.....	992	52.5	Director, 110.....	Wuhan Mechanical Electrical Industry Bureau.....	3

¹ 1 yuan is equivalent to about 40 U.S. cents.
² Capitalists not included.

³ Factories of this corporation 1 and 2.

NOTE.—No attempt is made to rank enterprises within each category.

EXHIBIT II-A¹.—Educational data on 37 Chinese industrial enterprises surveyed in 1966

Enterprise and industry	Total employment	Higher education		Specialized semi-professional education	
		Percent	Number	Percent	Number
I. Heavy industry:					
A. Large- and medium-sized machinery and equipment, steel, motor vehicle, engines:					
Wuhan Iron & Steel Corp.	35,000	5.5	1,925	11.0	3,850
Layang Tractor	20,500	3.0	615	6.0	1,230
Shanghai Steel No. 3	13,000	1.6	208	5.5	715
Wuhan Heavy Machinery	7,000	5.5	385	20.0	1,400
Peking Machine Tool	4,000	5.0	200	12.5	500
Shanghai Machine Tool	6,000	3.3	198	5.0	300
Canton Machine Tool	3,100	3.5	119	5.0	165
Wush Diesel Engine	2,700	9.0	243	15.0	405
Nanking Machinery	1,300	5.0	65	10.0	130
Shanghai Truck	1,050	9.0	95	22.0	130
Hangchow Machine Tool	1,000	6.0	60	5.0	50
Shanghai No. 3 Machine Tool	1,000	5.0	50	2.0	20
Wuhan Diesel Engine	992	2.0	20	1.0	10
Peking Steel Wire	800	4.0	32	6.0	48
Total	97,442	4.3	4,215	9.3	9,054
B. Small-scale machinery, small tools, instruments, components:					
Wush Machinery	300	1.0	3	1.0	3
Shanghai Forging & Pressing Machine Tool	405	.5	2	1.5	6
Tientsin Instrument	165	0	0	0	0
Total	870	.6	5	1.0	9
C. Other:					
Wuhan Paper	2,000	1.0	20	4.0	80
Soochow Cement Products	680	.6	4	1.5	10
Total	2,680	1.0	24	3.3	90
All heavy industry total	100,992	4.2	4,244	9.1	9,143
II. Chemicals and drugs:					
Nanking Chemical Fertilizer	10,000	5.5	550	1.4	140
Peking Pharmaceutical	3,000	6.0	180	4.0	120
Canton Chemical Fertilizer	2,400	4.0	96	7.0	168
Peking Chemical Coke	2,100	5.0	105	6.0	126
Shanghai Pharmaceutical	1,200	7.0	84	3.5	42
Total	18,700	5.4	1,015	3.2	596
III. Light Industry:					
A. Light engineering:					
Tientsin Watch	1,400	7.0	98	3.0	42
Canton Electrical Appliance	840	.25	2	1.5	13
Shanghai Battery	563	1.0	6	2.5	15
Total	2,803	3.8	106	2.5	70
B. Textiles:					
Shanghai Joint State and Cotton Textile No. 9	6,000	.7	42	.5	30
Peking Cotton Textile No. 3	5,000	1.0	50	2.0	100
Shanghai Cotton Textile No. 19	4,800	2.0	96	2.0	96
Peking Woolen Carpet	2,700	1.5	41	2.0	54
Peking Wool	1,800	1.5	27	2.5	45
Tientsin Joint State and Private Wool	1,800	1.0	18	1.4	25
Wush Silk Reeling No. 2	1,500	.7	10	.7	10
Total	23,600	1.2	294	1.5	360
C. Clothing:					
Peking Clothing	1,700	.6	10	.9	15
Hangchow Clothing	400	0	0	0	0
Total	2,100	.5	10	.75	15
D. Shoes: Tientsin Shoe	1,000	3.0	30	1.0	10
All light industry total	29,503	1.5	440	1.5	455
Grand total	149,195	3.7	5,569	6.8	10,194

¹ Some of the figures are estimates given by Chinese officials, as precise figures were not provided in all cases. However, the margins of error in the estimates are probably no larger than about 5 percent. These figures are not very representative of Chinese industry as a whole. There is probably a significant upward bias because of the type of sample studied.

EXHIBIT II-B.—Percentage of administrative and technical personnel having higher and specialized secondary educations at 31 Chinese enterprises surveyed¹

	Total number of administration and technical personnel	Percent having a higher education	Percent having a specialized secondary education
I. Heavy industry:			
A. Large and medium sized:			
Wuhan Iron & Steel.....	9,300	20.0	41
Shanghai Steel.....	2,730	13.0	24
Wuhan Heavy Machinery.....	2,550	15.0	54
Peking Machine Tool.....	1,100	18.0	45
Shanghai Machine Tool.....	1,200	16.0	25
Hongchow Machine Tool.....	200	30.0	25
Shanghai No. 3 Machine Tool.....	200	25.0	10
Wuhan Diesel Engine.....	138	15.0	7
Peking Steel Wire.....	235	14.0	20
Total.....	17,653	(3,078) 17.0	(6,893) 38
B. Small scale machinery, tools and components:			
Wusih Machinery.....	40	8.0	8
Shanghai Forging & Pressing.....	49	4.0	12
Tientsen Instrument.....	10	0	0
Total.....	99	(12) 12.0	(20) 20
C. Other:			
Wuhan Paper.....	420	5.0	19
Soochow Cement Products.....	60	7.0	17
Total.....	480	(12) 2.5	(36) 8
All heavy industry total.....	23,443	(3,078) 13.0	(6,949) 30
II. Chemicals and drugs:			
Nanking Chemical Fertilizer.....	2,700	20.0	5
Canton Chemical Fertilizer.....	552	17.0	29
Peking Pharmaceutical.....	540	33.0	22
Shanghai Pharmaceutical.....	306	27.0	14
Peking Chemical Coke.....	520	20.0	24
Total.....	4,618	(1,015) 22	(596) 13
III. Light industry:			
A. Light engineering:			
Tientsen Watch.....	218	45.0	19
Canton Electrical Appliance.....	134	1.0	9
Shanghai Battery.....	73	8.0	20
Total.....	425	(106) 25.0	(70) 17
B. Textiles:			
Shanghai Joint Cotton Textile No. 9.....	450	9.0	7
Shanghai Cotton Textile No. 19.....	374	20.0	20
Peking Cotton Textile No. 3.....	500	10.0	20
Peking Wool.....	234	12.0	21
Tientsen Joint Wool.....	187	10.0	13
Wusih Silk Reeling No. 2.....	188	5.0	5
Total.....	1,933	(253) 13.0	(306) 15
C. Clothing:			
Peking Clothing.....	85	12.0	18
Hongchow Clothing.....	16	0	0
Total.....	101	(10) 10.0	(15) 15
D. Shoes: Tientsen Shoe.....	225	(32) 14.0	(9) 4
All light industry total.....	2,694	(401) 15.0	(400) 15
Overall total.....	31,025	(4,494) 14.0	(7,945) 26

¹ Figures in parentheses represent absolute numbers. The same upward bias and margins of error probably exist here as in exhibit II-A. The grouping of administrative and technical personnel for the Chinese enterprises corresponds roughly to the Soviet category "leading enterprise personnel." The Chinese grouping includes roughly 66 to 75 percent of those personnel who would be included in the Soviet category of engineering-technical-managerial personnel (ETMP). For a definition of these Soviet groupings see N. Dewitt, "Education and Professional Employment in the U.S.S.R." (Washington: National Science Foundation, 1961), ch. VI, especially p. 496 ff.

EXHIBIT III.

ESTIMATE OF BEST AND WORST EQUIPPED CHINESE FACTORIES OF THOSE VISITED

Best equipped:¹

NOTE.—No attempt is made to rank enterprises within each category.

Peking Pharmaceutical (mostly Chinese equipment, some Japanese).

Peking Chemical Coke (mostly Chinese equipment).

Peking Cotton Textile No. 3 (mostly Chinese equipment).

Shanghai Machine Tool (mostly Chinese equipment, some machines from Eastern Europe).

Wuhan Heavy Machinery (Chinese, Russian, Czech, Germany, British equipment).

Canton Chemical Fertilizer (nearly all Chinese equipment).

Tientsin Watch (mostly Swiss, some Russian and British machinery).

Hangchow Clothing (nearly all Chinese equipment).

Wusih Diesel Engine (much Chinese, Swiss, and Japanese equipment for R & D and quality control).

Worst equipped:

Shanghai Battery (mostly Chinese machines, some British, U.S., and Japanese).

Tientsin Shoe (more than 50% of the equipment made or rebuilt by this factory).

Tientsin North Lake Instrument (not much equipment, most made or rebuilt by factory).

Wusih Machinery (most machines rebuilt by this factory).

Shanghai (Joint) Sung Sing Cotton Textile (mostly very old imported equipment, much from Britain, some from United States).

Hangchow Machine Tool (mostly second-rate Chinese equipment, some from Eastern Europe, some rebuilt by factory).

Wuhan Diesel Engine (much equipment rebuilt by this factory).

Canton Electrical Appliance (about 50% of equipment made or rebuilt by this factory).

¹ These factories seem to be as well equipped as average U.S. or Canadian factories in similar industries, with the exception of material-handling equipment at the machinery and chemical enterprises.

EXHIBIT IV.—How labor productivity in 38 Chinese enterprises compares with productivity in other nations

[Output per man-year except in the case of antibiotic drugs]

Industry	Chinese enterprises (1965)	Soviet Union (1962 unless otherwise stated)	India (1963 unless otherwise stated)	United States (1962 unless otherwise stated)
Cotton textiles.....	Average for 3 factories, 11,000 square meters.	Industry average, 6,240 square meters.	Industry average, 8,604 square meters.	Industry average, 19,017 linear yards. ¹
Wool fabrics.....	Average for 2 factories, 833 square meters.	Industry average, 1,832 square meters.	Industry average, 850 square meters (1960).	Industry average, 6,000 linear yards. ¹
Leather footwear.....	Tientsin shoe factory, 350 pairs....	Average for entire industry, 950 pairs. Average for Leningrad shoe factory, 1,750 pairs.	Data not available.....	Industry average, 2,853 pairs.
Clothing.....	Peking factory, 735 garments (mostly wool and cotton suits, coats, and pants) and \$4,500 value added per employee. ² Hangchow factory, 1,250 garments (primarily shirts, but also coats, pants, suits, with cotton, wool, and silk used as raw materials).	Value added average for industry, \$7,300. ² Kharkov clothing factory in 1960 produced 620 garments and had a value added per employee of about \$8,000.	.....do.....	Men's and boys' clothing, 7,024 garments. Value added per employee, \$12,420.
Primary batteries.....	Shanghai factory, 86,000 units.....	Data not available.....	Indigenous Indian firm, 42,300 units in 1964-65 (12 months). One factory of a U.S. subsidiary in India with a wide product line, 84,000 units in 1965-66 (12 months). Another factory of same subsidiary with a narrower product line and better equipment, slightly over 100,000 units. ³	At most enterprises producing primary batteries, the productivity is much higher than in China.
Watches.....	Tientsin factory, 110 units.....	Moscow Kirov watch factory in 1960, 317 units (has much wider line than Tientsin factory).	Watch factory of Hindustan Machine Tool Corp. in 1964, 181 units. ⁴	Data not available.
Electric fans.....	Canton appliance factory, 117 units.....	Data not available.....	Industry average, 135 units. (Indian fan industry produces a wider variety than the Canton factory).	Do.
Steel and pig iron.....	Shanghai plant, 100 tons. Wuhan enterprise, 116 tons ⁴ (95 tons if welfare and service personnel included).	Industry average, 172 tons.....	Industry average, 70 tons.....	Industry average, 364 tons.

Heavy machinery.....	Wuhan heavy machinery plant, about 14.3 tons.	Leningrad Sverdlovsk factory, about 20 tons in 1960 (produces similar products).	Data not available.....	Data not available.
Wire.....	Perking factory, 1.25 tons of steel wire.	Data not available.....	9.4 tons of steel wire rope in 1961.....	57 tons of all types of wire.
Trucks.....	Shanghai factory, 0.67 units (produces a 4-ton, 6-cylinder, 40- to 80-horsepower model). Changchun factory, 1.33 units in 1960-65 (produces a 4-ton, 6-cylinder, 95-horsepower model). ⁶	.....do.....	Truck and car industry's combined productivity, 1 unit.	Industry average, 2 units (many of these units are much larger than the Chinese or Indian models).
Tractors.....	Loyang factory, 0.75 units (produces a 54-horsepower multipurpose model).	.....do.....	Data not available.....	Industry average, 2 units (many of these units are much larger than the Chinese or Indian models).
Diesel engines.....	Wushih factory, 0.75 units (produces mainly a 3- to 4-cylinder, 30-horsepower, 960-kilogram model).	.....do.....	.....do.....	Industry average, 133 diesel and gas engines.
Chemical fertilizer.....	Average for 2 factories, 103 tons.	Industry average, 492 tons.....	Industry average, 25 tons in 1961.....	Industry average, 844 tons.
Chemical coke.....	Peking factory, 500 tons.	Industry average, 1,025 tons in 1959; 1,200 tons (estimated) in 1962.	Data not available.....	Industry average, 1,200 tons (estimated).
Antibiotic drugs (product yields which represent efficiency in avoiding material wastage).	Shanghai factory, 80- to 82-percent average yield.	Data not available.....	Indian firm, 80 percent average in 1965-66. U.S. subsidiary, 86 percent average in 1965-66.	Typically over 90 percent.
Paper and paper products.	Wuhan factory, 12.5 tons (medium quality used for newspapers, journals, and books).	Industry average, 170 tons.....	Industry average, 7.5 tons in 1961...	Industry average, 580 tons.

¹ Cotton textile output for the United States varies from a minimum width of 12 inches to a maximum of more than 60 inches. Most factories produce in the range of 24 to 48 inches. Soviet and United States sources have estimated that in the late 1950's physical output per production worker in the Soviet cotton textile and woolen industries was about 40 percent of U.S. productivity in comparable units; see Current Economic Indicators for the U.S.S.R. (Washington, D.C., Government Printing Office, 1965), table VI-7, p. 82.

² Value added per employee figures converted to U.S. dollars at official exchange rates.

³ For U.S. subsidiary in India only factory employment was used in computing productivity; for the indigenous Indian firm, total employment was used.

⁴ Factory employment used in calculation of productivity. A narrow line of watches is produced.

⁵ Wuhan employment figure excludes 8,000 employees working in the corporation's mines and 5,000 welfare and service personnel such as teachers, nurses, doctors, and busdrivers. At the other Chinese enterprises, welfare, and service personnel are much smaller as a proportion of total employment and are generally included in the total employment figures. The Wuhan works produces a narrower and simpler product line than the Shanghai plant.

⁶ The Changchun truck factory was visited by Edgar Snow in 1960 and Charles Lynch in 1965. (See Charles Lynch, "China: One Fourth of the World" (Toronto, McLelland & Stewart, 1966), and Edgar Snow, "The Other Side of the River" (New York, Random House, 1961).)

NOTE.—Unless otherwise stated, total employment figures have been used in computing productivity figures. Soviet, United States, and Indian branch-of-industry figures have been derived from official government sources. It should be noted that Chinese factory employees work about 15 to 20 percent more hours per year than in the United States and U.S.S.R., and probably roughly 5 to 10 percent more than in India, given the greater number of holidays in India.

EXHIBIT V.—*Cost structures for 20 Chinese industrial enterprises surveyed and selected branches of Soviet industry, Chinese enterprises*¹

[Figures are expressed as a percentage of total enterprise costs and expenses for 1965]

Enterprise	Total costs (100 percent) (in millions of yuan)	All materials ² (percent of total)	Total wages and salaries ³ (percent of total)	Other costs and expenses ⁴ (percent of total)
Peking Woolen.....	11.55	78.0	11.2	10.8
Tientsin Joint State and Private Woolen.....	7.8	73.0	18.0	9.0
Peking Cotton Textile No. 3.....	52.0	82.0	7.5	11.5
Shanghai Cotton Textile No. 19.....	45.0	84.0	10.0	6.0
Shanghai Joint State of Private No. 9.....	56.25	80.0	11.5	8.5
Peking Clothing.....	17.0	84.0	8.0	8.0
Tientsin Shoe.....	7.6	83.3	10.5	4.2
Shanghai Steel No. 3.....	310.0	87.5	4.0	8.5
Wuhan Heavy Machinery.....	170.5	87.0	3.0	10.0
Shanghai Forging and Pressing.....	7.15	84.5	6.0	9.5
Wush Machinery.....	.73	64.0	26.0	10.0
Tientsin Instrument.....	.369	68.0	27.0	5.0
Wush Diesel Engine.....	18.0	80.5	10.3	9.2
Soochow Cement Products.....	2.1	75.5	20.0	4.5
Peking Chemical Coke.....	47.5	88.5	4.0	8.5
Canton Chemical Fertilizer.....	90.0	91.5	2.5	6.0
Shanghai Battery.....	6.63	84.0	9.5	6.5
Wuhan Paper.....	38.5	85.0	4.0	11.0
Shanghai Pharmaceutical No. 3.....	(*)	80-85	6-7	10-13
Tientsin Watch.....	6.75	77.5	13.5	9.00

¹ Only about half of the above enterprises gave me precise figures. In other cases they gave me small ranges from which I arbitrarily took the midpoint as my estimate; or I computed the figures from other data they gave me (e.g. average enterprise wage times total number of employees plus extra monetary incentive payment) to derive a total wages and salaries estimate. No range given was bigger than those for Shanghai Pharmaceutical. It is likely that the margins of error in most cases are not more than about 5 percent, given the accounting and statistical systems and the actual figures of these enterprises.

² Includes raw and subsidiary materials, fuel, electricity, sundry supplies, etc. This category would be deducted from total value of output in making value added computations. However, there might be some expenses for material supply or services consumed (e.g., travel) in the "Other" category, although they probably are not very substantial.

³ Includes bonuses and other cash incentive payments to employees. The administrative staff and important technicians are generally paid "salaries" and other personnel "wages."

⁴ Includes welfare and social security fund (typically 12-13.5 percent of total basic wages and salaries), other welfare expenses, depreciation, interest (if any), income or wage payments for subcontracting work, fines, and damages (if any) paid to other parties (typically customers), certain types of capital repairs and miscellaneous overhead expenses not clearly specified (perhaps travel expenses are included here).

⁵ Not given.

*Selected branches of industry in the Soviet Union (1960 figures)*¹

Industry	Total costs (100 percent)	All materials (percent of total)	Total salaries and wages ² (including social insurance) (percent of total)	Other ³ (percent of total)
Textiles.....	100	99.4	8.0	1.6
Sewing (includes clothing).....	100	88.0	10.8	1.2
Leather.....	100	84.7	13.4	1.9
Ferrous metallurgy.....	100	69.6	20.5	8.9
Machine building and metalworking.....	100	60.5	31.9	7.6
Chemicals.....	100	76.5	16.5	7.0
Paper.....	100	72.3	20.0	7.7
Cement.....	100	59.4	21.3	19.3
All industry in the Soviet Union.....	100	74.0	19.3	6.7

¹ These data are derived from J. Thornton, "Estimation of Value Added and Average Returns to Capital in Soviet Industry from Cross Section Data," *Journal of Political Economy*, vol. LXXIII, No. 6, December 1965, p. 625, table 2. Thornton's data were used for value-added computations. I have aggregated her cost categories so that they are probably roughly comparable to the categories used for the Chinese enterprises. The accounting and statistical systems at the enterprise level in both countries seem to be quite similar.

² Unlike the Chinese enterprise figures social insurance is included in wages rather than in the "Other" category for the Soviet Union.

³ This category for the Soviet Union is less likely to contain expenses for any material, supply, or services consumed (e.g., food, transportation, hotels) than the Chinese category.

Chairman PROXMIRE. Thank all of you very much.

Mr. Richman, this morning's New York Times reported, on the front page, that Chairman Mao has six members now on the Politburo, and Liu has five, and suggests that it may be that Mao is winning his struggle with Liu.

Does this have any significance to what you are talking about? The impression I get, which may be completely wrong, is that Mao stresses the ideological, political emphasis, the purity of motive, and so forth, I suppose keeping the bonuses down, going off piecework, and spending a great deal of time in ideological discussion, and so forth. Does Liu represent an alternative, or is this simply a personal struggle?

Mr. RICHMAN. No; I don't think so—and here I am on speculative grounds. My area is mainly economics and industrial management but from what I have read and observed there, it really is an ideological struggle more than a personal power struggle, with Mao wanting to transform people and have economic development at the same time. He really feels he can introduce this ideology and have economic development—because of his thinking about guerrilla warfare, and so on, from the 1930's. Liu, or at least Mao's opponents, are willing to sacrifice ideology now and have a more rational view toward management and economic development. And I think the crux of this power struggle is whether they are going to keep this oscillation of ideological extremism, or just give it up like the Soviets gave it up in the 1930's. I think it is much more than a personal power struggle. I think it is an ideological power struggle, with moderates and extremists.

Chairman PROXMIRE. Is one element in here, one reason they don't move in this direction, because of a jealousy or a hatred or some emotional attitude toward Russia?

Mr. RICHMAN. This has brought it further into the open. In the mid-1960's in China there has been a great deal of anti-Soviet propaganda, much more anti-Soviet propaganda than anti-American. And the Chinese regime really feels, on the domestic side in the Soviet Union, that the Soviets have been revisionistic. There is a managerial elite, there are big class distinctions. Self-interest is a big motivating force. And this is the historical proof to the Chinese that when things go well, and you get affluent, you are likely to scrap the ideology. And this has made Mao panic even more so, seeing what is happening internally in the Soviet Union. Yes, I would say they are serious about Soviet revisionism, both on a domestic and international scale.

Chairman PROXMIRE. Is there another element here that they just refuse to tell themselves the truth about what is going on, what has gone on?

It would seem to me that just looking at the statistics, recognizing what is happening to their economy, the fact that they have—even if they put their top priority on military aggression, which I suppose some do and some do not—no matter what standard they adopt, the vivid and contrasting experience they have between 1961 and 1957 on the one hand, and since 1958 on the other—well, I guess there are even further refinements here. Whenever they do go on the emphasis on the technical expert, and get away from the ideological purity,

they seem to make so much more progress, and seem to retrogress when they go the other way. Do they conceal the statistics? Do they have a system in which the leaders themselves don't know what is going on?

Mr. RICHMAN. I am sure the leaders know. They don't publish much.

Chairman PROXMIRE. I get the impression they may not have as clear a picture of their own statistics as we have.

Mr. RICHMAN. They have a pervasive industrial statistical system. There may be a lot of unintentional distortions—perhaps some intentional—but a lot unintentional, because they are still sloppy in book-keeping and accounting. But they have the statistical system right down to the grassroots level. They have a Soviet type of statistical system, by district, municipal, provincial, and national, and by branch of industry and territory. And they have a huge statistical apparatus. So they are getting quite a bit of information. And they aggregate it. But they don't release the aggregate statistics.

Chairman PROXMIRE. They take them, and know what they are, but they make them, and release other aggregates, so their prestige throughout the world will not suffer?

Mr. RICHMAN. Right now they are hardly releasing any aggregate statistics. If anything, they may be underestimating their performance. They are going on a very conservative kick about how well they are doing now. Sort of self-effacement, because of what happened during the Great Leap. But I think that their leaders do have a reasonably accurate picture, and that their statistical system is adequately accurate. I would say their statistical system is at least as good as the Indian system.

You said maybe they don't know what is going on, and that is why they keep on with this ideology. Well, this isn't quite true. That is why there is so much opposition because they do know what is going on.

They do know what is going on. That is why Mao is running into such opposition this time, from all walks of life, because they realize that this extremism is not conducive to economic development, but to economic crisis. The first time they tried the Great Leap, people went along. They thought maybe you could have this ideological purity and economic development. They learned their lesson. Probably the majority of the Chinese learned their lesson, not only the leaders that have the statistics. And they don't want to go through it again. And that is why there has been this opposition. But Mao apparently hasn't realized it yet.

Chairman PROXMIRE. Would you comment on this, Miss Donni-thorne? You seem to have a different view.

Miss DONNITHORNE. Yes. I think that the statistical system which Mr. Richman describes exists in the better organized parts of the country, which are the parts of course which foreigners are taken to visit. I suspect that in some other areas, such a statistical system may not be in existence. And I think that the better statistics are those which derive from industry, while agriculture is much worse off statistically.

So that the statistical picture that is presented to the Chinese leaders may be very partial and very patchy. And I doubt whether some

of the leaders, especially Mao, for example, are people who think primarily in economic terms in any case.

Chairman PROXMIRE. So that he may simply ignore the statistics. Is this a possibility?

Miss DONNITHORNE. I think that is a possibility.

Chairman PROXMIRE. Would you agree with Mr. Richman that the reason for the opposition, or a big reason, is that other leaders do have statistics which give them at least a roughly accurate notion of what happened, that they made progress during the earlier period, and they had a period of retrogression during ideological purity?

Miss DONNITHORNE. Whether or not they have the statistics, they have some kind of information coming up to them.

Chairman PROXMIRE. Statistics of this kind, it seems to me, would be very hard to fake, especially in the agricultural area, because you either have food or don't. You either have a situation of almost famine, which they have had, or you have a sufficient amount so you can use it for foreign exchange.

Miss DONNITHORNE. Yes. Well, the information that comes up to them may not necessarily be in statistical terms. It may just be that there is a food shortage in such and such an area.

Chairman PROXMIRE. I would like to ask you, Miss Donnithorne—you gave me a far more refined and sophisticated picture of this than I had before. I had just roughly assumed that one of the mistakes that had been made during this ideological period was a great economic centralization and concentration. I get a view from you that there is—and I think also from Mr. Richman—that there is more flexibility here than in Russia, that there is less centralization rather than more centralization. And in a period of less centralization they seem to do less well. Maybe I misinterpreted your remarks. But from the economic standpoint, at least—they had more centralization in 1951-58. Then they decentralized and did worse. They may have centralized politically and decentralized economically. Is this what happened?

Miss DONNITHORNE. Yes. In 1958, the year immediately after the first decrees on decentralization was the year in which they attempted a great centralization of policy, while decentralizing the economic administration. This was the year of the Great Leap. And the chaos resulting from the Great Leap was one of the reasons, I think, why the decentralization had to be pushed further than perhaps originally intended, because pragmatic policies were essential during those difficult years, and pragmatic policies in China mean largely local policies, because the situation is so different in different parts of the country.

Chairman PROXMIRE. They were so desperate that they simply were unable to have an effective centralized economic direction, and they had to go on more of a local basis, because they simply did not have the authority to do this?

Miss DONNITHORNE. Yes; partly. And also another thing I think was the breakdown in the economic planning system and a partial breakdown in transport in 1958. These reinforced the inherent tendencies toward local self-sufficiency, which are found in this type of economic system. When production and planning and commerce and allocation of materials are all controlled by one local political

authority, you do get this tendency toward local self-sufficiency, because that authority gives priority for supplies to its own enterprises in its own area, and it gives a lower priority to supplying outside areas. And since all other local authorities are doing the same thing, this means that one cannot put great reliance on getting quantities of raw materials which one wants from other areas and, therefore, one is impelled to work for a degree of self-sufficiency.

Chairman PROXMIRE. You see, you put so much emphasis on the notion that you say that China has a cellular economy, and the Provinces deserve more attention. The Provinces are quite different. With this assumption one would think that the decentralization would work more effectively. That to impose a uniform rigid view from Peking would slow down rather than accelerate the economy. But the record that you have given us indicates the reverse.

Miss DONNITHORNE. I think that was for other reasons. During the first 5-year plan period, they were still reaping the benefits of the restoration of law and order, and the end of the inflation. In the very early days I think there had to be a good deal of centralization, a high degree of centralization, partly because of the inflation. But during the first 5-year plan period, the burden on the economic ministries of the central government grew very much, partly because so many enterprises had been taken over by the state. And thus the number of enterprises the state was directly responsible for administering had grown, and then with the growth of the economy, also the burden on these central economic ministries had grown. And toward the end of that period, these administrative difficulties caused by the excessive burden on the central ministries were proving a restraint on development. And I think some of the revival in the course of the early 1960's was due to more flexible policies made possible by decentralization.

Chairman PROXMIRE. Thank you.

Mrs. Griffiths?

Representative GRIFFITHS. I would like to say to all of you, I enjoyed your papers.

May I ask you, Miss Donnithorne—suppose a Province that is wheat growing has an abundance of wheat—what are the ways, and what is the reason for its moving that wheat to another area?

Miss DONNITHORNE. What is the—

Representative GRIFFITHS. What are the ways in which it moves the wheat into another area of need, and what is the reason for giving the wheat to another area? How do they do it?

Miss DONNITHORNE. The grain is subject both to agricultural tax in kind and also to compulsory deliveries. Now, each local authority is responsible for making grain levies, and at all levels, the quantities to be transferred are laid down. The last report we have said that these figures were supposed to be laid down for 5 years at a time, but very frequently, before the 5 years are up, these are renegotiated, because of some natural disaster.

The quantity of grain that a province either has to transfer outward, or to which it is entitled for inward transfer, would be settled in negotiations.

Representative GRIFFITHS. Does the Central Government come into it, or just one province to another?

MISS DONNITHORNE. No, no. The Central Government.

Representative GRIFFITHS. The Central Government makes the determination?

MISS DONNITHORNE. Yes. It is fixed by negotiations between the center and the province.

Representative GRIFFITHS. You say the province that transfers the wheat gets something in kind back?

MISS DONNITHORNE. Well, the outward transfer of grain would be compensated in some way because compulsory delivery of grain is paid for, although at lower than free market rates. I have no information on how the transfers are compensated for, whether it is by some bookkeeping entry to the province's account or whether it is by transfers in kind or some other way.

Representative GRIFFITHS. Is this an institutionalized process, or is the Central Government merely operating through power?

MISS DONNITHORNE. I don't think it has been institutionalized to any great extent. I think it depends a good deal on power play between the Central Government and the provinces.

Representative GRIFFITHS. Are there instances where a provincial government has gone off on its own, tax-wise, and refused to go with the Central Government?

MISS DONNITHORNE. There are instances—there is an instance even before the decentralization decrees, where the first secretary of a province complained about the grain transfers his province was supposed to make, and this was one reason for his dismissal in 1957.

Representative GRIFFITHS. He complained?

MISS DONNITHORNE. He complained, yes.

Representative GRIFFITHS. Actually, the Central Government had sufficient power to—

MISS DONNITHORNE. Yes, at that time.

Representative GRIFFITHS. What possibility is there that provincial governments will now break down into a war lord situation—collect their own taxes and do as they choose?

MISS DONNITHORNE. That is a possibility. What we don't know, even in the past, is how often the Central Government may have wanted to dismiss someone who complained or refused and wasn't able to or realized it would be unwise to try to do so. That of course we don't know. I should think in the present situation, that kind of happening is much more likely to occur than at any time previously.

Representative GRIFFITHS. Who finances the army—the Provincial Government or the Central Government?

MISS DONNITHORNE. The Central Government.

Representative GRIFFITHS. How does it do that?

MISS DONNITHORNE. Out of central revenues, and paid—I think we can presume—through the People's Bank, which has been one of the most centralized institutions in the economy. There has been this interesting contrast between the centralization of the banking system and decentralization of the taxation system.

Now, the bank being the channel through which the army is paid means that there is a great link between the maintenance of centralization over this important institution, the People's Bank, and the maintenance of centralized control over the army.

Before, during the old war lord days, the armed forces were usually under the control of their local paymasters.

If the Central Government can no longer enforce its control over the People's Bank, then I think, the result would be very serious.

Representative GRIFFITHS. What are the internal barriers to a common market?

Miss DONNITHORNE. Well, if you are talking about tariffs, of course in a system such as this, tariffs are much less significant than in a market economy, because decisions on the transfer of goods, on trade, are not made so much on price considerations as they are in a market economy.

I have never heard at the present time of any suggestion of anything like internal tariffs—like the system that used to exist long ago in China. It would not be, as I say, so significant, because these decisions on interprovincial transfers are made for other reasons.

Representative GRIFFITHS. Mr. Richman, I would like to ask you this. How do they carry on their ideological conversation with the managers of a plant, for instance? Do they stop all production and talk with the manager and the employees, or do they just talk with the manager, and does the manager later talk with the employees? What do they do?

Mr. RICHMAN. By "they" you mean the Communist Party officials?

Representative GRIFFITHS. Yes.

Mr. RICHMAN. Well, when they are not in a period of real ideological extremist, as in April of 1966, when I first got to China, most of it is done after work. They have study sessions. They have study sessions with top management, with the work groups, and with middle management, at all levels. They devote sometimes maybe half a day to it on the job, with the top managers. But most of it is done after work—you know "voluntarily" after working hours. But when it really gets extreme, they do it right on the factory floor. They are talking about some ideologically incorrect behavior, because the manager wanted to go out and buy a spare part rather than have the factory make it itself, according to the policy of self-sufficiency they are supposed to be following, and they will give a lecture on it, and the manager will probably criticize himself for being ideologically incorrect. So when it gets extreme it takes place right in the factory.

But the party committee may call meetings every Wednesday or at any time. And there is a lot of it happening informally in groups. There doesn't seem to be any distinct pattern. When it gets intensive, then they don't care about production and might have a meeting anytime.

Representative GRIFFITHS. Do their statistics show after a lecture, production goes up, gets better or something, or not?

Mr. RICHMAN. I don't know whether it shows that. I don't think they even compute statistics in those terms. But I would imagine that it can have a favorable effect on productivity if it doesn't get pushed too far. But if it gets pushed too far, I am sure they will get bored with it, and you will lose production time, too. But I think it has had some favorable effects, up to a point.

Representative GRIFFITHS. Have they ever at any time tried individual reward?

Mr. RICHMAN. Individual rewards to—

Representative GRIFFITHS. To increase production?

Mr. RICHMAN. Yes. They had a whole piecework system, like the Russians. Great stress on monetary incentives, until recently. And from 1962 to 1964 they were on piecework rates. But even in 1966, when I was there, workers and middle managers could still get bonuses based at least in part on productivity, although political and ideological criteria were also in use. But they could still augment their income with some type of bonus although a number of the factories that I visited have recently gone entirely off the system of bonuses.

Representative GRIFFITHS. Why?

Mr. RICHMAN. For ideological reasons. They didn't want to stress self-interest any more. They wanted to stress altruistic motivation.

Representative GRIFFITHS. Have they had time to find out now bonuses are better?

Mr. RICHMAN. From all the opposition, I am sure a lot of people think bonuses are better. In Shanghai, it may be interesting to note that I visited approximately 10 industrial enterprises, and all of them had a bonus system. In Wuhan most of them no longer had a bonus system. So it seems that the local party authorities in Shanghai at the municipal level were not supporting the policies of Mao even then, and as a result, as you probably have read, Shanghai has been a real trouble center for Mao, and they have made promises to the workers, the local people opposing Mao, the local party officials, that if they supported Mao's opponents, they will get even more pay and better bonuses. So there has been opposition, particularly in Shanghai, and that is one city, using hindsight, where all of the factories still were on bonus system. So I guess the party authorities in Shanghai really are quite rational about the whole thing.

Representative GRIFFITHS. Shanghai has been subjected to Western influence to a greater extent than almost any other city in China.

Mr. RICHMAN. Yes. And they are probably more materialistic and so forth. At least there has been a lot of opposition there. But in most other cities that I visited, a majority of the factories still were on a bonus system of some type. Except Wuhan was a notable distinction. They had gone off the bonus system.

Representative GRIFFITHS. Thank you.

Chairman PROXMIRE. Senator Jordan?

Senator JORDAN. Thank you, Mr. Chairman.

May I first express my appreciation for these three fine papers.

Professor Liu, you seem to play down the success of the Red Chinese economy, and yet you highlight the military efforts. Is this not somewhat incongruous? Would you please elaborate?

Mr. LIU. Yes, sir.

I mentioned in my statement that the per capita product of the Chinese mainland is low by any estimate and on any standard. But the population is large. Just imagine that you slice a little bit off the consumption of everybody—the total pie that you will be able to get from these bits would be very large in terms of the purchasing power of the Chinese monetary unit over local resources.

Take a highly trained engineer as an example. Most of them were my contemporaries, trained in this country. I think their pay would

amount to no more than one-fifth—or less—of what a trained engineer would get in this country. Therefore, to build an advanced weapons system in China would require much less than what would be required in this country.

Senator JORDAN. Now, you say it is likely that the Chinese regime will continue to allocate an increasing volume of resources to military expenditures. Aren't they severely handicapped in what they can do in this area because of the economic cost to the total economy? After all, they have to feed their people first, have they not?

Mr. LIU. Right; sir, you are indeed right in saying that. But I qualified my statement by saying that if the central regime should be able to continue to control the operation of the economy, then they would, it seems to me, still increase military expenditure somewhat, as they have in the past.

As I mentioned, the GNP grew only by 13 percent from 1957 to 1965. On the other hand, expenditures relating to military efforts and research increased from US\$5 million to US\$8.5 million during the same period.

Senator JORDAN. I see.

You do feel, apparently, that any expansion of Western trade with China will help to increase her national produce and hence make possible a bigger military budget. Do you recommend indefinite continuation of the trade embargo?

Mr. LIU. The productivity of any country can be increased through international trade on account of the principle of comparative advantage. Now, there are many things that the Communist Chinese regime cannot yet produce with efficiency. By trading with other countries, it will take advantage of this trading opportunity to acquire things which they cannot build or they can build only at higher costs.

Therefore, through trading it is only reasonable to assume that the productivity of the mainland will go up, and as past record has indicated, whenever the national product grows, military expenditure will grow at an even greater pace.

Senator JORDAN. I think you said that the per capita consumption in 1957 was less than it was in 1933?

Mr. LIU. Yes.

Senator JORDAN. How does the 1957 per capita consumption compare with that much now, 1967?

Mr. LIU. It is much less certain what is the per capita consumption by this time, because data in 1957 are more reliable than whatever little data we have now. But it is my own feeling that the per capita consumption now is slightly under that in 1957.

Senator JORDAN. So they are making progress in reverse.

Mr. LIU. Well, this is, Senator, quite well known, that since 1959 or so, the national product has not increased beyond that amount. It declined from 1959 to about 1962. It increased afterwards. But the amount has not yet exceeded the level reached at the peak of the effort in 1959.

Senator JORDAN. Very interesting.

Mr. LIU. But the population has increased a great deal, Senator.

Senator JORDAN. As a matter of fact, the increase in the gross na-

tional product has not, then, been able to keep ahead of the increase in the population? Is that what you are saying?

Mr. LIU. By no means has it. Not only that. According to both the estimates of Mr. Jones of the State Department and myself, the national product in 1965 is only about 13 percent higher than in 1957, but the population has increased at a greater rate.

Senator JORDAN. I wish we could go into this more.

Miss DONNITHORNE, in your conclusion you say economic aggregates for China may not be very meaningful. Do you mean the thrust of many economists' thinking about China has been misguided in this respect? And what approaches do you suggest?

Miss DONNITHORNE. I think that what is true of China in the 1950's is not true of China in the 1960's. Aggregates which were meaningful in the 1950's may not be so meaningful in the 1960's. For example, I think within recent years there may have been a great increase in the difference in standard of living between different areas of China. There was an attempt to equalize the standard of living in the 1950's. But in the 1960's this has not been done to the same extent, partly, as I say, through the growth of the provincial autonomy which I have described, and partly at least through the policy of favoring those agricultural areas which are the most productive, the "areas of high and stable yield," as they are called.

What central investment in agriculture there has been during the last few years appears to be directed towards these areas which are producing an agricultural surplus, that is, the most fertile areas, and areas that are best served by transport systems, which are in any case the more prosperous areas in the economy.

And apart from these areas, the agriculture around the large cities has been favored as well.

So I think that instead of the policy at one time of giving grants to the poorest areas, there has been a tendency to give grants to the areas in which these grants would produce the highest return—areas which are already well-off.

Senator JORDAN. Thank you.

You indicated also that we should concentrate our attention more on what is happening in the provinces rather than on who is going to win at the center of government. Even if we are concerned—how much information can we get. Isn't this a major obstacle to our better understanding of events in China?

Miss DONNITHORNE. It is. But an instance of one very definite way of getting information—the possibility has arisen recently of getting microfilms of a large number of provincial newspapers between 1960 and 1965. I must not give details of this now, because it is a matter under negotiation. But the committee on American library resources on the Far East has this matter under its attention, and at the moment is looking for ways of financing it. But there is a great need to try to do more work on individual provinces.

Senator JORDAN. Mr. Richman, in the February Forbes Magazine interview, Mr. Liu indicates that the cultural revolution has had a great psychological effect on the factory managers in China, causing a hesitancy to make important decisions, and that this will hold back China for 2 years.

Do you agree?

Mr. RICHMAN. It is quite conceivable, because this is the second time they have gone through it. They went through it during the Great Leap. And they recovered from that. But this is the second time they have gone through it. And it is quite conceivable. Because their authority and status is undermined, they are humiliated and their decisions are reversed, and they are very reluctant to take responsibility. This was clear from my recent visit to China and particularly the Great Leap period, especially in those factories where the Reds seemed to be running the show. And this is quite a feasible estimate, that it could take 2 years. It could even take longer. It depends how long it goes on, with the Reds in control. Now, I don't know who is in control. The people's militia and the military may be in control, and that may be even more psychologically damaging to them than having the party functionaries who they have been working with for 5 or 10 years in control. But it is quite possible it can have a significant psychological effect.

Senator JORDAN. Thank you, Mr. Chairman.

Chairman PROXMIER. I would like to ask each of you to comment on this, because I would like to put all this together in terms of what it means to us, what it means in terms of military as well as other policy.

You know, you look at the overall statistics—and I agree with Professor Liu—you wonder what they mean. We know the United States has a \$750 billion GNP. The Soviet Union has a \$350 billion GNP, and we believe China has about a \$90 billion GNP. If we could accept these statistics at face value that would mean they are eight times as productive as China. Eight or nine times the production; have even greater leeway for military effort, because, as Senator Jordan pointed out, they have to spend a great deal of their GNP just to feed their people and acquire the necessities of life. And yet as Professor Liu indicated, you have a situation in which these figures are not comparable, because the GNP is figured in different terms. An engineer there gets a small fraction of what an engineer here gets. A worker there gets a lot less.

Is there any way at all we can assess what China really represents in terms of economic power, so that we can make some extrapolation or some assessment or estimate of what this represents in terms of military power. Is there any other way we can look at it? If you want to be specific in terms of whether or not they could effectively move into North or South Vietnam, or into South Korea. What is their military capacity in terms of their product, essential economic development?

Professor Liu, do you want to start?

Mr. LIU. Mr. Chairman, I am, of course, not a military expert.

This is of course a very difficult problem to study. But it seems to me that the resources at the disposal of the central regime, again assuming that there will be no chaotic breakdown—the resources at the disposal of the central regime certainly would be sufficient to maintain the present amount of armed forces, estimated somewhere at 2 million people under arms, without too much difficulty.

Now, this can be easily seen.

The total population is in the neighborhood of 700 million. Now, out of a total population of 700 million, you do not have to look at the GNP to know that to maintain any army of 2 or 3 million people would not be impossible. So in terms of the maintenance of the armed forces as such, I think it has the capability to continue to do so.

Chairman PROXMIRE. If I can interrupt at that point—it is clear—we have a bigger armed forces now than they have—than either Russia or China has at the present time. But I am not thinking so much in terms of the fact this country of 700 million people could have an army of 2 million, or maybe a much bigger army—but in terms of what they could do with the army, their capacity to supply it, the ordnance, the transportation, the mobilization, the mobility, all the factors that an army needs.

Mr. LIU. Right. Mr. Chairman, I am just coming to that.

Now, with the maintenance of this army, it is a completely different story to ship them to South Vietnam as they were able to ship them to Korea.

Now, the transportation system is the most developed in Manchuria, which neighbored on Korea. To send the army from the center of China into Korea is a relatively easy matter, whereas to send the armed forces to South Vietnam through Yunnan Province would be a staggering job.

Now, they could concentrate a significant amount of forces in the neighboring provinces, neighboring upon North Vietnam. But those provinces do not have factories, do not have modern factories.

Now, this is a point I think in connection with which I would like to comment on the point made by Miss Donnithorne. I feel that it is very difficult for China to achieve a very high degree of autonomy on the part of the provinces to run the economy for reasons inherent in the nature of the economy.

There are primarily four major heavy industrial regions in China. Manchuria, the Wuhan area, the Shanghai area to some lesser extent, and then the Peking-Tientsin area.

Now, it is difficult for me to conceive how the other provinces would continue their development if the supply of machinery, of steel, and other outputs of heavy industries would not be forthcoming from these regions. Furthermore, in a highly industrial region, such as Manchuria, there are relatively little consumer goods industries, like textile industries. Now, if there is completely local autonomy, then it would be very difficult for the people in Manchuria to get the clothing they need and so forth.

Therefore, I think the smooth running of the economy does very much depend upon the existence of an efficient central mechanism in Peking.

Now, if the central mechanism breaks down, I have very severe doubts whether the local regions could really operate very efficiently.

Now, to move an army into South Vietnam would be a job of astronomical magnitude insofar as the present situation is concerned. But it is a totally different matter with regard to the development of advanced weapons systems.

Now, the people who are in charge of the weapons systems were my contemporaries who were trained in MIT and CIT, like Mr. Chien who was the director of the missile laboratory at CIT.

Now, these people were treated by the regime rather nicely, the number of this kind of people involved would be only in the thousands, and they are relatively comfortably well off. They are not yet bothered. So they can really continue to devote their time to research and development.

In my estimate, it will not take more than a few billion U.S. dollars' worth of resources to continue the kind of pace of development of their weapons systems, and these can be supported by their GNP, provided the central economic system is not in a chaotic situation.

Now, Mr. Chairman, would you permit me also to comment a little bit on what Professor Richman has said about ideology versus economic rationality.

Chairman PROXMIRE. Let me come back to that in a minute or two, because I would like to have the view of the other two panelists on this question.

What I was asking about, Miss Donnithorne, is the notion of what kind of a threat this economy of China represents, what kind of limitations does the economy place on the capacity of China to use their military force, develop effective military force against the U.S. operations in Asia.

If you prefer to pass that question—

MISS DONNITHORNE. I think that the ability of China to organize a modern type of military campaign and to maintain it over a long period is less than sometimes imagined, partly, as I have stated, because the central Government does not have a complete ability to mobilize all the resources of the country. And this ability is less now than it has been in the past, because of the separatist tendencies of certain provinces. Although the provinces showing separatist tendencies, especially in the southwest, may need machinery from other parts of the country, as previously stated, they have also got bargaining power in their own hands—they are some of the greatest exporters of grain. And autonomy does not necessarily mean there is no exchange.

Now, on this question of China's ability to conduct a military campaign in North Vietnam, I think the separatist tendencies in the southwest are very significant. These provinces of Szechuan and Yunnan are two of the provinces whose loyalty to the Government appears to be very doubtful.

Yunnan has a common frontier with North Vietnam and with Laos. And one of the railways which link China with North Vietnam goes through Yunnan—this I think is a very significant factor.

Chairman PROXMIRE. Mr. Richman?

MR. RICHMAN. I will confine my remarks to what I observed while I was there.

I think for military mobilization, they have some very serious constraints, because they would have to rely mainly on rail transportation. They have a terrible system of roads. There is very little in the way of paved roads between major cities. And they have very little truck transportation. This would be a constraint.

Chairman PROXMIRE. How about petroleum?

Mr. RICHMAN. Petroleum?

Chairman PROXMIRE. I am thinking of the fuel to drive the trucks.

Mr. RICHMAN. They have developed a pretty big petroleum industry in north China. It would be quite a problem shipping all that oil down to other parts of the country. But they do have a vast supply of petroleum that they have developed in recent years. They would be constrained on water and air transportation, too. So wherever their rail lines are strong, they would be stronger for military mobilization. But of course you cannot rely entirely on rails.

The other point I wanted to make is that there are indications that ideological extremism is less evident in the defense sector. That the experts are probably not mistreated in the way the civilian production managers are mistreated. I did not visit any defense plants per se. They are primarily under five of the machine building industries. I did not even request access to them. But some of the large machine tool factories and steel mills I visited were producing a significant proportion of their output for the defense sector, and they are very closely controlled from the center on their defense production. The central agencies even send quality control inspectors down to examine their output, and they have separate production shops for defense. So it seems it is under central control much more than the rest of civilian industry, and that ideological extremism does not enter in as much. At these factories, the experts seem to be in charge.

Those are the only observations regarding defense that I have.

Chairman PROXMIRE. Now, Professor Liu wanted to comment on Professor Richman's position on ideological extremism.

Mr. LIU. Yes, sir.

Professor Richman seems to attribute the present turmoil to differences of opinion with respect to ideology. In other words, he seems to think that the present turmoil is very much due to ideological differences. Well, such differences, of course, exist. But I am sure Professor Richman has followed the earlier development. Prior to the present "cultural revolution," on the eve of it, immediately before it, Mr. Liu, my namesake—that is the one who is in trouble—has always been the leader of the hard line. I don't know whether Professor Richman—

Chairman PROXMIRE. Of the what?

Mr. LIU. Of the hard line. Mr. Liu is always considered the leader of the hard line versus the soft line. There is no controversy about that whatsoever.

Chairman PROXMIRE. So Mao versus Liu, Mao with six Politburo members, and Liu with five, means nothing in your view in terms of whether they are going to have more emphasis on the expert or more emphasis on the political ideology.

Mr. LIU. It seems to me that we have no real basis to think that Liu's thinking on economic matters would be very radically different than Mao's. Chou En-lai may think somewhat differently, but certainly not Liu. Liu has been the absolute top man of the hard line. All experts are agreed on that.

Chairman PROXMIRE. Well, is it possible in reverse, then, that the position being taken by Mao is that he at long last may be seeing that his country is disintegrating under this super-hard line attitude of Liu's?

Mr. LIU. Mr. Chairman, the point I am making is this. The reason of the present turmoil is much more due to the struggle for power than for ideological differences.

We must remember all these people are first-generation Chinese Communists. People think about Soviet Russia in the 1950's and 1960's. There was probably a liberalization of ideas. But how many years have passed since the initial revolution in Russia—and none of the people in power now really are first-generation Communists. But Liu and Chou En-lai and Mao—these are all first-generation Communists. Chou En-lai, in fact, is an elderly man.

So I would think that the present turmoil is very much more due to the struggle for power than for ideological differences.

Now, there is just one more—

Chairman PROXMIRE. You would say, then, it is perfectly possible they may take either track, that is one of more ideological emphasis rather than less, regardless of who wins?

Mr. LIU. No. I would feel that the hard line will continue for quite a while.

Chairman PROXMIRE. Would you dispute that, Professor Richman?

Mr. RICHMAN. Yes. It is possible that Liu is being misrepresented to the outside world as a scapegoat or a target. But I am convinced after spending some time there, and what was going on in entertainment and in the press and on the radio and so forth, and reading about it after I returned from China, that ideology is the crux of it. I think there also is a power struggle. But they have taken sides on ideological issues. That is the focus. Several people want power. But I think they have focused on ideology.

Chairman PROXMIRE. Would Liu say it is a mistake not to permit the managers to have a little greater differential or a bonus or the workers to have piecework or anything of that kind, or has Liu ever indicated that he feels that they should not waste their time by spending 2 or 3 days on the assembly line, that kind of thing?

Mr. RICHMAN. They condemned Liu while I was there—he never made any statements on it, they speak for Liu. But they condemned him for stressing self-interest and materialism and factors of this nature, and not putting politics in command, which means that you do not put ideology in control of economics. They have accused him of these things. It is possible he is a scapegoat or target. But the charges against him to rally the masses against him, have been on these ideological issues. And when they charge him or any other leader with something of this nature, when it is an economic type of issue, they come to these four prongs. The intellectuals and the university professors are often charged with other types of ideological revisionism. But they have charged Liu with revisionism along these lines, giving up the class struggle and so forth.

Chairman PROXMIRE. It sounds from what both of you gentlemen say together—it sounds as if those who believe in more emphasis on experts and managers, they don't have much of a champion, because Professor Liu's position is that the other Liu's history has been the hard line. Mao seems to be hitting him over the head with the notion that he is against ideological purity. And whether he has been or not, it would seem that considering the forces in charge of political and military power and propaganda and so forth are against the rationalization of China's economy.

Mr. RICHMAN. They may not have a top-level champion. But there is much opposition to Mao's policies.

Chairman PROXMIRE. Maybe all these men are going to be succeeded in 5 or 10 years, because they are going to die. Maybe the new generation might have a more rationale view.

Mr. RICHMAN. I think it will have to go in that direction, just as it did in Russia. I think it will have to follow the Russian course, at least with regard to monetary incentives, putting experts in control, isolating political indoctrination from the production line. I am quite sure they are going to have to go in that direction, and that Mao is panicking because he sort of realizes it and he wants to instill his pure ideology before he dies, and have the pure Communist man and economic development together, because he probably realizes after the older leaders die, the new ones will scrap a lot of the ideology.

Mr. LIU. Well, among the present leaders, of course not all of them are 70 years old, and some of them will not die for quite a while.

Chairman PROXMIRE. Most of the leaders as you said are first-generation Communists. Therefore they are not 70, but 60 to 75.

Mr. LIU. The long march was in the 1930's. Some people were merely 20 years old, so they could be in the age range of 50 to 60, which would not be very old. And some people in China live to be very senior. May I just make a minor remark with regard to the point made by Professor Richman on the reliability of statistics.

Well, Professor Richman seems to think that the Communist regime has in its possession reliable statistics. But I would like to remind him of a remark Mao Tse-tung himself made to Edgar Snow only a couple of years ago.

Mr. Mao said that he thought the official population data were much too high because people were trying to get more ration cards, to get more food. Therefore, in Mr. Mao's opinion, the data on population were not really that reliable.

I think we could not have any higher authority than Mr. Mao himself with regard to Communist data. And Miss Donnithorne was completely correct in saying that the data on agriculture are very poor, and they are admitted to be poor by the Chinese Communists themselves.

In addition, the value added by the handicraft industry to the national product is still very significant, anywhere from 13 to 25 percent of the economy.

Now, on these sectors of the economy, where the units of production are very small, it is only commonsense to see that it is very difficult to take a very reliable census of them, especially when the incentive is not to give the information to the Government.

Representative GRIFFITHS. I would like to ask one question, please. May I ask, What kind of tax structure do they have? How do they levy taxes?

Chairman PROXMIRE. Mrs. Griffiths—Mr. Richman would like to make a comment first.

Mr. RICHMAN. I didn't state they had highly reliable statistics. And I was confining my remarks to industrial statistics. My answer was in response to a question by Senator Proxmire, of whether the leaders know that they are running into a disaster or economic crisis, because of ideological extremism, whether there is any indication. And I am sure their statistics, even if there is a 10- or 15-percent mar-

gin of error, are accurate enough to indicate this, because following the Great Leap there was a cutback in GNP in the range of 30 to 40 percent. And they can tell whether they are producing, let's say, 5 to 6 million tons of steel, versus 11 to 12 million tons of steel. So even if there is a large margin of error, the industrial statistics are certainly accurate enough to indicate trends, because of ideological extremism. And that was the context that I was discussing statistics in. There certainly is a margin of error. And I wasn't talking about agricultural statistics at all.

But even with the margin of error, they are accurate enough to show they are running into an economic crisis.

Miss DONNITHORNE. About the taxation system—the last year for which we have any figures is 1960, when we have figures for the ex ante budget, but not for the realized budget.

Now, in that year, nearly 65 percent of the total state revenues were from profits of state enterprises. Nearly 35 percent were from taxes.

Representative GRIFFITHS. What kind of taxes?

Miss DONNITHORNE. Industrial and commercial tax and agricultural tax are the most important.

Chairman PROXMIRE. Are these turnover taxes? Sales taxes?

Miss DONNITHORNE. The industrial and commercial tax is something similar to the Soviet turnover tax. It is a tax levied at the point where the product leaves the factory.

Representative GRIFFITHS. Where was the tax levied?

Miss DONNITHORNE. It is levied locally.

Representative GRIFFITHS. By the provinces?

Miss DONNITHORNE. By the local authorities.

Representative GRIFFITHS. And then is the money sent to the central Government, or how do they obtain the money?

Miss DONNITHORNE. From the last account I saw of the tax system—which is in an article in the Journal of Finance for October 1959—the decentralization had proceeded to such an extent that, as I mentioned in this paper, the only taxes directly raised by the central Government were mentioned as being the customs duties, and also of course the profits from enterprises under state direction central Government control.

Representative GRIFFITHS. Thank you.

Chairman PROXMIRE. Senator Jordan?

Senator JORDAN. Thank you. I have a two-part question for the panel.

I will state it and then call for volunteers.

China did not sign the limited test ban treaty. Since the treaty was signed, China has made great progress in testing in the air and perfecting a nuclear device of one kind or another.

My question is, first: How long will it take China to catch up? And second: Will China's belligerence increase in direct proportion to its capability to deliver if and when they get a sophisticated delivery system for a nuclear warhead?

Chairman PROXMIRE. Supposing we start right to left.

Who will volunteer?

Mr. LIU. Mr. Chairman—this is so much out of my limited field that I cannot make any point except a very amateurish opinion.

I do know some of the key people working in the scientific areas in China. Now, these are very brilliant people. They are comparable—

well, the hard core of them are comparable to the best we have in this country.

Now, exactly how much time they will take to develop their system to such an extent that would enable them to threaten, let's say, the United States I just don't know, Senator. I just don't know.

Now, with regard to their attitude of belligerency, in proportion to their power, I would feel that in the foreseeable future, the position they will take in the international scene would indeed be proportional to the power they have. It would be rather difficult to think otherwise.

Miss DONNITHORNE. This topic is also outside my field. But I should have thought that in the foreseeable future, in the near future, there is very little likelihood of China attaining parity in nuclear weapons and methods of delivery with the United States or the Soviet Union.

As I understand it, to achieve parity with either of these two great powers would mean having a supporting industrial basis which China just does not possess, and is unlikely to possess in the near term, anyhow.

Mr. RICHMAN. I have no direct answer to your question. I would like to comment very briefly on China's industrial power in the non-military sectors which, of course, serve as a supporting basis of military power.

I think Professor Liu has painted a gloomier picture than is the case, because he is dwelling primarily in per capita terms in China's industrial power. As Professor Donnithorne pointed out briefly, you have to look at China in terms of absolute levels of production as well as per capita, because it is such a large country, a subsistence-level economy. In the 1950's China did much better than the Soviet Union and much, much better than India—during that period—and much better than the Soviet Union in a comparable period, from 1928 to 1937, in key industrial sectors, both in terms of absolute production and rates of growth of production—not in per capita terms—under the first 5-year plan.

So I think you run into problems in gaging China's economic and industrial power chiefly or entirely in per capita terms. You have to look at it in absolute terms. If you do this, they have had quite substantial industrial progress, although erratic and interrupted because of ideological extremism.

Chairman PROXMIRE. I want to thank all of you panelists. You have done a grand job this morning. You have provided expert understanding of a most mysterious situation. You have been modest in qualifying your testimony. It has been most fascinating and educational for me, and I am sure for Senator Jordan and Mrs. Griffiths, and other members of the committee to whose attention I will call this very fine presentation.

I want to express my gratitude to you, because you have all contributed a great deal from a lifetime of effort, and from a most unusual knowledge of this situation.

Now, I want to just announce that tomorrow we are going to meet in room 318, the Old Senate Building, the Caucus Room. Charles Hoffman, Kang Chao, and Robert Dernberger, all distinguished professors and experts in the area of the Chinese economy will appear.

Thank you very much.

(Whereupon, at 12:05 p.m., the committee was recessed, to reconvene at 10 a.m., Tuesday, April 11, 1967.)

MAINLAND CHINA IN THE WORLD ECONOMY

TUESDAY, APRIL 11, 1967

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The joint committee met at 10 a.m., pursuant to recess, in room 318, Old Senate Office Building, Hon. William Proxmire (chairman of the joint committee) presiding.

Present: Smathers, Proxmire, and Javits.

Also present: John R. Stark, executive director; James W. Knowles, director of research; and Donald A. Webster, minority economist.

Chairman PROXMIRE. The Joint Economic Committee will come to order.

This morning the general subject of discussion involves the economic potentials of Mainland China in the near-term. We can take it for granted that the potentials of China over the generations are unlimited. On the other hand, we want to focus on something longer than the current ideological complex.

The first witness is Dr. Charles Hoffmann. He is from the State University of New York at Stony Brook and is the assistant to the academic vice president. Professor Hoffmann, under the auspices of the Social Science Research Council, has been recently studying work incentives in the Chinese Mainland economy, and he will address himself to that subject today.

Our second witness is Kang Chao, who is now a professor at the University of Wisconsin, having served also at the University of Michigan and the University of California at Berkeley. He has made a special study of industrial production in Communist China and the measurement of the construction industry there.

Our third witness is Robert Dernberger, who will address himself to the general subject of foreign trade of Mainland China. This is of particular interest to us, especially since the United States adheres to a nontrading position vis-a-vis China. We are thus interested in the amounts and trends of Chinese trade with Japan, Western Europe, and the Soviet bloc. His knowledge in the field rests upon graduate study at Harvard University and field fellowships which took him to Hong Kong. He is presently at the University of Chicago.

While I have introduced these people individually, we want to proceed as a panel. After a short opening statement by each of the panelists, we will throw the session open to cross-questioning and questioning by the members of the committee.

I would like to ask you gentlemen if you would do your best to keep your initial statement down to 10 or 15 minutes. We will, of

course, file your full statement in the record, which will be available to all members of the committee.

Dr. Hoffmann, will you proceed?

**TESTIMONY OF CHARLES HOFFMANN, PROFESSOR OF ECONOMICS
AND ASSISTANT TO THE ACADEMIC VICE PRESIDENT, STATE
UNIVERSITY OF NEW YORK AT STONY BROOK**

Mr. HOFFMANN. Motivating workers and farmers to work harder, to improve their skills, and to move into occupations and locations where they are most needed is a major problem in all economic systems. The Communist leaders of the People's Republic of China have been keenly aware of this question and have given it a central place in their economic development strategy. One of the main issues in contention today between Mao Tse-tung and his followers and the opposition group led by Liu Shao-ch'i, Teng Hsiao-p'ing and Tao Chu is whether to use ideology and revolutionary fervor or more traditional material incentives to elicit sustained labor exertion by peasants and industrial workers.

It should be helpful, before focusing on what the prospects are for a successful handling of the motivation problem, to review the ways the Chinese Communist Party has faced the problem in the past and how its policies have fared. For, whether Mao's "cultural revolution" eventually triumphs, or his opponents win, or some compromise eventuates, experience and policy since the Communist takeover will provide the basis for shaping future policy and practice.

Generally, incentives have been the principal means—though employed with varying emphasis—to stimulate greater peasant and worker labor input and to encourage upgrading of skills. They have also affected the movement of workers and farmers into preferred occupational and geographical units, but desired allocation of labor has been carried out mainly by government and party directives.

During the First Five-Year Plan, as industrialization was pushed, material incentives—wages, bonuses, vacation pay, special payments—were stressed and extended in both industry and agriculture. Non-material incentives—medals, awards, emulation contests, and the like—were not emphasized, though their number and variety were developed. The Chinese Communist Party imitated the Soviet model in the First Five Year Plan and thus accepted—some of its leaders perhaps reluctantly—the stress on material encouragement.

With the onset of the Great Leap Forward in 1958 and a veering away from the Soviet model, incentive policy swung pendulum-like toward an opposite position—nonmaterial incentives were emphasized and their material counterparts soft-pedaled—for example, piece-rate wages were eliminated in many factories and cut back in others and private plots were taken away from the peasants. Determined to break through on the agriculture front, party leaders following Mao's strategy set up communes in a revolutionary bid to stimulate a sharp increase in grain and industrial raw material output through reorganizing, reallocating, and revitalizing manpower in the countryside—presumably at little economic cost. Reorganization and reallocation were to be achieved by fiat of commune and lower level cadres; in-

creased peasant labor input was to be stimulated by ideological and political exhortation and reliance on emulative contests and mass-involvement in decisionmaking, self-criticism, and the like.

The failure of the Great Leap Forward to achieve its goals and, more urgently, the dislocation resulting from the commune experiment and bad weather forced the regime to reverse its policy of squeezing agriculture. Peasant initiative had to be rekindled with material incentives so that grain and subsidiary farm output—pigs, eggs, milk, vegetables—which had suffered most from the end to private plots and rural free markets, might recover quickly. In industry, where the urgency was not as great, workers were also reawakened by the material goods of graduated payment mechanisms: peasants received more from the commune and their private plots as prices for agricultural products were raised. Late in 1963 a general wage increase for workers was effected.

Mao's scheme of capitalizing on "revolutionary fervor" to drive peasants and workers to continuous great labor exertion with little increase in material reward—opposed by more conservative elements in the party and government—had to yield to pressing pragmatic considerations which dictated reliance on traditional material incentives if China's economy were to recover its lost production.

Given these varied policies for the decade 1953 to 1963, how did the Chinese economy fare in achieving its incentive and manpower objectives?

The thrust of the Chinese economy toward modern industrialization since 1953 has had mixed results. As for manpower utilization, the efforts to shape a huge, rapidly growing unskilled labor force to the requirements of a developing industrial society have led to important results in some regards, have complicated strategic economic advances in others, and have failed in still others. The goals of increasing labor input, getting workers and peasants to upgrade their skills, and moving labor into preferred occupations and geographic locations still need to be more fully realized.

However, the positive results achieved should not be lost sight of. A modern incentive system suitable to industrial growth with a supporting social insurance system and resembling that in other industrial societies was effectively set up for industry during the First 5-Year Plan. In that period labor productivity rose by approximately 40 percent, a robust increase.

In agriculture, important strides were made in implementing an appropriate incentive system until the disruption of the Great Leap Forward in 1958. In both industry and agriculture nonmaterial incentives were extensively experimented with, though the extremes to which they were pushed often vitiated favorable results. The channeling of workers into desired industries during the First 5-Year Plan and the sharp increase of the industrial labor force in 1958 demonstrated that a proper combination of material incentives and allocation by directive could achieve desired results. The training and upgrading of workers also was successful as the numbers of technical, engineering, and scientific personnel, whatever their quality, swelled in the preferred industries.

Some of these positive results had concomitant effects which complicated the task of effective labor utilization. The setting up of a differential wage payment system and wage increases for industrial workers attracted peasants into the cities, and despite a calculated policy of keeping wages fixed so as to keep peasant and unskilled labor incomes on a par and directives for industrial workers, white collar employees, students, and even party cadres to go down to the countryside to labor in communes, this influx into cities has persisted. Thus unemployment in the cities is testimony to widespread complication of labor allocation and utilization.

In the countryside, payments mechanisms encouraging output of major commune staples to the neglect of important subsidiary crops and services brought about severe shortages in these activities. The construction of a modern incentive system for industry also generated many technical problems which could not easily be resolved in the frenzied atmosphere of forced draft industrialization. For example, piece rates often worked against upgrading of skills and quality output since workers were motivated to produce, regardless of quality, and got more pay than if they moved to a higher grade.

As for the failures of incentive policy and practice, they were grand ones imbedded in the Great Leap strategy, and the resurrection of Great Leap forms in the current struggle for power foreshadows the turn that Maoist policy will probably take. The notion that great amounts of labor input can be generated at very little cost in consumer goods if nonmaterial incentives are widely used was tested in the Great Leap Forward.

The main consequence was, after initial spurts of success in 1958, that Chinese agriculture's production and organization were seriously undermined and 3 years of poor weather pushed agriculture close to the breaking point. The egalitarian distribution of grain among peasants, the confiscation of the family's private plot, the closing down of free rural markets all conspired to slow production to a relative trickle as the demands of millions of new mouths in the countryside and the usual urban consumers cried to be met.

Major crops suffered considerably, but the effect on subsidiary farm output—fertilizer, pigs, vegetables, dairy products—which depended so heavily on private plots and rural markets was tremendous and affected the peasants' and the communes' basic survival both of which depended heavily on food and fertilizer generated by peasant private enterprise.

In the light of these experiences several prospects for future incentive and manpower policy suggest themselves. If the Maoists overcome their adversaries in the party completely, it seems highly probable that a variation of the Great Leap Forward will be pushed. The Maoist "revolutionary" strategy involves adaptation of the Yenanguerrilla warfare—spirit to the problems of industrialization, economic development, and motivation of manpower. Revolutionary fervor and party directives will underlie economic policy. Peasants and workers will be exhorted to achieve a range of economic objectives: greater and higher quality output, reduced waste, new methods, inventions and innovative techniques, et cetera.

Peasants will also be expected to vary their labor input seasonally and along specialized lines: major activity on commune staple crops,

involvement in commune subsidiary production as family enterprise on private plots and free rural market activity are discouraged or prohibited, and mobilization in small or large groups to mount miscellaneous and major investment projects in reclamation, irrigation, and road and other construction. These labor activities are likely to be motivated with a minimum of consumer goods and services so that vast capital formation for rapid economic growth can be generated.

If peasants and workers are quite successful in raising output, modest increments of income distributed differentially to those performing best may also be expected. If economic goals are less successfully met, reliance on nonmaterial inducement and party directives will undoubtedly be heavy. In any event, the further development and extension of material rewards will be restricted: wages are not likely to be raised generally unless peasant income rises appreciably, piece rates in industry and agriculture will be discouraged, bonus payments will likewise be downgraded. The success of such a policy is dubious. A repeat of the Great Leap situation might very well lead to desperate policies of one sort or another.

If the anti-Maoists overcome the present leadership, economic policies are likely to follow certain patterns of the periods 1953-57 and 1962-66. The anti-Maoist group in the party, in the trade unions, in the government, and elsewhere is comprised of many who opposed the Great Leap or advised more moderate policies when the strategy backfired. They represent a more conservative viewpoint, their sense of the possible conditioned by a realistic grasp of economic limitations. Reliance would be placed more on material incentives to motivate peasants and workers to greater output and higher skill. Greater dependence would be placed on family private endeavors to stimulate subsidiary agricultural, consumer goods, and service activities with the rural free market used more widely both for commune and individual product distribution. In industry material incentives would be sharpened, but the gap between peasant and worker income would not be allowed to widen. Such a policy could achieve modest results and raise Chinese industrial and agricultural output parallel to Soviet development.

If both contending groups come to some compromise agreement, it is likely that such an arrangement would be temporary. During such a time of compromise, make-shift arrangements to keep things going would be employed. The policies of the post-Great Leap period would probably continue. If economic activity improved considerably, the hands of the anti-Maoist group would be strengthened, whereas economic stagnation would rekindle the Maoist spark.

Of course, other dire developments may arise; an outbreak of armed civil war, anarchy, regional separatism, invasion, et cetera. Though these are not considered in our analysis, their occurrence is not to be ruled out.

Leaving out more dire consequences of the "cultural revolution," the prospects for Chinese economic development as seen from the context of incentives and manpower utilization are not good for the immediate future. Whichever group wins, the return to stability will take time and motivation and production must fall far below earlier

achievements. Even if the anti-Maoists prevail and pursue their economic objectives effectively, the most optimistic estimate would be for the economy to grow at a rate below that of the First Five-Year Plan. Such growth, however, would be attended by serious unsolved problems of the past: the tendency for the worker-peasant income-gap to widen, the continued movement of excessive labor into the cities, the alternation between a surfeit and a deficiency of labor in the countryside, the ineffective allocation of workers to industries where the plan requires them, and other difficulties inherent in the incomplete use of the market mechanism for allocation purposes.

Chairman PROXMIRE. Thank you very much, Professor Hoffmann. (Apps. A and B submitted for the record by Dr. Hoffmann follow:)

APPENDIX A

EFFECTS ON ECONOMIC ACTIVITY OF RESPONSES TO THE "CULTURAL REVOLUTION"

[Statement prepared by Charles Hoffmann, supplemental to preceding testimony.]

The "great cultural revolution" which has been underway since 1966 has had a profound affect on the people of China as well as on those attempting to assess China's potential role on the world scene. One of the major considerations in the bitter intra-party conflict is the question of the proper economic strategy to follow. As the conflict follows its unpredictable course and as the world watches the dramatic and often theatrical actions of the Maoists, the economy itself is affected by the disruption of the intense struggle. Although the question of how much damage the economy has suffered due to the "cultural revolution's" disruptive events has been raised, little light has been shed on it. We sketch here the pattern of effects which can be attributed to the turmoil of the movement.

Naturally, the initiative of the Maoists sparks responses which influence economic activity in many ways. The activities of the Red Guards are well-known throughout the world. On the other hand anti-Maoist responses are less widely known, so we focus on their pattern. The responses of the followers of Liu Shao-ch'i and Teng Hsiao-p'ing have taken several shapes: (1) workers and peasants have been enlisted to the cause by receipts of money and other material emoluments; (2) production has been directly reduced; (3) transportation and communications have been disrupted; and (4) general confusion and dislocation have either been directly encouraged or have resulted from the pursuit of more limited objectives. The result of the turmoil attending these aspects of the cultural revolution has inevitably been a diminution of output on the farms, in the factories, and in the enterprises servicing both.

Providing workers and peasants with greater material wherewithal, the anti-Maoists have elicited the wrath of the Mao-Lin group and have been abused with epithets of "revisionists" and "capitalists". Such "economism" has taken various forms. Wages and benefits of workers have been arbitrarily increased and various allowances in kind and subsidies have been granted. Claims for back pay for earned piece rates in former years and advances for future pay have been encouraged. Peasants have been urged to "eat everything", thus increasing their income in proportion to their appetites. In some communes money distribution among members has been increased appreciably. Workers have been stimulated to demand wage reassessment, reclassification and general increases and they have been issued money for trips to Peking to complain about wages and other grievances. Workers have also been given money to visit Peking and other cities to "establish revolutionary ties"—a euphemism for joining with other workers and engaging in a struggle against Red Guards and other Maoist groups. While this tactic of distributing more income and money among workers and peasants has had the obvious aim of enlisting them in the anti-Maoist cause, it has also reflected an important point at issue in the "cultural revolution"—shall the masses be motivated mainly by material means or by revolutionary ideology?

Although indiscriminate, scattered, and unsystematic increases in income and money payments among masses of people undoubtedly have affected production adversely, the opponents of the "cultural revolution" have also taken direct action to reduce output and undermine the "revolutionary" movement.

Some work stoppages and disruptions have eventuated naturally from the conflicts, physical and verbal, which occurred in industrial plants and on communes; others have resulted from sending groups off to Peking and other cities to carry on the struggle against Mao's "revolutionary rebels"; still others have followed from encouraging city workers sent to work on farms to leave the communes and return to the cities, hopefully to oppose Red Guards and other Maoist units. Inciting peasants to give up accumulating grain for the communes, to refuse to fulfill state procurement requirements, and to reclaim their old land from the communes and the State perforce has cut farm production as has the closing down of markets in the countryside. In parallel moves in industry the anti-Maoists have caused slowdowns and stoppages of production. Workers have slowed down their work or left the job, as circumstances required.

Where anti-Maoists' tactics called for disruption of transport, communications, and water supply, the ramifying affect on production has been great. Both intra-urban and inter-urban transport have been adversely affected at various times. The railways have been an important target of anti-Maoist action. Trains have been slowed down by various devices and crews have sometimes been instigated to desert trains. The strikes and slowdowns of dock workers at several ports, more commonly known in the outside world, have been another consequence of the conflicts in the cultural revolution and have provoked Maoist taunts of "sabotage" and a lament that the stoppage was "damaging to the international prestige of China."

The activities of both the Maoists and their adversaries have obviously led to general confusion and dislocation. The spreading of rumors, the provoking of incidents, the confrontations in factories and on farms; the physical attacks on workers and peasants, the sudden increase in movement in large groups between and in cities, the occupation of public buildings by contending groups, the increased demands to hear and resolve grievances, the struggles to seize control of news and publishing organs, the violent withdrawal of money from banks, the conscious or inadvertent generation of traffic accidents and congestion—all of these occurrences as well as many others fill out a picture of a mass society in turmoil. The inevitable result for the economy is lower production immediately and probably for some time after any restoration of stability. A possible further result is a breakdown in economic processes with dire consequences for the regime running the gamut from civil war to anarchy.

These details of dysfunction in production came from the following sources:

(1) *Jen-ming jih-pao* (People's Daily), Peking, January 21, 1967, pp. 2-3 translated in U.S. Joint Publications Research Service (hereafter JPRS) No. 40150, March 7, 1967, pp. 1-4.

(2) *Hung-Ch'i* (Red Flag), Peking, No. 2, January 16, 1967, pp. 4-6, 9-11, 19-21, 33-36 translated in JPRS No. 39879, February 13, 1967, pp. 12-15 and JPRS No. 40041, February 27, 1967, pp. 3-7, 10-16, 27-31, 41-47 and *Hung Ch'i*, No. 3, February 3, 1967, pp. 41-44 translated in JPRS No. 40086, March 1, 1967, pp. 41-46.

(3) *Kuang-ming jih-pao* (Kuang-ming Daily), Peking, January 22, 1967, p. 2 translated in JPRS No. 40150, March 7, 1967, pp. 5-8.

(4) "How Red Rebels United With Revolutionary Leading Cadres", *Peking Review*, No. 9, February 24, 1967, pp. 20-22.

(5) Alexandra Close, "Revolutionary Rebels", *Far Eastern Economic Review*, Hong Kong, February 9, 1967, pp. 201-206.

APPENDIX B*

WORK INCENTIVE PRACTICES AND POLICIES SINCE 1953

[Statement prepared by Charles Hoffmann to supplement preceding testimony.]

The shaping of incentive policy was broadly determined by the requirements of economic strategy and more specifically by the particular needs of fashioning a unified wage system. If a national economy was to become a meaningful reality, wages and other incentives had to conform to a homogenous pattern throughout the country. Otherwise, the encouragement of labor to produce more,

*Abbreviations used in footnotes are explained on p. 133.

relocate itself, and improve skills and techniques in the differential ways demanded by overall economic strategy would be vitiated by the existing disjointed wage and payments arrangements.

The deficiencies of the wage system inherited by the Communists included non-labor income features, neglect in relating performance and reward, and failure to channel workers adequately on an interregional, interindustry and interplant basis. To deal with these problems the regime planned over time to make necessary adjustments in wages and also to effect major reforms in the wage system. Before 1953 movement toward a unified and systematic payments scheme was made and a provisional social insurance system was set up. Wages were readjusted in many situations without loss of income and sometimes with the aid of subsidies. From 1950 to 1953 regional wage reforms were implemented to modify wage classifications and to alter the wage structure by way of increases in aggregate wages. In the flux of socialization and rehabilitation the degree of possible transformation of the wage system was quite limited.¹

In the period under review the Chinese Communist Party's (CCP) strategy for economic development underwent several changes and incentive patterns followed suit. During the First Five Year Plan (FFYP), conforming to the Soviet model, the regime undertook forced-draft industrialization and incentives were geared to the rapid growth of heavy industry with emphasis on heightened material incentives. With the Great Leap Forward, the CCP veered from the Soviet model in a vast undertaking to break through the circle of backwardness by mobilization of its huge labor force in construction projects and stepped-up production quotas aimed at generating enormous amounts of capital. Basing this grand plan on assumptions of a "continuing revolution", CCP leaders deemphasized material incentives in expectation of sustained exertion motivated by heightened non-material inducements alongside muted wage and other payments mechanisms. In the aftermath of the Great Leap failure wages and other payments have again assumed their usual significance as plans for economic development have been changed to achieve rapid growth through giving first priority to agriculture. Material inducement of modest proportions, as during the FFYP, was officially accepted as a necessary mainstay of incentive policy during recovery from adverse effects of the Great Leap. With the advent of the "cultural revolution" contention over the role incentives are to play assumes major importance.

THE PERIOD 1953 TO 1957

During the FFYP the regime dealt with the above problems in an attempt to mold a modern force through a wage system consistent with their notion of evolving modern industry. Insufficient stimulation to technical innovation and invention, payments in combinations of money and kind, disparities between increases in labor productivity and wages, and irrational and egalitarian elements in wage payments were significant barriers to the achievement of these ends. From 1953 to 1957 these problems were handled, first, in a piece-meal way, befitting the heterogeneity of industry's technology and organization, and, next, in a more unified manner in the major wage reform of 1956 which embodied the main strategic goals of the FFYP.

The direct stimulation of invention, technical innovation, and rationalization in industry was obviously of great importance in the drive to industrialize rapidly. In 1950 some provisional measures had been set forth to cope temporarily with this need, but not until 1954 was a uniform incentive scheme set forth, probably with the assistance of Russian technical advisers. On May 6, 1954 the Government Administration Council (GAC) approved regulations on awards for inventions, technical improvements, and rationalization proposals designed to stimulate industrial advance. Setting forth the ground rules for bestowing awards, the regulations listed the sums to be paid to those whose inventions, technical improvements, or rationalization proposals succeeded in reducing costs of production.²

The scheduled awards were based roughly on the same criteria used in the U.S.S.R. to reward such creative effort and the maximum amounts payable were quite generous. Cash payments were to be made both to those who devised and those who assisted in the technological contribution. Invention payments

¹ Peter Schran, *The Structure of Income in Communist China* (Ph. D. dissertation, University of California, Berkeley, 1961), pp. 249-258 and Chao Kuo-chun, *Economic Planning and Organization in China* (Cambridge: Harvard University Press, 1960), volume 2, p. 86.

² *Labour Laws and Regulations of the People's Republic of China* (Peking: Foreign Languages Press, 1956), pp. 54-66.

were made over a period three to five years to the recipients; awards for improvements and rationalization proposals were given once. The schedule of remuneration was based upon the value saved by the contribution with the originators receiving a percentage of that amount ranging from 30 per cent for those saving less than ¥100 in a year to 2 per cent of those saving over ¥100,000 a year. A similar scale operated for technical improvements and rationalization proposals, going from 20 per cent to 0.5 per cent for the former and 10 per cent to 0.25 per cent for the latter. The maximum award for any person was ¥50,000 and the minimum was ¥5. Those assisting in any of these improvements were to receive up to 25 per cent beyond the main payment.³

Before any comprehensive reform of the wage system to facilitate the realization of the aims of the FFYP was possible, standardization of wage patterns throughout the country was required. This had been begun in the regional reforms from 1950 to 1953. The extension of the work-point wage system was a continuation of the standardization process and sought after uniform wage scales interregionally. Success in this venture would make possible the implementation of a uniform set of wage scales in all parts of the economy and a general reform of wage practices geared to the requirements of proper labor allocation and stimulation.⁴

The wage-point system which was applied widely until 1956 was set up usually on an eight-grade basis. That is, wage-points were structured on an ascending scale on the basis of skill from grade 1 through 8. Each grade received fixed wage points:

Grade.....	1	2	3	4	5	6	7	8
Wage points.....	136	158	184	214	248	288	335	390

The points were the same throughout the country to unify wage standards, but the monetary value of a point varied according to the prices of five staple commodities (grain, oil, salt, cotton, and coal) in the local areas. Thus, in May 1955, a wage-point in Chenyang was worth .213 yuan, while in Peking it was .247 yuan. Subsidies were thus used to equalize incomes or make actual wage rates uniform. The ratios of the highest grade to the lowest varied as in the wage grade systems. Before the modifications of 1956, many of these were not in line with the requirements of the FFYP.⁵

Although the wage point mechanism complicated somewhat the connection between performance and reward, it enabled the regime to standardize scales in the same industrial areas while prices still varied regionally. Once such uniform wage scales were in full operation and regional price differentials were narrowed, the stage was set for the major wage reform of 1956. By 1955 appreciable favorable results had been achieved.

The major changes of the wage reform of June 1956 were adumbrated in public and private discussions long before the official action of the State Council. Careful preparation was made for the reforms through conferences, meetings, and widespread discussion in newspapers and journals. The wage reform was the climax of the regime's efforts to coordinate labor resources of state-operated industrial enterprises for maximum effort to achieve the ambitious goals of the FFYP:

"This revision will effectively eradicate equalitarianism and the state of unreasonableness and confusion obtaining in the current wage system serve as a powerful material factor setting into motion the extensive masses of workers and office employees to strive for fulfillment of the First Five Year Plan ahead of schedule."⁶

The reform put Chinese wages on a more systematic basis in which wage differentials, bonuses, promotions, and other features of the payments system were coordinated toward stimulating both the quantity and quality of output and encouraging the use of more advanced techniques such as piece-rates. Irrational and equalitarian features were eliminated and wages were raised generally. Whether or not all goals were completely achieved, undoubtedly the wage system in state-operated industrial units was improved; however, new

³ *Ibid.* and Margaret Dewar, *Labour Policy in the U.S.S.R. 1917-1928* (New York and London: Royal Institute of International Affairs, 1956), pp. 128, 157, 251, 259, 267.

⁴ Schran, pp. 257, 265-266.

⁵ Léon Lavallée, Paul Noirot and Victor Dominique, *Économie de la Chine Socialiste* (Geneva: Librairie Rousseau, 1957), pp. 415-416.

⁶ Chin Lin, "Certain Problems Concerning Betterment of the Current Wage Grading System," *LT*, No. 3, March 6, 1956 (ECMM 35, May 14, 1965, 32).

problems arose as the industrial sector developed. In form the new and modified wage schemes corresponded more closely to the aim of more pay for more work.⁷

The heart of the wage reform was the granting of a substantial general wage increase and the coordination of wage payments systematically to stimulate Chinese heavy industry. The general increase was over due. Official policy was committed to wages rising at about half the rate of productivity increases. Since productivity had been rising faster than planned and since wages had been raised only slightly, the disparity between the two in certain years was quite wide and the policy of gradually improving the worker's level of living was being compromised.⁸

In both 1954 and 1955 wages in industry were raised proportionately much less than the 1:2 policy ratio between wages and productivity. In the earlier year, money wages went up on the average 2.3 per cent, while productivity was up 15 per cent; in the latter year, the relationship was .6 per cent to 10 per cent. Comparing 1955 with 1952 the disparity remained, though it was not as wide as for 1954 and 1955: in 1955 wages were only 13.7 per cent above those of 1952, while productivity had ostensibly risen 41.5 per cent. The .6 per cent rise of money wages in 1955 meant that for many workers real wages declined.⁹

To rectify this situation, wages in general were raised 14.5 per cent above the level of 1955 by the June 1966 wage reform. (If new workers are included in the calculation the increase was only 13 per cent.) The average increase per worker totaled almost ¥80, or an amount somewhat above the average month's pay for industrial workers. The increases were expected to generate more enthusiastic performance and greater production. In 1957 overall wages rose again but more modestly by 4.5 per cent.¹⁰

The systematic coordination of wage payments to facilitate the development of heavy industry necessitated not only varying wage increases but also substitution of a uniform wage payment mechanism graded differentially by industry for the patchwork system in existence. Table 1 shows how wages were raised differentially toward this end. Wage increases were aimed at widening differentials based upon skill and making readjustments for groups whose incomes were out of line with their importance in achieving economic goals. Greater than average wage boosts were given to heavy industrial workers, those in production departments, and workers in health, culture and education. Workers in light industry, commerce, rural services, nonindustrial state departments, and state organs received less than the average 14.3 per cent raise. For example, in textiles production workers' wages rose about 5 per cent. Greater increases were also given to higher technical workers, widening the difference between them and those at the lower end of the grade scale. Pay to management, engineering, and technical personnel was increased more than for those of the same grade working in administrative positions. Increases for professors, higher level scientific personnel, and other intellectuals were sharp; for example, in Peking such individuals enjoyed raises of 36 per cent.¹¹

TABLE 1.—Average wages in various sectors of the economy, China, 1955 and 1956

Sector	1955		1956		Percentage change, 1956 over 1955
	Yen	Index	Yen	Index	
Total labor force.....	534.1	1.000	610.5	1.000	14.3
Industry.....	599.6	1.123	674.9	1.105	12.6
Construction.....	613.0	1.148	700.9	1.148	14.3
Transportation and communication.....	645.4	1.208	745.8	1.222	15.6
Agriculture, forestry, water conservancy, and meteorology.....	461.1	.863	497.8	.816	8.0
Commerce.....	443.4	.830	489.7	.802	10.4
Banking and insurance.....	532.3	.997	586.1	.960	10.1
Health, culture, and education.....	447.5	.838	548.1	.898	22.5

Source: Peter Schran, "The Structure of Income in Communist China" (unpublished dissertation, University of California, Berkeley, 1961), p. 283. Data cited therein from "Trud i Zarbotnava Plata" (Labor and Wages), No. 10, 1959, p. 62.

⁷ *Ibid.* and Schran, pp. 300-302.

⁸ Ma Wen-jui, "Report to the Third Session of the First National People's Congress . . .," NCNA, Peking, June 29, 1956 (CB 405, July 26, 1956, 1-9).

⁹ *Ibid.* and Tso Chun-t'ai, "Several Questions Concerning Reform of the Wage System," CCHH, No. 6, June 13, 1956 (ECMM 47, Aug. 13, 1956, 8-11).

¹⁰ *Ibid.* and *Ten Great Years*, (Peking: Foreign Languages Press, 1960), p. 216.

¹¹ Ma Wen-jui, *loc. cit.*

The constant official complaint that wage mechanisms were often egalitarian and irrational reflected the lack of a uniform wage system. The 1956 reform went a long way to implementing a national wage system consistent with emerging modern industry and with the high priorities placed on rapid development of heavy industry. The stricture against egalitarianism was aimed at the practice of no wage differentials, where work tasks varied markedly, and minute, ineffective wage gradations operated. In such situations wages could not act as a proper stimulus to greater output and improved skills. The wide diversity of wage grade systems (ranging up to 12 grades with numerous variations, some of which resulted in tens of grades) had also led to inconsistent policies in the same industry and type of enterprise. In a Kiangsi machine manufacturing plant there were 73 grades, practically one per worker. The 1956 reforms unified wage standards and the coefficient of wage grades for each industry. The confusion of many different minimum wage standards was eliminated by reducing their number and relating the different minima to easily identifiable distinctions in required work. The eight-grade wage system was more widely implemented with the ratios of the first (lowest) to the eighth (highest) modified to approximate 3 to 1, and the differentials between grades were adjusted to be either at least the same or absolutely higher at the lower levels, a not uncommon situation before 1956. (In the civil engineering and building industries, a seven-grade system was uniformly established. Office employees were also put under standardized wage grade mechanisms.) In the steel industry the standard wage rate for the first grade was raised 3 per cent and that of the highest grade 18 per cent, reflecting the policy aim of stimulating higher quality work in a high priority industry. Thus, a premium, was paid for more skilled work and the development of expertness. In similar fashion, heavy work, underground operations, and labor under high temperatures, which in many instances had previously been paid the same as ordinary work, were more generously rewarded than the same work under more favorable conditions. The status and gain of differential money payments for the most desired kinds of work effort were geared to cultivate required skills and attract the best workers where they were most needed.¹²

The egalitarian and irrational features of the system were further reduced. Double pay at year's end, a traditional bonus scheme estimated to cost 7 per cent of wages, was eliminated. Money awards for good attendance, totaling 2 to 4 per cent of wages, were also abolished. Promotion procedures and policies were standardized to replace a confused pattern which often frustrated attempts to upgrade skills systematically. Standards were set for technical grading and regular examination practices were implemented.¹³

The impetus given in the wage reform to the extension of piece-rates further emphasized the importance placed on improved skills and increased production.

The enlargement of the role given to piece work meant in itself that the wage system had been somewhat modernized. Application of piece-rate techniques, wherever technically possible, was urged as a replacement for time rates and time rates and bonus systems. In the period from 1956 to 1957 as piece-rates were expanded, a peak of about 42 per cent of workers in state-operated factories and mines were covered by some sort of piece-rate system. With 75 per cent of workers in the U.S.S.R. under piece-rates prior to World War II (35 per cent under progressive systems) and the same high pattern followed in other communist countries as well as some capitalist economies, this peak in China seems rather low in the light of official emphasis on learning skills and raising output. In 1952 before any concerted effort to develop piece-rates had been made, almost 35 per cent of the workers were under such schemes. Two factors explain this: much of Chinese industry was still too backward to allow of effective use of the technique, and Chinese leaders consciously limited the range of wages to avoid too sharp a disparity arising between peasant and worker income. Despite declarations against "egalitarianism," the CCP's incentive policy operates within narrow limits due to the significant position of peasant income in overall policy.¹⁴

¹² Ma Wen-jui, *loc. cit.*; Schran, pp. 282-286, 295; Tso Chun-t'ai, *loc. cit.*; and Chin Lin, *loc. cit.*

¹³ Ma Wen-jui, *ibid.*, and JMJP, July 6, 1956 (SCMP 1331, July 18, 1956, 5).

¹⁴ Sun Shang-ch'ing, "On the Nature and Destiny of Our Current Piece-Rate System," CCYC, No. 4, April 17, 1959 (ECMM 180, Aug. 17, 1959, 45-50). On the Soviet Union see J. G. Gliksman, *The Control of the Industrial Labor Force in the Soviet Union* (Santa Monica, California: RAND Corporation, 1960), pp. 33, 60-61.

The wage reform of 1956 must be viewed within the context of the FFYP in which CCP leaders tried to base their strategy on "both the actual conditions of and the experience of the Soviet Union and the People's Democracies." Since priority was given to heavy industry and capital formation, it was essential to reform, modernize, and standardize wage practices and policies in line with the goal of rapid industrialization. The reliance on Soviet practice was undoubtedly quite helpful in saving time and avoiding some mistakes in the area of wage administration.¹⁵

In 1953 through 1957 non-material incentives were also developed and extended though their role was clearly a minor one in the concerted drive to modernize industry through more appropriate wage and other payment mechanisms. As the CCP's organizational hold was strengthened over industrial units, the exhortation to work harder and improve skills was associated more and more with emulation drives and other mechanisms for exacting labor through payment of psychic income. In 1956 wider extension of non-material encouragement occurred and this was continued in 1957. The numbers of awards to outstanding individuals and groups rose sharply, being four to five times as great in 1956 as in 1955.¹⁶

THE GREAT LEAP FORWARD, 1958-1960

By the end of 1957, the overall economic policy of the CCP veered sharply from the Soviet model and the proposed SYP to the Great Leap Forward. Incentive policy-following grand economic strategy synchronously, swung in an opposite direction; the main emphasis in the Great Leap was on non-material incentives. This did not mean that material incentives were to be abandoned but rather than their prominent role of the earlier period was to be eased greatly.

The soft-pedaling of material encouragement in industry was essential to forestall a widening gap between peasant and worker income. The wage increases of 1956 and 1957, occurring at a time when collectivization of agriculture was being consummated, were not paralleled by proportionate growth of peasant income. To mollify Chinese farmers, who were disheartened by unskilled workers in the countryside receiving higher income than they got, wages for the lowest three grades were set late in 1957 at the same level as average peasant income with adjustments for higher living costs of the workers. The Great Leap's plans for increasing capital significantly out of agriculture's product meant that unless agricultural output soared enormously, continued rises in workers' pay would undermine peasant morale and disrupt work through disaffection and movement to the cities. Failure of agriculture to meet the grandiose targets set and re-set in the Great Leap required that industrial wages be kept in check and output be spurred by other techniques. Ironically, the miscarriage of the Great Leap extended the role that non-material incentives had to play to generate reduced production goals. Success of the Great Leap would have provided ample wherewithal to fatten the payments flowing out of material incentive mechanisms and allow for easy extension of non-material techniques. With lean residual income in communes industrial wages were held in check.¹⁷

In retrospect, signs of an impending change in policy are found in a *Jen-min jih-pao* editorial of November 21, 1957 in which a review of labor achievements was qualified with the lament that, "We have also over-emphasized the importance of material encouragement, while inadvisably relaxing our political and ideological work . . ." Such a lapse in correct behavior was held responsible for the "growth of individualism, egoism, and the equal-treatment ideology among the working masses."¹⁸ At the Second Session of the CCP's Eighth National Congress held in May 1958, Liu Shao-ch'i put the Great Leap Forward in its political context. Major economic goals were to be attained mainly through mass movement mechanisms in which the usual material motivation was subordinated to ideological and political techniques; they were to be the "soul and guide of every kind of work." Liu claimed that "a communist ideological emancipation movement" was occurring among the people and that it had "brought about

¹⁵ See *First Five Year Plan for Development of the National Economy of the People's Republic of China* (Peking: Foreign Languages Press, 1956), pp. 17, 170-175, 189-196.

¹⁶ *Ten Great Years*, p. 186.

¹⁷ Chao Kuo-chun, *op cit.*, p. 108 and NCNA, Peking, February 10, 1958 (SCMP 1713, February 15, 1958, 10).

¹⁸ SCMP 1667, December 9, 1957, p. 2.

a new upsurge in production and construction . . . The political consciousness and socialist initiative of the masses . . . have been greatly enhanced. . . ." Liu was expostulating the basis for the "uninterrupted revolution"—presumably the masses were "ready" for continuous revolutionary sacrifice.¹⁹

In state-operated industry, where Party and Government directives were more easily and expeditiously executed, carrying out the new incentive policy mainly involved changes in tempo and emphasis. New techniques were advanced in the intensive application of non-material incentives—emulation in particular. Piece-rate wages were cut back sharply and monetary prizes, while still offered, were overshadowed by the greater importance placed on the social prestige attaching to awards for outstanding achievements. No significant broad raises in wages occurred, though there were some variations which were calculated to reduce disparities between different classes of workers and workers and peasants and some changes were made in regulations concerning benefits of workers leaving jobs.

Despite the change in incentive policy, it was officially claimed that in 1958 and 1959 average earnings rose as in earlier years. This claim that average wages rose from ¥ 637 in 1957 to ¥ 689, and ¥ 730 in the succeeding years seems impossible on the face of it if piece-rates were cut back drastically and the numbers of workers and employees rose sharply in 1958. It appears that piece-rate workers who were paid wages considerably above the standard would suffer wage cuts unless they were promoted to higher wage grades. Also if the numbers of workers increased in 1958 by over 43 per cent while total wages rose by only 38 per cent, average wages could not have risen. The official reconciliation of this is that the rise in the total wage bill was used for promotions and certain adjustments rather than any general wage increases. The average wages for 1958 on are based on the numbers of workers active in 1957. Given this situation the workers and employees who were in industry in 1957 could enjoy a higher average wage, as a group. Those coming into industry starting in 1958 may also have gotten increases in income if they came from less remunerative work.²⁰

General popular dissatisfaction with certain aspects of wage systems on morale and technical grounds became the entering wedge for reducing piece work schemes. One complaint deplored rapid increases in wages especially for new and apprentice workers "because old workers and employees have contributed more to the socialist accumulation during their working years." Another lament, raising questions about the efficacy of economic controls in plants, deplored the ease with which quotas were exceeded (and bonuses earned) due to unreasonably low quotas.²¹

In the context of the Great Leap Forward the complications of piece-rate mechanisms were many and likely to impede rapid increases in output. The schemes in operation had many bugs and irrationalities. This generated much conflict among workers with consequent disruption. The great influx of new industrial workers with few skills meant, where low quotas obtained, a rapid rise in the wages bill. Wage increases had to be held at lower grades to a rough parity with peasant income. Since an essential characteristic of the Great Leap was raising production goals greatly and frequently, resetting quotas each time a new output norm was projected necessarily would promote confusion and vitiate the desired results. In order to avoid the disincentive effects of elimination or reduction in use of piece-rates greater reliance was put on political and ideological pressure through emulations and mass movements. In 1958 the drastic restriction of the piece-rate system became clear. Where it was continued its form and controls were modified to take account both of technical imperfections and the tendency to extravagant (and often undeserved) rewards.²²

¹⁹ "Report on the Work of the Central Committee of the Communist Party of China to the Second Session of the Eighth National Congress," *Second Session of the Eighth National Congress of the Communist Party of China* (Peking: Foreign Languages Press, 1953), pp. 62, 20–21, 24–25, 39–40.

²⁰ *Second Session of the Second National People's Congress of the People's Republic of China (Documents)* (Peking: Foreign Languages Press, 1960), pp. 8, 11–12, 37; "Press Communiqué on the Growth of China's National Economy in 1959" (Peking: Foreign Languages Press, 1960), p. 9; *Ten Great Years*, pp. 180, 183, 216; and *The National Conference of Outstanding Groups . . . in Education . . .*, pp. 12, 38.

²¹ LT, No. 1, January 3, 1958, pp. 23–24 (JPRS 878, Nov. 24, 1958, 1) and No. 3, February 3, 1958 (JPRS 760, Oct. 29, 1958, 33).

²² See *ibid.*, No. 10, May 18, 1958, pp. 28–29 (JPRS 878, p. 8); No. 3, *loc. cit.*; and No. 9, May 3, 1958, pp. 11–13 (JPRS 760, pp. 33–35).

Although no quantitative measure of the extent to which the system was abolished is available, the degree to which it was withdrawn or operationally reduced was probably great since scattered evidence indicates that in industrially concentrated areas the cut-back was sharp. For example, before the end of 1958 state-operated machine and power plants, iron and steel units, and ship-building establishments in Shanghai completely eliminated the system. The Wuhan Tool Plant, Shanghai Diesel Engine Plant, and Chiangnan Docks also abolished the piece-rate system in 1958.²³

The elimination, reform, and relegation of the piece-rate technique to a less significant role and de-emphasis on material incentives in general were negative aspects of the change in incentive policy. The positive side of this shift was the very heavy stress on an expansion in the use of "socialist and communist competition" in which the motivating forces were mainly non-material—appeals to needs for social status, identification, and group participation. In the greater utilization of and the wide-scale focusing of public attention on such methods, ingenious variations on simple emulative themes were sometimes contrived. One measure of the stepped-up pace of non-material incentives was the numbers of outstanding groups and workers. For the year 1958 the numbers were roughly 200,000 and 2.4 million respectively; a doubling of the numbers in 1957.²⁴

CCP policy-makers structured a series of competitive and group schemes to channel enthusiasm into desired productive outlets as part of the Great Leap Forward in 1959 and 1960. Emulation campaigns were carried out on various levels and emphasis was put on the cooperative aspects of the contest in order to develop collectivist attitudes and habits. National records were set only to be topped in short order either by the defending holder of the title or one of its nearby competitors. How long and how effectively such devices can take the place of material incentives is problematical and even in 1959 there were some signs of easing the pressure and reverting to material inducements.²⁵

The tactic of mass involvement to stimulate output in the Great Leap Forward, especially where piece-rate and bonus schemes were no longer playing a prominent motivational role, involved workers in the decision-making process. While factory party committees were given more power at the manager's expense, workers were asked to examine managerial decisions having to do with planning, quality control, technology, safety, and working organization. Small groups of work teams were convened, and, under cadre supervision, discussed the best means for "leaping forward" with dispatch. Despite negative reaction on the part of industrial leaders to this invasion of the managerial realm by workers, mass decision-making was pressed vigorously in 1958 and was still in practice in 1960, though apparently less widely used.²⁶

While mass movements and emulation campaigns became a major device for harnessing productive energies, cooperative mechanisms for spurring individuals and groups were developed further. In all such incentive schemes, whether or not they were combined with built-in material incentives, the greatest emphasis was placed on the prestige or status aspect of the award. While none of these techniques was new in itself, many of them having been employed in the U.S.S.R., they were all employed to a significantly greater degree and with greater intensity than in the period before the Great Leap Forward.²⁷

THE PERIOD 1961 TO 1967

By late 1960 the policy of emphasis upon non-material incentives in agriculture and industry had been abandoned as the failure of the Great Leap Forward had ramified throughout the economy. Although non-material encouragement was still to plan an important role, material incentives were extended and refined

²³ *Ts'at-ching yen-chiu*, No. 8, November 15, 1958, pp. 34-37 (JPRS 1337, Mar. 12, 1959, 1-2); Liu Ch'eng-jui et al., "Contradiction in the Piece-Wage System Enforced in Industrial Enterprises," *Chiao-hsueh yü yen-chiu*, No. 9, September 4, 1958 (ECMM 153, Jan. 12, 1959, 10-17); and "A Study of the System of Piece-Work Incentive," *LT*, No. 23, December 23, 1959, pp. 24-27 (JPRS 2640, June 1, 1960, 9-16).

²⁴ *Ten Great Years*, p. 186.

²⁵ "100 Quota, 120 Measures, 240 Enthusiasm," *HC*, No. 3, February 1, 1959, pp. 17-19 (JPRS 648D, Apr. 13, 1959, 1-4); K'ang Yung-ho, "Conscientiously Develop Socialist Labor Emulation," *Ibid.*, No. 16, August 15, 1959, pp. 13-19 (JPRS 4972, Sept. 12, 1961, 5-14); and "Penki Steel Plant Wins in Great Emulation Campaign," *NCNA*, Anshan, November 6, 1958 (SCMP 1893, Nov. 13, 1958, 27-28).

²⁶ See H. F. Schurmann, "The Dialectic in Action—Vicissitudes in Industrial Management in China," *Asian Survey*, May 1961, pp. 3-18.

²⁷ Ronald Hsia, "Labour Incentives in China," *FEER*, January 7, 1960, pp. 10-11.

to prod workers and peasants to perform as before. A key to the major change in economic strategy in the aftermath of the Great Leap was the assigning of the highest priority to the agricultural sector and a retreat from the strategy of forced industrialization and massive capital formation. The period was one of "consolidation" and "retrenchment" in which the grave economic contraction was to be reversed and a new attempt made at rapid growth. The new strategy was tailored to Chinese conditions and the heavy reliance on the peasant. The official view was that "only through the solving of the grain problem can a greater and better leap forward of the entire national economy be guaranteed."²⁸

The change in incentive policy in industry became clear by 1961 with the renewed importance of piece-rate systems, emphasis again on the historic role of distribution according to labor, and de-emphasis of political incentives. The new approach emerged first in agriculture because it was there that the earlier policy, emphasizing non-material incentives, was most radically pushed and had its most disruptive effects, and it was also there that the need for action was much greater, given the strategic role of food and raw materials. In industry, the policy in force between 1958 and 1960 was never extended to the same extent nor with as disruptive results. Piece-rate systems, while de-emphasized in 1958, were abolished selectively and in some instances merely modified to reflect telling technical criticisms. Their reestablishment was easily achieved without widespread publicity due to the direct links between the relatively few industrial complexes and Peking administrators.

Late in 1960 as the drive to raise the quality of industrial work effort was pushed, Party cadres employed material incentives more and more. There had been an awareness of the problem of work enthusiasm after the reversal of material incentives was fully assessed. Lamenting that "some workers began to think that how much they worked made no real difference and relaxed their effort gradually," a group of reporters pointed to a decline in work-discipline as attendance suffered seriously. The favorable results realized after the system of rewards was set up on an individual, material basis were acclaimed and explained by the "logical" reward scheme. Greater concern for the livelihood and working conditions of miners was labeled the way to diminish absenteeism and raising work enthusiasm generally. The link between performance and material reward was officially rediscovered.²⁹

But there was still a dependence upon group-oriented non-material incentives. Where formerly workers had been exhorted to excel in socialist competition, an elaboration of such rivalry now took the form of "communist competition and cooperation," the essence of which was "whenever in trouble, all [workers] help [one another] regardless of the division of shifts, sections and workshops." For example, combining socialist competition with a cooperative agreement contest in a steel plant, all workers became part of an inter-connected network set up to increase the quantity and quality of steel output.³⁰

As 1961 progressed, the renewed importance of piece-rate systems demonstrated that material incentives were again in full swing. Refinements of that payment system at first were made so that wherever feasible the incentive scheme would be based upon team piece-work rates. Such modification was an ideological combination of collective and individual interests. If this type of device was not technically possible the unadorned individual piece-rate system was employed. Perfection of wage grade systems and bonuses was fostered in all industrial quarters. In time, as the drive for recovery required stronger motivation, piece-rate techniques were developed more along individual than collective lines. Party leaders admitted more than more that maximum labor stimulation depended upon the effective implementation of the socialist principal of distribution according to work.³¹

In 1963, as general economic conditions improved somewhat, the greater reliance on material incentives continued with many of the pronouncements on incen-

²⁸ Fan Mao-fa, "Discussion of the Basis for Taking Foodstuffs as the Foundation," KMJP, November 7, 1960, p. 3 (JPRS 6871, Mar. 8, 1961, 18-26).

²⁹ Wang Yu-ch'ang et al. "Attend to the Livelihood of Workers—Report No. 1 on an Investigation into the Attendance Rate of Workers in Ch'eng-tzu Colliery, Ching-hsi," JMJP, May 19, 1961 (SCMP 2507, June 1, 1961, 14-18).

³⁰ "Developing Collectivistic Thought, the First and Second Anshan Steel Mills Carry Out Comprehensive Cooperation, Competition and Mutual Assistance Among Workers," KJJP, November 27, 1960, p. 1 (JPRS 8107, Apr. 15, 1961, 155-160).

³¹ Chen Han-ch'uan, "Strengthening of the Piece-Work System," TKP, August 23, 1961, p. 1 (JPRS 10720, Oct. 25, 1961, 90-94).

tives sounding like more polished versions of those appearing in 1956 and 1957. The simple fixed wage grade system, itself based on principles of individual material motivation, was held to be "a less direct and less concrete method of calculating pay" than piece-rate techniques. The recovery of the Chinese economy clearly was to depend more on material motivation than revolutionary fervor.³²

The promulgation of new regulations on awards to individuals for inventions and innovations in October 1963 replaced the 1954 provision rules. The older schedules had provided maximum money awards, in addition to honorific, up to ¥50,000 for inventions and ¥20,000 and ¥10,000 for technical improvements and rationalization proposals, respectively. The money payments ranged up to 3 years. The 1963 modifications reduced the maximum to ¥10,000 for inventions and to ¥1,000 for the remaining category—innovation—to be paid only in one year. The 1954 provisional regulations were devised when the CCP leaders were very consciously imitating the experience of the Soviet Union and they reflect a Soviet pattern of generous payments to top technical, professional, and managerial personnel. Perhaps Soviet technical advice was given in the drafting of the 1954 regulations. The Chinese rejected extravagant payment schemes: progressive piece-rates, over-generous bonus schedules, widely disparate payment schedules for supervisory and technical personnel. The 1963 award schedules for inventions and technical improvements are more consistent, thus, with the greater Chinese emphasis on narrower income inequality than that in the U.S.S.R. They are graded to encourage creative efforts with substantial intergrade differentials but the ratio of the maximum to minimum awards is much more modest than their first, Soviet-inspired schedule. This modification of payment schedule with lower maxima at a time when material inducements were again being greatly stressed implies an important aspect of Chinese incentive policy. It operates within relatively narrow limits; great care is exercised to forestall the development of widening income disparity between worker and peasant, worker and technician, technician and supervisory personnel.³³

Another measure indicating the return to greater dependence on material encouragement was the general wage increase for forty per cent of industrial workers and employees (about 10 million) announced in December 1963, the first since 1956. Some wage adjustments were foreshadowed by the National Wages Conference held in Peking in June. The wage hike was accomplished by moving eligible workers up one grade in the eight grade wage scale. Thus, for most workers the raise was about ¥5 or something over 10 per cent of the monthly wage. Using the device of up-grading workers to effectuate the pay raise was a way of rewarding efficient workers yet still keeping worker-peasant income differentials unchanged or even reducing the disparity. That is, the workers' wage-grade scale remains unchanged and presumably the relationship between the wage for the lowest grade and peasant income is the same or improved in the peasant's favor.³⁴

The policy of stressing material incentive continued into 1964 with widening reliance on mechanisms conforming to that principle. Some mention has been made of sporadic wage raises at lower grades without any widening of the systems. But no broad increase in wages has been implemented or foreshadowed since that of late 1963. While the commitment to the principle of payment according to output has been clear, the widening use of non-material techniques has been extended in 1964 and 1965. Evidence of greater reliance on mass campaigns grew as 1964 unfolded and continued into 1965. Early in the former year an organized campaign for "advanced" workers and units to help "backward" ones was given wide emphasis. The CCP also started a drive to involve cadres and functionaries in physical labor and increased pressures throughout the year to raise the numbers so involved. Late in 1964, a "socialist education movement"

³² "Piece Work Is Best Standard for Wages," KMJP, May 20, 1963 (JPRS 20563, Aug. 9, 1963, 21-22) and "Even If Pay According to Work Is Bourgeois, It Helps Socialist Construction," TKP, October 14, 1963 (JPRS 23113, Feb. 6, 1964, 36-38).

³³ *Labour Laws and Regulations* . . . , pp. 54-64 and "Regulations Governing Awards for Inventions" and "Regulations Governing Awards for Technical Improvements," JMJP, December 2, 1963 (JPRS 23113, Feb. 6, 1964, 13-21).

³⁴ See "Press Communique of the National People's Congress," *Peking Review*, No. 49, December 6, 1963, pp. 6-9; Colina MacDougall, "The Reds and the Experts," FEER, No. 58, February 6, 1964, pp. 310-312; and NCNA, Peking, June 2, 1963 (SCMP 2994, June 7, 1963, p. 1).

slowly widened its scope. Its aim of political indoctrination of large numbers of workers was for the purpose of generating greater amounts of output.³³

The continuation of these political drives into 1965 was part of a broader campaign to effect rapid changes in industrial design and the variety and output of both light and heavy industrial products. Claiming important successes in "revolutionizing" technical design and in a new "upsurge" in output, Party leaders put growing pressure on workers not only to produce more and higher quality products but also to work together with functionaries and technical personnel in innovating and improving work techniques. The exhortations to exceed high targets by marked amounts were reminiscent of the days of the Great Leap Forward. And yet, there was seemingly greater caution with clear cut mandates not to push workers too hard, not to exact long hours of overtime without adequate material compensation, not to repeat many of the mistakes that characterized industrial management during the Great Leap.³⁴

As 1966 unfolded economic conditions were generally improved and in many respects output was back to the 1957-1958 levels. Food was in greater more varied supply as the fruits of peasant private plots were distributed widely through more active rural free markets. Official publications were more optimistic in their view of future developments and the Third Five Year Plan was expected to accomplish important goals. It was in this setting of general economic improvement that the "cultural revolution" burst forth fully in the summer of 1966 as the roll of party leaders denounced for "following the capitalist road" grew. With the closing of the schools and the mounting of the Red Guard the outlines of the bitter intraparty conflict became clearer. The early aggressiveness of the Maoists and the seeming passivity of the Liu-Teng group suggested that the Mao-Lin revolutionary line of pushing once again for an economic breakthrough had been implemented. Greater production was to be achieved by reliance on ideological and political motivation; another Great Leap appeared in the making.

But these results did not emerge. Late in 1966 evidence of resistance to Red Guards and the policies of the Maoists grew. Peasants and workers fought with Red Guards. Numerous incidents of leaders pursuing policies at variance with the Mao line came to light. It became clearer that the CCP was not in the full control of the Mao-Lin forces. Several provinces were obviously held by anti-Maoists. While Lin and others were denounced, they still played a role. Resistance to the Maoists grew and some signs of attempts at reconciliation were visible. But confusion attended these events even after Red Guards were sent home and schools were opened. In January 1967 the trade unions, strongholds of Lin and his followers, were officially suspended. A period of apparent eased conflict followed but by March Liu Shao-ch'i and others were again violently denounced publicly. The backing and filling for power continued and no clear indication of the conflict's outcome emerged.

ABBREVIATIONS

The following abbreviations are used in the note citations which appear in the preceding text:

- CCYC—Ching-Chi Yen-Chiu (Economic Research)
- ECMM—Extracts from China Mainland Magazines
- FEER—Far Eastern Economic Review
- HC—Hung-Ch'i (Red Flag)
- JMJP—Jen-Min Jih-Pao (People's Daily)
- JPRS—U.S. Joint Publications Research Service
- KMJP—Kuang-Ming Jih-Pao (Kuang-Ming Daily)
- KJJP—Kung-Jen Jih-Pao (Worker's Daily)
- LT—Lao-Tung (Labor)
- NCNA—New China News Agency
- SCMP—Survey of the China Mainland Press
- TKP—Ta-Kung Pao (Impartial Daily)

Chairman PROXMIRE. Professor Chao?

³³ Yang Ying-chieh, "Building By Diligence and Thrift," *China Reconstructs*, February 1965, p. 13; *T'i-yu Pao*, December 2, 1964 (SCMP 3370, Jan. 5, 1965, 24-25); and "A Glimpse of the Emulation Movement in Industry," *Peking Review*, No. 21, May 22, 1964, pp. 15-16.

³⁴ Chen Shih-ho, "Shanghai's Technical Revolution Scores New Victories," *China Reconstructs*, May 1965, pp. 11-14; "Promote a New Upsurge in Light Industrial Production by Insisting on Excellence of Standard," *TKP*, May 23, 1965 (SCMP 3478, June 16, 1965, 10-12); and *San Francisco Chronicle*, July 27, 1965, p. 5.

**TESTIMONY OF KANG CHAO, ASSISTANT PROFESSOR OF ECONOMICS,
UNIVERSITY OF WISCONSIN**

Mr. CHAO. As Senator Proxmire has suggested in his invitation letter, I shall confine my testimony to commenting on the materials included in the compendium that appear contrary to other known information. Furthermore, also on the suggestion of the Joint Economic Committee, I shall concentrate on the papers dealing with industrial production.

Many estimates for the post-Leap years made in those papers are simply personal guesses, with no supporting evidence cited or estimation procedures mentioned. Unfortunately, in some cases the Chinese official output data happen to be available or the level of production is implied, and the official claims are much higher than the estimates, especially for 1964 and 1965. Except in one case where the writer explicitly, indicates that the official claim seems unacceptable to him, hence it is not used, no indication can be found as to whether the discrepancies are the results of discounting the official figures or of underestimating due to unawareness of the official figures.

I shall discuss only the serious cases where the discrepancies are larger than 30 percent.

The first case is the cement output of 1964. The official production figure exceeds Mr. Field's estimate by 2.6 million tons, or 32 percent.

The second case is chemical fertilizer production. For 1964 the official output figure is 55 percent higher than that estimated by Mr. Field. The discrepancy reaches nearly 100 percent for 1965's production.

Mr. Ashton's estimates of electric power output in 1964 and 1965 also appear too low. The validity of Mr. Ashton's estimates of electric power output and generating capacity for the post-Leap years is questionable for the following reasons:

1. He puts the increment of generating capacity in 1960-64 at 3.4 million kilowatts. It falls short of the total generating capacity installed in that period.

2. His estimated distribution of new generating capacity added in that period between hydro and thermal plants contradicts Peking's announced policy in favor of hydroelectric construction over thermal plants, and it is inconsistent with the supply situation of coal which declined in output in those years.

3. Mr. Ashton's estimates give too low average utilization rates of generating equipment in 1964 and 1965. The enormous amount of idle capacity, as implied by his low utilization rates, is implausible in view of the reportedly accelerated construction of new power generating plants in those years. The Soviet estimate of 55 billion kilowatt-hours electric power generated in 1964 in China sounds more reasonable. It is 33 percent higher than Mr. Ashton's estimate.

Another case in which the estimate departs by a large margin from the production level indicated by official sources is the textile industry. This is especially unfortunate because the textile industry was the largest branch in the whole industrial sector in Mainland China in the 1950's and perhaps still is now. Understating this single item by such a sizable margin would seriously affect the accuracy of our

evaluation of China's overall industrial strength. Moreover, our inaccurate assessment of this industrial branch would indirectly influence our judgment on agricultural production. Mr. Field's estimates of textiles production appear to be much too low on the following grounds:

1. The production level of 1965 as implied by official sources is at least 150 percent higher than Mr. Field's estimate.

2. If Mr. Field's output figures are taken, the implied labor productivity of textile industrial workers in 1965 would be only 39 percent of that in 1956, which is too low to be conceivable.

3. Apparently heavy investment was made in the textile industry in 1965. The total number of new spindles installed in that year reached 1.4 million, which is equal to the number of new spindles installed in 1959 but exceeds the investment level in any other year in the textile industry. This impressive level of investment would make sense only when production of China's textile industry had reached its full capacity level by sometime in 1964, which is diametrically contradicting to Mr. Field's assertion that most of the capacity not now in production is concentrated in light industry, especially in textiles.

The situation of textile production in 1964-65 also shed some light on agricultural output in that country. Chinese official sources have repeatedly stated that technical crops were even better than grain crops in recent years. For the cotton crop in particular, output is said to have increased tremendously in that period. Yet, in all the papers in the compendium dealing with this problem the writers have drastically discounted the cotton output levels indicated by Chinese official sources. Their estimates of cotton output have influenced Mr. Field who concludes that the level of output in light industry has recovered more slowly than heavy industry, because of the failure of agriculture to provide an adequate supply of raw materials.

I am not suggesting that we should accept all the Chinese official claims without any reservation, but I would hesitate to scale them down so drastically unless supported by some strong evidence. In order to discount the reported increases in cotton output one has to reject at the same time all the information concerning increases in labor force and investment in the textile industry as mentioned above. That is difficult to do.

Above are a few individual cases. For the industrial sector as a whole, I have serious doubts about Mr. Field's conclusions that 1966's production has reached only the level achieved in 1958 and that if the Chinese do not attempt a new Leap, they may regain the previous peak level by 1970. Although I do not have a new index of industrial production for the post-Leap years to present here. I am well convinced that by 1966 Communist China's industry in general had already reached its full capacity output level. The future development is no longer a matter of recovery but will depend, under normal conditions, on the magnitude of new investment and related factors.

During the readjustment period of 1962-64, except for those priority goods which enjoyed rapid increases and received continued investment, the industrial sector was proceeding steadily along the path of recovery without too much new investment. While some branches encountered bottlenecks or exhausted their idle capacities as early as

mid-1964 and called for new investment, other industries arrived at the same stage only in 1965 or early 1966. The claimed upsurge in the last 2 years was real and the investment activities were indeed extensive.

I realize that, with the meager knowledge we have on China, I am running the risk of having exaggerated the current economic improvements in that country. From a purely academic viewpoint, both overstatement and understatement are equally undesirable and should be avoided. However, for the purpose of facilitating a foundation for policymaking, biases in the two directions carry different weights. If Communist China is still viewed as a potential threat to world stability, to underestimate her strength is more dangerous than to overestimate it.

Chairman PROXMIRE. Thank you very much, Professor Chao.

(The prepared statement of Professor Chao follows:)

PREPARED STATEMENT OF KANG CHAO

CURRENT INDUSTRIAL DEVELOPMENT IN COMMUNIST CHINA

As Senator Proxmire has suggested in his invitation letter, I shall confine my testimony to commenting on the materials included in the Compendium *An Economic Profile of Mainland China* That appear contrary to other known information. Furthermore, also on the suggestion of the Joint Economic Committee, I shall concentrate on the papers in the Compendium dealing with industrial production. In these papers there are several such points of conflicting estimates. This does not necessarily mean that these authors have erred. I simply suggest that some reconsideration should be given to those points.

The overwhelming problem we are facing is the blackout of economic statistics imposed by the Chinese authorities since 1960. In assessing the economic situation of Mainland China in the years since the Great Leap Forward we have to resort to our own "estimates" of output of major commodities and other economic indicators, instead of utilizing the Chinese official data after they have been carefully examined or adjusted if necessary. This is not unique to the U.S. students of Communist China's economy. Even those in the Soviet Union are now "estimating" the economic conditions of their former ally.¹

Although the suppression of economic information by the Peking government has not been 100% thorough, the divulged data are scattered, disaggregated and not readily usable. A clear picture about an industry may emerge or the quantity of one major product may be computed only when a great deal of those data are compiled and linked together. To accomplish this, however, requires a thorough canvass of all available source materials. Researchers ordinarily find that they cannot afford the time and manpower to undertake such a demanding task. Therefore, on many occasions, the estimates about the Chinese economy in the post-Leap years are no more than personal guesses. But, since the guesses are "educated guesses," they are repeatedly taken by others as a basis on which analyses and further inductions are made.

I suspect that many estimates made in various papers in the Compendium are of this nature with no supporting evidence cited or estimation procedures mentioned. Unfortunately, in many cases the official output data happen to be available or the level of production is implied, and the official claims are much higher than the estimates, especially for 1964 and 1965. Except in one case where the author explicitly indicates that the official claim seems unacceptable to him hence it is not used,² no indication can be found as to whether the discrepancies are the results of discounting the official figures or of understating due to unawareness of the official figures.

The general tendency to understate Communist China's industrial produc-

¹ See *Yearbook of the Great Soviet Encyclopedia 1965*, pp. 282-5.

² E. F. Jones "The Emerging Pattern of China's Economic Revolution", *An Economic Profile of Mainland China*, Joint Economic Committee, Congress of the United States, 1967, vol. 1, p. 94.

tion, as displayed by these papers,³ may be attributable to the following factors. First, Peking began to withhold economic information in 1960-61, a time when Mainland China began to enter its great economic depression. This practice was generally interpreted by observers outside China as aimed to cover up the economic crisis and to prevent information unfavorable to Peking's propaganda from coming out. Later on an impression has been created on the part of some observers that as long as Peking continues to withhold economic information there still exists in that country some serious economic weakness to be concealed. Therefore, the continuation of information suppression is taken as a sign that the economic recovery has been slow and full rehabilitation has not been achieved.

I agree that the original intention of the Chinese government to suppress economic information was to conceal its weaknesses. However, I am inclined to believe that this practice has by now become their established policy regardless of prevailing economic conditions. Even in the fields where the regime has made apparently remarkable progress (such as petroleum and chemical fertilizer production) in the past few years, no full and detailed information has been disclosed. Therefore, the prolonged information blackout should not be taken as an indication that the regime has failed to make remarkable economic progress.

Secondly, as is generally known, the statistical reporting system in China was seriously disrupted during the Great Leap Forward years. Most economic statistics for that period are unreliable. Some people are prone to think that Peking ceased to publish economic statistics in 1960-61 partly because it did not have meaningful and consistent statistics to publish. They further infer that as long as the Chinese Communist government does not release economic statistics in a systematical manner as it did in 1955-57, there must remain some chaos in its statistical reporting system. Consequently, the percentages of production increases and related data that have been sporadically disclosed by Chinese Communist communication media in recent years are unreliable and should be greatly discounted.

Again, this contention is probably true for 1960-63 but may not be equally applicable to the period 1964-66. It is quite possible that the statistical mess created by the Great Leap Forward movement had been cleared up by 1963-64. The general quality of economic data for the last 2 or 3 years may well be restored to the standard of 1955-57. The refusal of the Communist regime to release systematic economic data should not be interpreted as reflecting an inadequate statistical reporting system and poor quality of data. We may have reservations in accepting the face value of the officially claimed "new big upsurge" in the past 2 or 3 years; but it is not safe to make drastic discounts on official data unless we have solid grounds to do so.

For some estimated industrial output figures in the Compendium the discrepancies between them and the known official data are so large that reconsideration of them seems to be in order.* I shall discuss these cases one by one.

The first case involves chemical fertilizer production, which has been one of the priority products in Chinese industry in the past few years and has received tremendous fanfare. According to Chou En-lai, the amount of chemical fertilizer supplied by the State to peasants in 1964 was more than 3 times that in 1957.⁵ The amount of chemical fertilizer supplied by the state in 1957 is known

³ Mr. K. P. Wang's paper "The Mineral Resource Basis of Communist China", *Profile*, pp. 167-196, is a conspicuous exception to this general tendency. Some estimates Mr. Wang has arrived at seem more plausible than those derived by other authors. One type of data that have appeared relatively frequently in Chinese Communist newspapers in recent years are news dispatches concerning construction and completion of individual new plants and factories. Usually their designed capacities are also reported. For modern industries with homogenous products and smaller numbers of production units, a thorough compilation of this kind of data is most helpful in estimating output levels. Mr. Wang's paper shows that he has used this approach to arrive at some of his estimates.

⁴ There are a number of minor cases which I want to bypass. Given our meager information and the uncertainty about the reliability and meaningfulness of some data that are available, a discrepancy, let us say, about 30% or less may be regarded as tolerable. Anything beyond that limit should be reconsidered, however. For instance, *Chung-kuo hsing-wen* (China News), Feb. 20, 1965, mentions that cement output in 1964 was 16 times that of 1949. Therefore, output in 1964 should be 10.56 million tons, which is almost identical to Mr. Wang's estimate but 1 million tons short of the Soviet Encyclopedia's estimate (*Profile*, p. 294). Although it exceeds Mr. Field's estimate by 2.56 million tons or 32% (*Profile*, p. 294). I still think the discrepancy is tolerable.

⁵ Chou En-lai "Report on the Government Works", *Ten-min jih-pao* (People's Daily), Dec. 31, 1964.

to be 2,184,000 tons (871,000 tons of domestically produced fertilizer and 1,313,000 tons of imported fertilizer). Thus, the total supply of chemical fertilizer in 1964 should be approximately 6.6 million tons or slightly more. This quantity is very close to the figure of 7 million tons as given to a Japanese reporter by Wu Chen, Deputy Minister of Agriculture in China.⁶ The amount of imported chemical fertilizer in 1964 has been identified by Mr. Larsen as 1.03 million tons,⁷ which would leave about 5.57 million tons as Chinese production in that year. Another Chinese source reports that up to the end of November, 1965, output of chemical fertilizer of that year already surpassed the total quantity produced in 1964 by 2.79 million tons.⁸ The amount of output increase is quite consistent with the progress reports disclosed earlier in that year concerning fertilizer production and with the officially claimed percentage increase over the preceding year.⁹ After the December output is imputed, 1965's total production of chemical fertilizer should come to about 9 million tons.

Following is a comparison of the 2 output figures of chemical fertilizer in 1964 and 1965 with Mr. Field's estimates for the same years¹⁰ (quantities in million tons).

	Output computed from official data	Field's estimates	Official output as percent of Field's estimate
1964	5.57	3.60	155
1965	9.00	4.60	196

The second case showing a serious discrepancy is the estimate of electric power output made by Mr. Ashton. Let us compare 3 different estimates of electric power generated in China in 1964.

	<i>Billion kw-h.</i>
Ashton ¹¹ -----	36
Soviet Encyclopedia ¹² -----	55
Shin Chugoku Nenkan ¹³ -----	75

The surprisingly wide range of variation among the 3 estimates clearly demonstrates on what thin ice we are walking. Among the 3 figures, I personally regard the Soviet estimate the most reasonable one, not because it is in the middle but because I believe that the intimate relation between the Soviet Union and Communist China in the past provides better background knowledge for the Soviets to assess Chinese current output more accurately. This is particularly true for modern industries in which most new plants were designed by the Soviet technicians or by the Chinese with substantial technical assistance from the Soviet Union. Furthermore, the Soviet estimate looks more consistent with the generating capacity statistics than the other 2 estimates.

Prior to 1961, Chinese Communist publications had furnished considerable information about the construction plans for the electric power industry, including fairly detailed technical specifications of the designed new projects. Since 1961, the number of new generating plants under construction has been curtailed, but whenever a major project was fully or partially completed a news report was released. Since the number of those new generating plants is small and their capacities can be identified, the total increment in generating capacity during the post-Leap years can be approximately determined.

⁶ *Asahi Shinbun*, Tokyo, Japan, Mar. 7, 1965.

⁷ *Profile*, p. 246.

⁸ *Jen-min jih-pao*, Dec. 18, 1965.

⁹ For instance, it is said that output of chemical fertilizer in the first half of 1965 exceeded last year's corresponding figure by 1.6 million tons. See Fang Chung "New Achievements in China's Economic Construction", *Peking Review*, No. 39, Sept. 24, 1965. The amount of chemical fertilizer available was expected to increase further by 4 million tons in 1966. See *Jen-min jih-pao*, Sept. 30, 1966.

¹⁰ *Profile*, p. 293.

¹¹ *Profile*, p. 307.

¹² *Profile*, p. 293.

¹³ *Shin Chugoku Nenkan*, 1965, Tokyo, p. 210.

The total generating capacity (rated capacity) existing at the end of 1959 was officially given as 9.4 million kw.¹⁴ One official source mentioned that in the beginning of 1960 there were about 200 projects of thermal and hydro power plants under construction, whose designed capacities, when combined, exceeded 20 million kw.¹⁵ These 200 odd projects included new generating units as well as expansion of existing plants. By gathering information from scattered sources published in China in the period 1959-60 reporting the progress of construction on individual projects, we can identify 100 major thermal and hydro plants which were under construction in the early part of 1960. They were relatively large projects with a capacity over 10,000 kw. The total capacity to be installed on the 100 projects after 1959 amounted to 20.3 million kw. The projects which are not accounted for in this list were practically all smaller ones with a designed capacity of under 10,000 kw. The number of them was about 100. Assuming the average size of the smaller power plants was in the neighborhood of 5,000 kw., the combined capacity to be installed on the 200 odd projects after 1959 comes to 20.8 million kw (=20.3 +0.5). This coincides closely with the Chinese Communist announcement cited above.

In June of 1960, as a result of the deepened Sino-Soviet rift, the Soviet Union withdrew all its technicians and experts who were in China assisting construction and production in various fields. Undoubtedly, construction of the large projects which needed the Soviet technical assistance had to be discontinued.

Again, by thoroughly searching the Chinese Communist publications and news releases in the past few years, a list can be made for the major power plants whose construction had been fully or partially completed in the period 1960-64 along with their installed capacities. A total of 4.76 million kw new generating capacity had been added in this period, bringing the total generating capacity existing in 1964 to 14.16 million kw.

According to the previous practice of the State Statistical Bureau of Communist China, both the reported generating capacity and electricity output figures for the country as a whole did not include those of the tiny hydro-electric stations in the rural areas. Presumably the same rule is followed now. The total generating capacity of rural hydro power stations, however, remains negligible. It is estimated at 400,000-500,000 kw in 1964.

The validity of Mr. Ashton's estimates of electric power output and generating capacity for the post-leap years is questionable for the following reasons.

(1) Mr. Ashton puts the increment of generating capacity in 1960-64 at 3.4 million kw.¹⁶ It falls short of the total generating capacity installed in that period.

(2) Below is a comparison of his estimated distribution of new generating capacity added in 1960-64 between hydro and thermal plants with my own estimates based on official construction data (in million kw).

	Thermal	Hydro
Ashton's ¹⁷	2.40	1.00
Chao's ¹⁸	1.85	2.91

Ashton's distribution contradicts Peking's announced policy in favor of hydro-electric construction over thermal plants and the situation of coal production which declined in those years.

(3) Mr. Ashton's estimates give an average utilization rate of generating equipment in 1964 as 2,790 hours (or a utilization factor of 32%).¹⁹ If 14.16 million kw is accepted as the total generating capacity existing in 1964, his output figure would give an even lower utilization rate (2,540 hours or 29%). However, if we

¹⁴ *Shui-li yu tien-li* (Water Conservation and Electric Power), 1960, No. 5, p. 1.

¹⁵ *Shui-li yu tien-li*, 1960, No. 6, p. 1.

¹⁶ *Profile*, p. 307.

¹⁷ *Ibid.*

¹⁸ The plant data had been collected from a large number of scattered sources. Since I prepared my testimony at a very short notice, I had no time to tabulate the data and their sources to be presented here. However, all the relevant information will be cited in a forthcoming article of mine dealing with the electric power industry in Communist China.

¹⁹ *Profile*, p. 209.

take the Soviet estimate of electricity output and 14.16 million kw as the total generating capacity, the implied utilization rate in 1964 would be 3,880 hours or 44%, which sounds more reasonable. By using Ashton's estimates, the utilization rate of generating equipment would reach only 2,970 hours or 34% in 1965. The enormous amount of idle capacity, as implied by this low utilization rate, is particularly implausible in view of the reportedly accelerated construction of new electric generating plants in that year.²⁰

(4) The Soviet estimate of 55 billion kwh output of electric power in 1964 is higher than its peak production during the Great Leap Forward period. This is highly probable if one notices the significant changes in the Chinese industrial structure in the past few years in favor of the more electricity-consuming branches. Moreover, some industries have been modernized by equipping them with more electric-driven machinery. The nuclear energy program is a good example. Another example is the rapidly expanding chemical fertilizer industry in which synthetic ammonia is produced by the electrolysis method. The Chinese Communist newspaper also have frequently disclosed that in the steel industry more and more electric converters are being used to produce quality steel and alloys. The electric power industry is officially listed as one of the fields which have witnessed rapid increases in the past few years.²¹

The third case in which the estimates in the Compendium have departed by a large margin from the production level indicated by official sources is the textile industry. This is especially unfortunate because the textile industry was the largest branch in the whole industrial sector in Mainland China during the 1950's and perhaps still is now. Understating this single item by such a sizable margin would seriously affect the accuracy of our evaluation of China's over-all industrial strength. Moreover, our inaccurate assessment of this industrial branch would indirectly influence our judgment on agricultural production.

Mr. Field has put output of cotton cloth, the most important item in the textile industry, at 3.6 billion meters and 3.9 meters for 1964 and 1965 respectively,²² as compared with 5.77 billion meters in 1956 and 7.5 billion meters in 1959. Although I have not been able to obtain a figure of total output of cotton cloth for either 1964 or 1965 from Chinese Communist publications, Field's estimates appear to be much too low on the following grounds:

(1) Remarkable increases have been claimed for textile production in both 1964 and 1965.²³ In 1965 as well as in the first eight months of 1966, textile production is said to have exceeded the peak level in the whole history of the Chinese Communist regime.²⁴ Thus, the official output figure of cotton cloth produced in 1965 must be higher than Field's estimate by more than 100%.

(2) There were 1.5 million production workers in the textile industry in 1965,²⁵ representing an increase of 0.56 million from the number of 0.94 million in 1956. If Field's output estimate for 1965 is taken, the implied labor productivity of textile industrial workers in 1965 would be only 39% of that in 1956, which is too low to be conceivable.

(3) Apparently heavy investment was made in the textile industry in 1965. 46 major projects were under construction in that year, including 37 cotton textile mills, 6 printing and dyeing plants and 3 silk mills.²⁶ Some of the projects were new ones while the others were carried over from previous years. Compared with the corresponding period in 1964, output of textile machinery and equipment in the first half of 1965 nearly doubled.²⁷ During that period (Jan.-June 1965), approximately 0.7-0.8 million spindles had been installed.²⁸ By December 1965, the total number of new spindles installed in the year reached 1.4 million,²⁹ which is equal to the amount of new spindles installed in

²⁰ The increase in basic construction for the electric power industry during 1965-66 has been described as one of the highest among various industries. See *Chung-Kuo hsien-wen*, Dec. 25, 1965 and *Jen-Min jih-pao*, Sept. 23, 1966.

²¹ *Jen-Min jih-pao*, June 7, 1966.

²² *Profile*, p. 294.

²³ *Jen-min jih-pao*, Sept. 26, 1964 and *Chung-kuo hsien-wen*, Feb. 19, 1966. The rapid growth of textiles is said to have continued at least in the first eight months in 1966. See *Jen-min jih-pao*, Sept. 6 and 21, 1966.

²⁴ *Chung-kuo hsien-wen*, Feb. 19, 1966, and *Jen-min jih-pao*, Sept. 21, 1966.

²⁵ This figure appears in *Jen-min jih-pao*, Sept. 21, 1966, but it was probably referring to the number of workers of 1965.

²⁶ *People's Handbook*, 1965, p. 559.

²⁷ Fang Chung, *op cit*.

²⁸ *People's Handbook*, 1965, p. 559 and *Chung-kuo hsien-wen*, Sept. 15, 1965.

²⁹ *Jen-min jih-pao*, Dec. 18 and 25, 1965.

1959 but exceeds the investment level in any other year in the textile industry. This impressive level of investment would make sense only when production of China's textile industry had reached its full capacity level by sometime in 1964, which is diametrically contradicting to Field's assertion "most of the capacity not now in production is concentrated in light industry, especially in textiles".³⁰ One Chinese source mentions that the amount of 6 major types of cloth produced in 1965 and supplied to the rural sector was more than 5.4 billion meters.³¹ It is also reported that the 1.4 million spindles newly installed in 1965 can contribute an annual output of 3.7 billion meters of cotton cloth.³² The latter figure alone is nearly enough to account for the 1965's cotton cloth output as estimated by Field for the country as a whole.

The situation of textile production in 1964-65 also shed some light on agricultural output in that country. Chinese official sources have repeatedly stated that technical crops were even better than grain crops in recent years.³³ For the cotton crop in particular, output in 1965 is said to have increased by 37% from 1963 level and the unit yield was a record high.³⁴ In 1965 both total cotton output and unit yield became the highest in the regime's history.³⁵ These 2 indicators in 1966 were reported to have surpassed those in 1965.³⁶ Yet, in all the papers in the Compendium dealing with this problem the authors have drastically discounted the cotton output levels indicated by Chinese official sources,³⁷ their estimates of cotton output have influenced Mr. Field who concludes "The level of output in light industry has recovered more slowly than heavy industry, because of the failure of agriculture to provide an adequate supply of raw materials."³⁸

I am not suggesting that we should accept all the Chinese official claims without any reservation, but I would hesitate to scale them down so drastically unless supported by some strong evidence. In order to discount the reported increases in cotton output one has to reject at the same time all the information concerning increases in labor force and investment in the textile industry as mentioned above.³⁹ That is difficult to do.

In China, the level of technical crops is closely related to grain output. Generally, technical crops in that country are marginal crops which would decline after grain output had declined and would recover only after grain output had approached full recovery. Prior to 1960-61, some districts in China had developed as exclusively cotton growing areas in which people sold their produce to the government and in turn bought grain from the grain distribution organizations of the government. However, owing to the general shortage of grain during the crisis years, people in those areas were confronted with serious difficulties of acquiring grain this way. Consequently, they switched most of their land to grow grain in order to achieve self-sufficiency. This change not only brought about a drastic reduction in the total acreage of cotton land but also lowered the yield per unit of cotton land because each production team kept only one or several small parcels of land for growing cotton, a size unsuitable for the application of chemical fertilizer and insecticide.

Beginning in 1964, exclusive cotton areas re-appeared in China.⁴⁰ This was possible only when the cotton-growing farm units had secured a high degree of

³⁰ *Profile*, p. 285. Based on his output estimate, at least 50% of China's textile production capacity would be left idle in 1964; and this amount of idle capacity would be almost doubled in 1965 if the 1.4 million newly installed spindles were added.

³¹ *Jen-min jih-pao*, Dec. 25, 1965.

³² *Jen-min jih-pao*, Dec. 18, 1965.

³³ For instance, *Jen-min jih-pao*, Sept. 30, 1964.

³⁴ *Jen-min jih-pao*, Sept. 22, 1964 and March 4, 1965.

³⁵ *Chung-kuo hsin-ueh*, Feb. 9, 1966.

³⁶ *Jen-min jih-pao*, Jan. 4, 1967. This is quite possible. The harvest period of cotton in China lasts from late August to the end of November, mostly in September and October. One may recall that the disruptive activities of Red Guards had not spread to the rural sector before November 1966.

³⁷ See *Profile*, Emery's series quoted in p. 70, Jones' series in p. 94, and the statement of Mr. Larsen in p. 259. In a footnote to his Table III, Mr. Jones states "However, phenomenal increases in cotton yields are being claimed, leading to the claim of a record output in 1965. However, the yield and output claims seem inconsistent with supply indications and continuing policies and are not accepted in this estimate." Mr. Larsen believes that the cotton crop has been greatly expanded since 1961 but he does not think that the output has regained its pre-Leap prominence.

³⁸ *Profile*, p. 277.

³⁹ Or to identify an extremely large quantity of raw cotton imports in those years.

⁴⁰ *Jen-min jih-pao*, Jan. 31, 1965 and March 4, 1965.

assurance about their food supply.⁴¹ Moreover, the concentration of cotton land and the relatively heavy doses of fertilizer, insecticides and farming machines supplied by the state to cotton land helped to raise the unit yield of cotton.⁴²

Above are a few individual cases where there seem to be considerable discrepancies between the estimates and the pieces of relevant information. For the industrial sector as a whole, I have serious doubts about Mr. Field's conclusions that 1966's production has reached only the level achieved in 1958 and that if the Chinese do not attempt a new Leap, they may regain the previous peak level by 1970.⁴³ Although I do not have a new index of industrial production for the post-Leap years to present here, I am well convinced that by 1966 Communist China's industry in general had already reached its full capacity output level. The future development is no longer a matter of recovery but will depend, under normal conditions,⁴⁴ on the magnitude of new investment and related factors.

During the readjustment period of 1962-64, except for those priority goods which enjoyed rapid increases in output and received continued investment, the industrial sector was proceeding steadily along the path of recovery without too much new investment. While some branches encountered bottlenecks or exhausted their idle capacities as early as mid-1964 and called for new investment, other industries arrived at the same stage only in 1965 or early 1966. The claimed "upsurge" in the last 2 years was real and the investment activities were indeed extensive.⁴⁵

I am inclined to believe that the timing of the Chinese Communist Third Five Year Plan was based on the utilization situation of existing industrial capacity. It was scheduled to begin in 1966 probably because the planners anticipated that by then industrial production in general would reach its full capacity level and any further expansion would depend largely on new investment. As we all know, the core of any Communist five year plan is the investment plan. I do not think that the Chinese Third Five Year Plan is exceptionally a "rehabilitation plan" aimed at bringing the industrial sector back to its previous peak by 1970. If it were a rehabilitation plan, the Chinese leadership would not have had to postpone its inauguration to 1966, leaving 2 years (1964 and 1965) unaccounted for by any "five year plan".

Mr. Jones estimates that the investment rate of China is now about 20%.⁴⁶ This rate coincides with the one quoted by Han Suyin as the officially projected investment rate for the Third Five Year Plan.⁴⁷ This high investment rate is inconsistent with Mr. Field's assertion that there is still considerable idle capacity in the Chinese industrial sector and the previous peak production will not be regained until 1970.⁴⁸

I realize that, with the meager knowledge we have on China, I am running the risk of having exaggerated the current economic improvements in that country. From a purely academic viewpoint, both overstatement and understatement are equally undesirable and should be avoided. However, for the purpose of facilitating a foundation for policy-making, biases in the two directions carry different weights. If Communist China is still viewed as a potential threat to world stability, to underestimate her strength is more dangerous than to overestimate it.

Senator PROXMIRE. Our final panelist is Professor Dernberger. You may proceed, sir.

⁴¹ As Mr. Larsen observed, Chinese exports of farm products exceeded her agricultural imports in 1966 (*Profile*, p. 205). This is another indication that Communist China's agriculture had recovered.

⁴² *Jen-min jih-pao*, Sept. 22, 1964.

⁴³ *Profile*, pp. 284-5.

⁴⁴ This is, without abnormal political factors such as the uncertain outcome and repercussions of the current Great Cultural Revolution and the Red Guards.

⁴⁵ Mr. Jones agrees on this point and states "Capital construction expenditures rose sharply in the 1964-65 upsurge" (*Profile*, p. 87) and "From all indications, the investment rate has now again recovered to about the 20% level" (*Profile*, p. 85).

⁴⁶ Probably he has made this estimate on the basis of the information he learned from the "emigrants who claim to have been privy to Party briefings." See *Profile*, p. 87.

⁴⁷ See *Far Eastern Economic Review*, November 24, 1966. Han Suyin claims that her figures have been obtained from her interview with Yung Lung-kwei, Vice Chairman of the All-China Committee for the Promotion of International Trade.

⁴⁸ This seems unlikely unless we are willing to assume that a great deal of production capacity in the industrial sector had been destroyed in the post-Leap years, like the situation commonly confronted by many countries immediately after a major war.

STATEMENT OF ROBERT DERNBERGER, ASSISTANT PROFESSOR OF ECONOMICS, MEMBER OF FACULTY ON FAR EASTERN LANGUAGES AND CIVILIZATIONS, UNIVERSITY OF CHICAGO

Mr. DERNBERGER. Thank you, Mr. Chairman. It is a privilege to be invited to appear before this committee and discuss the many problems concerning our knowledge of Communist China's economy and its potential development. I also wish to express my appreciation to the committee for its publication of the interesting and informative papers devoted to an analysis of the mainland's economy. Inasmuch as my introductory remarks are limited to approximately 10 minutes, I will comment briefly on two specific aspects of the committee's compendium: the general approach of many studies of the mainland's economy and the prospects for Communist China's future trade.

A large portion of the studies presented in the committee's compendium and those presented elsewhere involve the derivation and estimation of economic data. These attempts are both necessary and useful in determining the quantitative aspects of Communist China's economic development. Yet, the emphasis in these studies on the lack of available data and the poor quality of the data that are available and their various attempts to derive independent estimates often lead to an erroneous inference. In any analysis of any economy, we always desire more and better data, but in the case of Communist China we must not forget that a great deal of data does exist for the pre-1958 period. The two volumes published by the committee provide sufficient evidence of the large amount of data that are available. In addition, while most students of Communist China's economy admit the severe problem of biases in the data, the growing body of the published studies of Communist China's economy indicate that the statistics available before 1958 are not lies and are probably only as inaccurate as those of any underdeveloped country. Actually, with a strong central government and the need for adequate statistics in planning, Chinese Communist economic statistics are better than those available in the pre-1949 period and are probably better than those of many underdeveloped countries.

Nonetheless, it is necessary, of course, to derive more complete and better estimates of the rates of change in the level and structure of Communist China's economy for the purpose of presenting meaningful analyses of the development process on the mainland. These quantitative estimates, however, are but a first step in our understanding of that development effort. Against this background of available quantitative information, economists must ask what economic policies were adopted, why were they adopted, what alternative policies were available, and what were the results of these policies. In other words, there must be an analysis of the means selected to achieve given goals and the efficiency of these means to achieving these goals. Other important economic questions involve the relationship between the economic policies and concurrent political, social, and international developments. Finally, there are the difficult questions concerning the feasibility of the Chinese Communists' goals and their economic system itself. These are not easy questions; yet we must seek answers to them in order to gain a real understanding of Communist China's

economic development effort during the past 17 years and in the future. At the risk of sounding insincere, it is worth asking whether the choice of one set of the quantitative estimates available or another make a difference in our answers to these questions.

I do not want to appear dogmatic, for I am sure that if one were attempting to assess particular changes in the economy of Communist China, the different sets of quantitative estimates would lead to slightly different conclusions. In general, however, the papers published by the committee often present arguments that would be supported by the official statistics as well as the authors' own estimates.

For example, two papers published by the committee argue that the Chinese Communists, despite a relatively high rate of growth in 1952-57, considered that rate unsatisfactory and desired to increase this already substantial rate of growth. Unless one were to specify what particular rate of growth the Chinese Communists would accept as satisfactory, this argument for the introduction of the Great Leap Forward is consistent with any estimates for the rate of growth in 1952-57. I have presented a different explanation for the introduction of the Great Leap Forward in a paper presented at the annual meeting of the American Economic Association. Despite the several differences in the available estimates, including the official Chinese Communist data, all these statistics support my hypotheses presented in that paper.

Several papers published by the committee also estimate the changes in the economic welfare of individuals in Communist China. Most of these estimates, including the official Chinese Communist estimates, indicate a slight increase in the per capita consumption during the early 1950's and little or no increase in per capita consumption during the last 10 years. On the basis of these estimates several authors emphasize that Communist China has either been unable to achieve the Chinese per capita consumption of the early 1930's or the minimum requirements specified by the United Nations.

I believe both these arguments are irrelevant in terms of Communist China's development potential. The available evidence indicates that the Chinese Communists have attempted to maintain a level of approximately 2,000 calories per day per capita and that this level is sufficient to provide an individual's work effort.

With the exception of the Great Leap Forward and the agricultural crises that followed, and in the absence of a repetition of another Great Leap Forward policy in the future, the evidence of the past 17 years and the present policy of greater inputs and investment in agriculture indicate that the Chinese Communists should be able to maintain this minimum per capita consumption and a moderate rate of growth in agricultural production.

My purpose is not to argue that the Chinese Communists have been or will be successful in regard to all the problems that have not been solved in the past. Rather, I merely desire to emphasize that the estimation of statistics is only one part of our understanding of the Chinese Communist development effort. A more important question in determining their development—past, present, and future—is what economic policies they have adopted to achieve what goals, what alternative policies are available to achieve those goals, and which policies will they choose in the future.

Let me now turn to the question of the future prospects for Communist China's foreign trade. The two papers and the appendix on Communist China's foreign trade and aid included in the committee's compendium are excellent summaries and present the best data and estimates available on this subject. One of the most useful estimates presented concerns Communist China's foreign exchange reserves; that is, increasing to 645 million U.S. dollars in 1957, declining during the domestic agricultural crises to \$320 million in 1962, and reviving to \$400 million in 1964. These estimates, however, are merely a conceptual amount given in a single currency, and it is important to emphasize the large errors involved in these estimations. For example, the lack of data for Communist China's balances in foreign banks: when, in what currency, and to whom payments are made; payments made and receipts for noncommodity trade, such as transportation services, traveling delegations, et cetera, become of vital importance in determining Communist China's total holdings of foreign exchange.

Furthermore, in transforming all of the values into U.S. dollars, there is the ever present problem of the exchange rates. Communist China's foreign trade and capital movements involve balances and values expressed in rubles, pounds sterling, rupees, dollars, and even yuan itself. Any attempt to reduce these individual balances or values to a single currency balance requires the use of both unrealistic and inconsistent exchange rates.

Finally, the use of the trade statistics reported by Communist China's trading partners to estimate China's foreign trade also involves serious errors. Comparisons have shown that the trade statistics of any non-Communist country, as well as Communist countries, vary significantly from their total trade reported in their trading partners' trade returns. Despite these serious weaknesses in any estimate of foreign exchange reserves, there is unanimous agreement that since 1950, when the Communists inherited insignificant foreign exchange reserves, they have been able to build up and maintain more than U.S. \$300 million in reserves.

Senator JAVITS. Would any one of the witnesses have any idea whether traffic in illicit drugs, opium, et cetera, represented a way which Communist China has managed to pile up this \$300 million in foreign exchange—in U.S. dollars?

Mr. DERNBERGER. Unfortunately I am not an expert in the drug traffic, but Harry J. Anslinger, a U.S. Commissioner of Narcotics, once testified that these efforts—smuggling of opium and heroin—were significant. I have seen no evidence that this trade is large or is sponsored by the Communist government, with the exception of his testimony. I would find it very hard to believe that with their possibility of earning the given amount of foreign exchange from other sources that we know exist, they would engage in this traffic merely for the purpose of earning foreign exchange.

Senator JAVITS. Can you account for the \$300 million otherwise?

Mr. DERNBERGER. Yes, sir.

Senator JAVITS. In other words, the \$300 million can be accounted for without a resort to drug traffic?

Mr. DERNBERGER. Yes, sir.

Senator JAVITS. Whether we know or not what drug traffic they engage in, or how much, the fact is there is really no suspicion about the \$300 million figure?

Mr. DERMBERGER. No, sir.

Senator JAVITS. Well, Mr. Chairman, I hope—that though this is a criminal activity, I think it is so important to a comprehension of what Communist China means to the world—that we will ask our staff to have a look at that, and see if there is anything which can be added to our sum of knowledge on Communist China in this way—by finding out what there is to this drug traffic. It is widely charged with widely believed in the world that Communist China has no scruples about piling up a foreign exchange in this dreadfully nefarious way. But I agree with Dr. Dernberger, that we should not take anything for granted—and that since you can account for the foreign exchange otherwise it might be worth a look. And I hope the staff will do it.

Chairman PROXMIRE. Yes, indeed. And I think incident to that, it would be helpful to have some kind of a statement from the Treasury Department to support their position which contradicts the position of Mr. Dernberger.

(Treasury Department statement appears on p. 248.)

Chairman PROXMIRE. Incidentally, do the other members of the panel wish to comment on Senator Javits' question? If not, Senator Javits may proceed.

Senator JAVITS. Thank you, Mr. Chairman.

Chairman PROXMIRE. Incidentally, I might say—if you would wish subsequently to document your position in any way you wish before we close these hearings, you are welcome to do it. You will have a week or two to do that on your own time, and to whatever extent you desire.

Mr. DERMBERGER. Thank you.

I had just summarized that most economists agree that they have been able to maintain a balance of at least US\$300 million. I believe it is larger than this, but at least we would all agree it is at least \$300 million-plus.

There are, however, different interpretations of the importance of these available foreign exchange reserves. Although greater emphasis has been placed on the increase of agricultural and light industrial production in the last few years, the Chinese Communists will continue to foster industrial development, especially the chemicals industry, which will rely on imports of machinery and equipment. The limited holdings of foreign exchange reserves and the continual need for imports of grain are said to restrict the possible increase in imports of machinery and equipment from the non-Communist countries. The foreign exchange reserves, however, are used neither to support the issue of domestic currency nor to finance a normal expansion of imports. Rather, the foreign exchange reserves are used to permit emergency imports such as those imports during the agricultural crises in 1959 when current exports declined rapidly. The available evidence indicates that by 1965 the Chinese Communists have rebuilt their foreign exchange reserves to approximately the pre-1959 level. As far as the future grain imports are concerned, if the Chinese Communists continue the current investments and allocation of resources

in agriculture they should be able to continue the approximately 3 percent annual increase in agricultural production and these grain imports should remain at the present level and eventually decline.

The increase in exports supported by the moderate increases in agricultural production in the 1962-65 period enabled the Chinese Communists to repay the Communist countries over US\$500 million of total outstanding debts and increase their holdings of foreign exchange, including gold, by approximately US\$200 million. Now that the debts to the Communist countries are repaid, and their foreign exchange reserves have been restored, the continued increases in exports supported by even moderate increases in agricultural production should provide the necessary earnings to increase Communist China's import capacity from the non-Communist world.

To obtain imports from the non-Communist suppliers in Western Europe and Japan, it will be necessary, of course, for Communist China to increase exports to these areas. In the trade with Japan which is based on barter, Chinese exports consist of inputs for Japanese industrial production: iron ore, pig iron, coal, and soybeans. Sino-Japanese trade remained balanced in 1962-65, but has increased by about 50-100 percent a year and increased by more than one-third in the first 6 months of 1966. Both imports from and exports to Western Europe declined after 1960 to a level of approximately US \$150 million each way in 1962 and 1963. In 1964, 1965, and the first half of 1966, China's exports to Western Europe increased by approximately 30 percent annually, but China's imports from Western Europe increased even more rapidly.

In order to currently finance the approximately US \$50 million import surplus in trade with Western Europe and the large-scale imports of grain from Canada, Australia, and Argentina, Communist China has earned sterling in trade with Hong Kong, Malaya, and Singapore. Communist China's earnings of sterling in trade with these three areas have increased steadily since 1961, reaching almost US \$500 million in 1965. These earnings declined slightly in 1966 due to the slowing of business during the cultural revolution. In August and September of 1966, however, Hong Kong merchants saw the trade return to normal operations. Inasmuch as China supplies consumer goods and foodstuffs to Hong Kong and Malaya, the population growth in these areas may impose a limit to China's export expansion. On the other hand, Communist China has been able to maintain continued increases in exports to these countries in the past and has been successful in competing with the alternative suppliers of these export commodities.

Furthermore, even though Communist China may increase imports from the non-Communist countries in the future, there is no reason to expect these imports will assume the same relative scale as a share of domestic development required of imports from the Soviet Union in the early 1950's. Communist China's present development effort represents a reduction in the relative share of investment in heavy industry and an increase in the share of investment in agriculture and light industry. In addition, Communist China's technical ability to produce some of the required commodities and factories domestically has increased significantly during the past 17 years.

Finally, Communist China has earned an excellent credit rating during the last 17 years and many firms in the non-Communist countries desire to increase exports, including complete plants and technicians, to China on credit. Communist China has not yet sought long-term credit from the non-Communist countries, but should be able to obtain these imports on credit if and when they are desired. Inasmuch as the United States has little direct control over the countries of Western Europe and the commodity trade restrictions became ineffective during the 1950's, an attempt by the United States to maintain credit restrictions on the trade with Communist China also should prove ineffective. Thus, I cannot envisage any possible unilateral trade or credit restriction by the United States that could prevent the expected further development of China's foreign trade with the non-Communist countries.

Chairman PROXMIRE. Thank you very much. And we thank all of gentlemen for your fine presentations.

Professor Hoffmann, you said in your statement, as I recall, that the clash between Mao and Liu was a significant clash involving a Maoist viewpoint of requiring a purer ideological position on the part of the people in industry, and less emphasis on monetary incentives—the Liu position being the reverse, that the Chinese economy would progress more rapidly if there was more reliance on the monetary incentives. Is that correct?

Mr. HOFFMANN. That is correct.

Chairman PROXMIRE. Now, yesterday it was announced in the newspaper that Mao has gotten control of the Politburo by a very narrow margin, 6 to 5, as I recall. And yesterday we had before us a Professor Liu—no relation—who disagreed with this position that you have taken this morning; Professor Richman supported your position. But Professor Liu I thought was quite impressive in saying that the whole record of Mr. Liu in China has been a “hard line” record, even more hard line and more pure Communist ideology and so forth than that of Mao. And that he knows of no statement by Liu in the reverse. That the only evidence is that Liu has been attacked by the Maoists for his position. But Professor Liu says this is a matter of personal battle for power, and in his view doesn't really represent this ideological clash you describe.

Mr. HOFFMANN. I would say first that if you go back to speeches you can probably prove anything with particular quotations.

I remember that for the period of the Great Leap Forward what Professor Liu says is correct, and that is that Liu Shao-Ch'i was a “hard liner,” he took positions, he wrote about what a true Communist is, and so forth.

But you can find that every one of those who are in the Liu group has made hard statements all along. Nevertheless, it would be, it seems to me, the height of unrealism to expect that when important strategic decisions were made, that everybody agreed at every turn.

Now, certainly at the time the Great Leap Forward was conceived, there were disagreements. And when the Great Leap aborted, there were those who reluctantly admitted there had been a failure of policy. And it was at that time, in terms of pragmatic considerations, that some of those who were more conservative—and generally economists.

not that Liu is an economist, tend to be more conservative in Communist countries, because of their realization of what real limitations there are helped reverse policy.

Chairman PROXMIRE. But the conservative position, the position that would end the kind of ideological purity where you have your managers spend a day or two on the assembly line, where you have almost no difference in compensation between the top management of plant and unskilled labor, where you have many days spent a month on indoctrination, where every time a manager of a plant has to go out to get an extra part, you have a big discussion involving the whole plant on whether he is departing from the Maoist doctrine of self-sufficiency. This kind of position seems to have very weak champions in China now—if a champion is a man whose whole background and record and philosophy, on the basis of what you can document what he has said, is one of hard line.

Mr. HOFFMANN. Except that Mao has made other statements, too. And one of the problems in reading the materials is that you never know for sure, unless a pattern develops, whether something is rhetorical—because it has the consistent conformity with the usual Marxist phrases and doctrines. For example, the whole notion of reward according to how much input you have, or in its Communist ideological formulation, from each according to his ability to each according to his output, or more pay for more work—you can have mouthings about that at the same time as an opposite policy is pursued. So that even in the Great Leap, while some people were talking about a Communist spirit, others were talking about how the new patterns fit in with reward according to output, the socialist principle of remuneration.

Now, one of the things that has been happening in the cultural revolution—

Chairman PROXMIRE. Let me interrupt to ask: Do you know of any real effort on the part of the leadership on any side to, for instance, try to square with the Communist ideology the notion of piece-rate payment, and the notion for bonuses for managers, and that kind of thing?

Mr. HOFFMANN. Oh, yes. In other words—

Chairman PROXMIRE. Has this been a matter of discussion and debate recently, during the recent struggle, or has it been more one of personality?

Mr. HOFFMANN. Well, the extreme opposition to material incentives was cited ideologically in terms of the development of the Communist spirit.

Chairman PROXMIRE. That side has certainly been expressed over and over again. But I am just wondering about the other side.

Mr. HOFFMANN. The other side has demonstrated clearly where it stands by using these techniques wherever possible. For example, wage rates have been raised, not in any patterned way, but wherever the people have had the power to do this—that is the Liu group. Money has been given for back pay, for example. Certain piece-rate claims that workers had for work done 3 or 4 years ago have suddenly been realized and recognized, and these leaders—Liu et. al.—have been pushing workers to make claims.

I must admit at this point that in this kind of a struggle you use any technique that you can. And while this is consistent with the notion of seeing material incentives as a more effective way of achieving economic goals, it may also just be an opportunistic attempt to gain the ascendancy.

Chairman PROXMIRE. Now, you say in your statement that productivity increased 40 percent during the first period. What period was this? How long was it?

Mr. HOFFMANN. I may be off a year—I think it was 1952–57.

Chairman PROXMIRE. So in a 5-year period the productivity increase was at an average annual rate of about 8 percent?

Mr. HOFFMANN. That is a refined figure. The official figure is higher. Mr. Field has done some work on this. His figure comes to, I think, 42 percent in the period indicated, which is about 18 to 20 percent less than the official figure.

Chairman PROXMIRE. Much of this increase was because—well, the kind of increase you got in Europe and elsewhere, Russia and so forth, where you had a devastated economy that was recovering—is that correct?

Mr. HOFFMANN. I would say a lot of it was—

Chairman PROXMIRE. Starting with a very low base, and therefore the increase would have followed regardless of ideology, as something you could expect in a recovery period.

Mr. HOFFMANN. Yes, sir.

Chairman PROXMIRE. Would you agree with Professor Liu that 1957 was the peak of their recovery and the peak of their postwar period—they have not ever gone as high as their per capital productivity since 1957?

Mr. HOFFMANN. I would defer to him on that, since he has been very close to national income accounts.

Chairman PROXMIRE. How would you feel about the position that they have never gotten to the position they occupied in 1933? In other words, they have not recovered to that extent?

Mr. HOFFMANN. I would rather not say in the sense that I have not studied the 1930 period that closely.

Chairman PROXMIRE. I want to come to Professor Dernberger a little later.

I would like to ask you, Professor Hoffmann—maybe I misinterpreted you—you say piece rates were not in your view strictly an example of reliance on monetary incentives—or do you think that they are?

Mr. HOFFMANN. Oh, they are. In effect they represent the pushing of material incentives toward an extreme—where not only do you have gradations for workers, but you reward workers who produce more in a graduated way. You have, let's say, eight work grades for industrial workers, and if an industrial worker in grade No. 1, which is the lowest grade, produces appreciably above the norm, he gets more than the standard pay for that grade. So that the movement toward piece rates is an indication of using material incentives in labor to a greater extent. For example, in the Soviet Union, not only did you move more and more toward piece rates, but you had progressive piece rates, where if you produced, let's say, 10 percent more than the norm, you

would receive more than 10 percent more than the standard pay for that rate.

Chairman PROXMIRE. We have that in some of our operations here.

Mr. HOFFMANN. We certainly do have complicated piece rate schemes in different industries.

Chairman PROXMIRE. Bonuses are a similar kind of incentive.

Mr. HOFFMANN. Yes. In certain instances where it is not easy to calculate the unit output for an individual, they use bonus techniques in China.

Chairman PROXMIRE. I want to come back, but my time is up.

Senator JAVITS?

Senator JAVITS. Mr. Hoffmann, first let me express my pleasure at your being here as a professor, a distinguished professor, of the State University of New York at Stony Brook, which I have visited with great pleasure.

You say: "A repeat of a Great Leap situation may very well lead to desperate policies of one sort or another."

According to the pendulum theory, wouldn't the repeat of the Great Leap Forward lead rather to more rational material incentive types of reform, or would it lead to something else in your opinion, which might endanger the world?

Mr. HOFFMANN. Well, I think a repeat of it would mean a reliance to a greater extent on exhortation, on nonmaterial incentives, on government directives. And my feeling is if this is pushed as it was in the first try in the same way, it might very well be more disastrous than the first Great Leap. A country which is in that kind of situation may find its leaders making decisions which are not so rational. Rationality has its limits under the best of circumstances. In periods of crises, I have my doubts.

Senator JAVITS. What do you think that portends for the world? Do you see any world threat in that?

Mr. HOFFMANN. Well, I am getting a little far afield in terms of international relations and political affairs. But it is my sense that, if I had to pick between them, I would feel more easy if the Maoist group were not successful in implementing an extreme plan, such as they seem to be working toward.

Senator JAVITS. Because this could get out of hand.

Mr. HOFFMANN. I think so.

Senator JAVITS. Now, along the same line, Mr. Chao, the general thrust of your statement, we think—my people have analyzed it—is to come to the conclusion that to underestimate the strength of Communist China is more dangerous than to overestimate it.

Now, there is a big question in the world, basic strategic question—which is more dangerous to the world, or less dangerous—a strong, healthy competent China, or a relatively backward China in trouble, and in turmoil.

Again, we who have to make these strategic decisions would certainly appreciate any light or help that you can throw on that from your own particular discipline.

Mr. CHAO. Well, this would basically depend on the attitude of the Communist Chinese Government. If it takes a friendly attitude, then I don't see any serious danger in underestimating her strength.

But if we assume China will continue to be a hostile nation to the West or to the United States in particular, I still think we had better not underestimate her position or her strength.

My conclusion is simply this. Because of this information blackout, we have to be doubly careful in evaluating their economic situation. Otherwise I am afraid some day we might find ourselves in a situation where to our great surprise we are facing a hostile nation whose strength is much greater than we expected.

It depends on our assumption about Communist China's attitude.

And I think in this connection I am inclined to believe their future attitude will depend not too much upon the economic situation, rather it will depend on political ideology.

So the improved economic conditions in China may not change the Chinese government's attitude toward the Western World.

Senator JAVITS. I think this is a very, very important conclusion, because it could be popularly supposed that if you took the economic strain off China, she might get feeling a little fat and prosperous, and therefore not inclined to be quite so intransigent.

Your view, I gather, is the contrary—that for the foreseeable future there is not too much you can do, even if the Chinese economy were pretty good, to keep them from being lean and hungry, and therefore very sensitive to the political situation.

So that your prescription would say that whatever we do about economics and trade is not as important as what we do politically; is that right?

Mr. CHAO. That is my position. In this connection, I would like to add that for the first-generation leadership in Communist China, I don't expect any drastic change in their attitude—whichever side wins the political battle, the current political struggle in China.

But there might be some change in the second generation of leadership.

I am concentrating on the near future—assuming that either Liu or Mao will win the battle and continue to lead the Chinese Communist Party and the whole country.

Senator JAVITS. Well, this is fascinating.

I have just one question to Mr. Dernberger, and that is I gather from what you say that as we can't beat them we ought to join them, in terms of the harmonization of our policy with the Western World in respect to trade with Communist China. But even if we did, what could be the likely basis of trade between the United States and Communist China? What is there that could be done? We don't need the input that Communist China puts into Japan, for example, because of geographic location?

What is it that Communist China could trade with us? Wouldn't it be more in the way of our feeding them in terms of supply of machinery or food, et cetera, rather than any reciprocal trade relationship?

Mr. DERNBERGER. I am sorry if I gave the wrong impression. I was really arguing that we should not try to hamper in any manner Western trade with China, because it would be ineffective in the attempt.

As far as our own trade with China, while I myself would not be against allowing trade with China, I see very little reason why the

Chinese would increase their trade with us, even if we desired to trade with them. In adopting a new trade policy, we might begin by allowing exports of foodstuffs, pharmaceutical products, and perhaps fertilizers which at some time they would be interested in importing.

But the problem is, of course, that they can get all of these products from Western Europe, and they presently are obtaining these goods from Western Europe and Japan.

As far as our imports from China, of course these would be very minimal.

Senator JAVITS. Your feeling is that the important thing is not to inhibit our allies from trading—especially Japan?

Mr. DERNBERGER. That is right.

Senator JAVITS. Interestingly enough, I made a speech exactly to that effect only about 2 weeks ago in New York, advancing the theory that it is politically impractical to change our own policy with respect to Communist China, but that we should not inhibit our allies from building bridges.

Chairman PROXMIRE. I think that it would add materially to this record to include Senator Javits' speech at the conclusion of today's transcript (see p. 162).

Mr. DERNBERGER. Japan is at a particular crossroads right now, because they have become Communist China's leading trading partner—about \$600 million worth of trade. The trade is hampered somewhat by the lack of agreement between the Japanese and the Chinese Governments over financing the trade, the Japanese refusal to approve the extension of credit to the Chinese Communists in the import of plants from Japan. The Chinese reaction to this was to cancel a few contracts, but they did continue to expand trade, and the Japanese have now announced their willingness to enter some sort of payments agreement "after the Vietnamese war"—a way of placating the United States and at the same time trying to placate the Chinese. But the Japanese are very fearful that the Western Europeans who are willing to give the Chinese credit will soon overtake them in this expansion of trade.

Senator JAVITS. Professor Hoffmann?

Mr. HOFFMANN. I would like to respond to part of your question, Senator Javits.

I may have misunderstood part of it, but there was an implication there that unless the Chinese could export to us considerable quantities of goods, there wouldn't be much benefit in our trading with them.

I think that any trade with Communist China would be one in which our exports to them would exceed imports from China—you can correct me if I am wrong on that, Professor Dernberger. Given the foreign exchange reserves that they have, and their other trade with Western countries, they would be able to generate sufficient dollar exchange to make up for the disparity between exports and imports.

Senator JAVITS. All I mean to say is there was no national trading affinity between the Communist Chinese and ourselves, in a trading partner's sense.

Mr. DERNBERGER. Could I add one point?

Chairman PROXMIRE. Yes, of course.

Mr. DERNBERGER. I would like to say it would be more important if we would allow Americans to export to third countries engaged in trade with China. There are present restrictions on our export to firms abroad who are dealing with China, and this places a severe restriction on certain of our exports.

Mr. CHAO. I would like to make a very brief comment on this trade situation and our future policy concerning the embargo.

Besides the problem of whether we could have some economic gains or not in reopening trade with Communist China, I would like to go over or examine some arguments which are in favor of reopening trade or removing embargo on the grounds that we hope by doing this we can achieve or accomplish some political goals.

There are probably two political goals we have in mind. One is the hope to change the attitude of the Chinese Government in Peking through this trade relationship. Another argument is that we perhaps can change, not the attitude of the Chinese Communist Government, but the image of the Chinese people about the United States.

It seems to me these two points are quite questionable.

To examine the first point, I am afraid we can hardly do better than the Russians. As I pointed out earlier, the Chinese Government's attitude towards a foreign country is pretty much determined by, or based on, their ideology. The trade or commercial relationship has very little to do with it.

Now, coming to the second argument—whether we can change the image of the Chinese people about the United States. Here I would like to remind you that even with reopened trade relationship, we are not going to send American salesmen to China to sell goods from door to door—not even to open up stores in Shanghai or Peking. We are going to deal with the trading companies of the Government, we are going to deliver the goods to those companies.

Let us recall that in the entire history of the Communist regime in China, no trade statistics have ever been published in terms of commodity breakdowns, and the sources of imports.

In other words, the Chinese people simply did not know what commodities the Government had bought from outside and from where.

So I don't think we will have a chance to influence the Chinese people's image about our country.

It seems to me the image of the Chinese people about any foreign country is entirely created by the propaganda machine in Peking. If the Government says, "The Soviet Union is our best friend, she has sold to us everything we needed"—OK, then the Soviet Union becomes a friend. The next day the Government will say, "The Soviet Union is our enemy"—it becomes the enemy, trade or no trade.

Senator JAVITS. Thank you.

Chairman PROXMIRE. Thank you, Senator Javits.

Now, I would like to ask about a very intriguing theory that came to my attention just yesterday by Professor Scallopino, who has a deep interest in this, and is an extraordinarily competent man. He made the argument that we ought to look at our trade with China and our relationship with Red China in terms of what we can do to prevent a Russian-Chinese realignment. He thinks it is in our great

strategic interest to do what we can to maintain the present situation. And I must say this appeals to me. I think that this military potential of China, as well as its economic potential, would be greatly enhanced by alliance with Russia.

Our own position versus our potential adversaries—and of course we want to do all we can to build bridges, but looking at it also from the threat we face—our own position is best served when these two enormous and potential powerful countries are separated.

Therefore, he argues we should consider trade with Red China—and I must say that the position taken by you gentlemen and the position taken by Professor Reischauer all seem to indicate we should end our embargo on trade with China—since we don't really suffer the possibility of building up China very much, because she would buy little or nothing from us anyway. What we do do is begin to reduce a basis for hostility on the part of China.

I must say I have been very much persuaded by the view that you provided us this morning, Professor Chao, which is one I have felt for some time, that the Chinese—especially Mao's—feelings were deeply hostile, very bitter against the United States. But after all, nothing is permanent. Things do change. It may be that this is a good time to start working on this second generation group of Communists who will come to power.

You gentlemen feel that there can be much in this notion—from the strategic standpoint, we might think of working more closely with China, at least beginning in that direction, for this reason, that it would keep Russia and China from realigning as they did so effectively for several years.

Professor Chao, will you answer first?

Mr. CHAO. Well, in taking this argument, we are actually making a very big assumption. I am not sure we can prove this assumption. It seems to me the ideological difference between Communist China and the United States is much bigger than the difference between China and the Soviet Union.

I don't see any chance of achieving this goal by opening trade, either.

Leaving this as possible, I would say we should await until the new leadership is identified, and their policy is made clear to the outside.

Chairman PROXMIRE. Years ago I studied geopolitics under Nicholas Spykeman at Yale, and he had a very interesting theory on nations which are, because of geographic location, likely to be hostile or friendly, and his theory was that Russia and China, for example, are natural opponents, and China and the United States are natural friends—and disregarding the most recent 20- or 30-year period—20-year period, I take it, in general we have been on a friendly course with both countries, particularly China.

Looked at from this standpoint, and a longer sweep of time—the next 4 or 5 years—would you modify this at all, this position?

Mr. CHAO. Well, I don't have any modification or argument here.

Chairman PROXMIRE. Let me ask Professor Hoffmann if he would like to comment on this whole question.

Mr. HOFFMANN. Yes, I would like to make two points.

I don't subscribe to the attractive theory that if only we could get the Soviet Union and China to be at one another's throats we would

be in fine shape, because the world is quite different from what it was in the 1930's when a similar theory was propounded that if only the Nazis and the Communists would be at one another's throats, the Western World would be saved.

Chairman PROXMIRE. They are at each other's throats now. I am not talking about a war. I am talking about continuing the kind of lack of cooperation that has been in effect since 1959 or 1960.

Mr. HOFFMANN. I understand that. But you see, you have to push this to its logical conclusion. And therefore it means a complete triumph of, let's say, the Maoist group. It means a situation in which you may very well get something approaching economic chaos in China. And that may look very attractive. I don't think in a nuclear world that it is very attractive, because it seems to me world conflict, no matter who is involved, poses a tremendous threat to all of us.

Chairman PROXMIRE. I think you are pushing the theory pretty far. Again, I am not talking about increased conflict. In fact, it might moderate a little bit, and they would still be very much opposed to each other.

Mr. HOFFMANN. If you could get the prescription exactly the way we wanted it, I might be more attracted to it. But I would want to look at it very carefully.

Now, the second point relates to trade. I don't think that foreign trade patterns of a certain sort would solve all political problems. But I do think that the inversion in the trade pattern between China and the rest of the world—from greater trade with the Communist bloc to greater trade with non-Communist nations—which has evolved in the last 7 or 8 years is something which makes China more dependent on the Western World. She is more dependent on Japan than she used to be on the Soviet Union and so forth. To the extent that this continues, it gives us a sounder basis for some political change, because first of all the countries involved are less hostile toward China and vice versa. China is more dependent on the Western World, she cannot just turn to the Communist countries for the things that she needs.

So while I don't think this is a panacea to the political problems, I think it is a basis for a changing political situation.

Chairman PROXMIRE. That is a very helpful and interesting refinement. You would say we are not interested necessarily in closer trade relationship between China and the United States, but for China with the Western World, and with Japan—with the free world, you might say?

Mr. HOFFMANN. Yes. And this has been happening naturally. The Chinese have been turning to the Japanese as a No. 1 trading partner. They have been turning to them for fertilizer, industrial products, and so forth. And much of their economic planning is based on this. So that whatever economic planning they have at this stage—

Chairman PROXMIRE. Is there a possibility of a reverse effect? I think Professor Reischauer is as competent on Japan as anyone I know. He argued that Japan is going to have a far greater impact, because of this trade, on China, than China on Japan, if only because China needs Japan more than Japan needs China. Japan has

a more productive economy—and the trade with China represents a smaller proportion of her trade than vice versa. For these reasons he thinks that the effect that Japan is going to have is likely to be more impressive than the buildup of a Communist Party or the threat of a Communist revolution in Japan.

Mr. HOFFMANN. I have no reason to take issue with that.

Chairman PROXMIRE. Professor Dernberger, would you care to comment?

Mr. DERNBERGER. Well, I would like to comment on three questions that have been asked.

The first was on a suggestion that we engage in greater trade with Communist China to further a split between China and the Soviet Union. And here I would say there exists a fundamental contradiction. If you desire a continued conflict between China and the Soviet Union, you would desire to keep Mao in power. If you desire to keep Mao in power, he probably is as anti-American as anybody in China.

Chairman PROXMIRE. Why is this so certain?

Mr. DERNBERGER. I was about to say if we wanted Liu in power, because he advocated closer ties with the United States, or we hear that he is accused of advocating closer ties with the United States, he desires some realignment with the Soviet Union.

One of the problems in talking about Mao and Liu is that you are really talking about groups. It might not necessarily be anything that Liu himself said, but somebody that was closely alined with him against Mao in the argument.

Thus, I don't see any possibility of our relying upon a split with the Soviet Union as increasing China's desire to reach some sort of accommodation with the United States.

On the point of the geopolitical analysis in some days past, it may be perfectly true that there would be no reason to expect hostility between China and the United States—as long as the United States was in the Americas and China was in Asia. Now, of course, the United States is in Asia, and this is, I think, the fundamental aspect of the problem. Maybe the Chinese would be the first to say that, if the Americans returned home and stayed there, "we would be great friends with them." I am not arguing this is what we should do, but I think this is an important aspect of the present hostility between the United States and China.

Chairman PROXMIRE. Well, this might develop. Most of us are very hopeful that the Vietnam war won't go on forever, and we have said many times we are not going to have bases in Vietnam. And I support that position. I think the Administration is honest about it. If they are, and we can ever get out of Korea too, we can begin to withdraw some. And looking at it over a period of a few years—

Mr. DERNBERGER. Then I would agree that the basic reason for the Chinese hostility toward us would be removed. I don't believe that their current hatred of the United States is because we are a capitalist country so much as that they view us as a direct threat to their own country.

On the final question of the possibility of increasing Western trade with China, I think one of the most interesting aspects of these increases in trade is that they have taken place on the initiative of both

parties—Western Europe desires more trade with China as much as China desires more trade with Western Europe, and the same is true with Japan.

If possible, the best possible way for us to engage in Sino-Western trade would be for us to engage in some sort of financial assistance for this trade. That would be one way for the United States to play a very active role in the China trade, i.e., by assisting our allies to engage in trade with China.

Chairman PROXMIRE. That of course raises an entirely different issue than we have discussed so far, and one which does give some substance to the theory of Professor Liu that if we engage in a meaningful trade which involves aid or at least credits and begin to build up China, on the basis of China's experience with Russia, and on the basis of Professor Chao's testimony, we would not necessarily expect to be building up a friend. We could not expect necessarily to be building up a country that because of the economic assistance would be more friendly toward us. We might be building up a Frankenstein monster.

Mr. DERNBERGER. That is quite true. I have no way of predicting the ultimate outcome—but it would be one way to increase the level of economic development in Communist China. I would expect that it would be possible for both countries to settle their disagreements only after China achieved economic development and our land forces no longer occupied territory or bases on the continent of Asia.

Chairman PROXMIRE. This leads me to my next question to Professor Hoffmann. You say, "Improvement in economic activity would result in hurting Mao"—if the economic improvement came from using this kind of incentives which the Mao people are attacking.

Now, as I understand what has happened recently, the improvement in economic activity always seems to have an adverse effect. They begin to see people getting a little softer. They begin to see deviations of various kinds from the pure Marxist doctrine, and then they move into a position of ideological purity to purify themselves, and in the process of doing this, they slow down their economy again, or reverse the economy.

It seems they are on a treadmill. They cannot really make very much progress until they somehow escape from this Maoist trap they have.

Mr. HOFFMANN. If you recall, the context of the statement was that if the two groups have to come to some compromise, then of course economic improvement under those conditions, where material incentives are being used, undermines the Maoist position.

Chairman PROXMIRE. It undermines it in logic. But in terms of history, what seems to happen—the previous witnesses we have had suggest that as they begin to make economic progress, it hurts their conscience. So right away they have to somehow get pure Marxist again, and stop their economic progress.

Mr. HOFFMANN. That may be. It is something I find I cannot respond to, because to deal with illogic has its obvious limitations. But I don't question the possibility of irrational behavior being a major factor in the shaping of policy.

Chairman PROXMIRE. I would like to ask Professor Chao and Professor Dernberger both, because I think this is a most serious and

profound criticism that you have of the "Economic Profile of Mainland China" statistical assumptions—does your criticism lead you to question that the Great Leap did in fact substantially depress the economy? Do you question that or not?

Mr. CHAO. No, I am not questioning that.

Chairman PROXMIRE. Let me go on again and ask a series of these things.

Do you question the estimates that have been made that the gross national product of China is in the area of \$70 billion to \$100 billion? That is, at the present time?

Most agree it is around \$90 billion.

Mr. CHAO. Well, it is very hard to come down to earth on a national income figure at the present moment.

Even for the industrial sector, I don't have—

Chairman PROXMIRE. Even for the what sector?

Mr. CHAO. For the industrial sector, I don't have any index.

Chairman PROXMIRE. You would not necessarily say this is wrong, but you would say the situation is so vague that you cannot establish a precise figure with much assurance?

Mr. CHAO. All I am saying is that these figures sound too low to me. But I just don't know by how much precisely, or how much I would like to raise them.

Chairman PROXMIRE. Finally—would you disagree that the per capita production was at its peak in 1957, and even then was below what it was in 1933? In other words, that the Communist Chinese economy on a per capita basis—recognizing the population has increased a lot—has failed so dismally that they have not been able to get back to the 1933 level?

Mr. CHAO. I would like to put the peak per capita income at 1959 rather than 1957.

Chairman PROXMIRE. All right. Well, take 1959, then.

Mr. CHAO. Then the next problem is how could we determine the figure for that peak level—how high was the peak? This is the hard question.

I am convinced 1959 was the peak year in terms of per capita income and in terms of industrial production.

Chairman PROXMIRE. How does that compare with 1933 in your view?

Let me put it the other way.

You say, and I think you make an excellent argument, in view of the fact that is a possible adversary country, we should certainly not underestimate their power. It would be far better if we overestimated their power, economic development, or economic production. Now, do you think there is any substantial evidence that would suggest that they may have surpassed their 1933 peak in 1959?

Mr. CHAO. I have no doubt the 1933 level has been surpassed some time in the Great Leap years.

Chairman PROXMIRE. At the same time you make a kind of pessimistic conclusion from the Chinese standpoint when you argue that they reached their peak in 1959. In the last 7 years the rest of the world has been progressing, both Communist and non-Communist, progressing at a pretty rapid pace—and in this period the Chinese have

retrogressed. But that is consistent with the view that the Great Leap was so punishing—and you would accept that?

Mr. CHAO. Would you repeat your question?

Chairman PROXMIRE. That is consistent with your agreement that the Great Leap did set China back economically?

Mr. CHAO. There are some aftermaths.

They reached a peak in 1959. But since then it began to decline—the economy began to decline.

Chairman PROXMIRE. I see.

Mr. CHAO. But it has recovered rather rapidly in the last few years. So in absolute terms, I think both national income and industrial output have been restored to their previous peak levels.

Chairman PROXMIRE. Professor Dernberger?

Mr. DERNBERGER. Well, I will try to answer the three questions you asked of Professor Chao.

As to the Great Leap, I think there was, of course, a definite decline in the economy in 1960 and 1961. There has been growth, recovery, really, since 1962. If one looked at the majority of the 17 years, there has been overall growth, and the economy today is much larger than it was in the 1930's. And that is the important aspect from the standpoint of a potential enemy.

Chairman PROXMIRE. Well, I am not sure. I think that is one important aspect. But after all, if the per capita production is less than it was in 1933, even though the population is much greater, if the margin that is available for anything except just the necessities of life is small, because the per capita consumption is declining—per capita production, I should say, is declining, then the potential available and free to use effectively for military development it seems to me would be relatively modest.

Mr. DERNBERGER. In a country of 700 million people, if you can accumulate what we would consider a small amount of savings per capita, it would still lead to a very large total. And I think this is largely what Communist China has been able to do.

Furthermore, while you really have to ask an Asian how happy he was, I do believe that the Chinese Communists have been very successful in maintaining a per capita level of consumption of about 2,000 calories a day over 17 years, and this is truly a remarkable record for an Asian country, or at least for most Asian underdeveloped countries.

Chairman PROXMIRE. Is that widely accepted? That is a very impressive figure. Is it widely accepted or controversial? Much better, for instance, than India; is it not?

Mr. DERNBERGER. Much better. And even more important, the distribution in China is much more equitable than in India.

Chairman PROXMIRE. Are you disputed by any authorities on this?

Mr. DERNBERGER. I am sure that Professor Liu would argue that while the numerical answer I am giving might be approximately correct, the implications of the numerical estimate are different than my interpretation.

Nonetheless, I am sure that avoiding periods of starvation over a 17-year period, and keeping a per capita daily intake of 2,000 calories—

Chairman PROXMIRE. They did not avoid periods of starvation did they? Didn't they have famine periods in the sixties? Didn't they have a couple of years at least very close to famine, and this 2,000-calorie figure must have dropped sharply.

Mr. DERNBERGER. It fell in the crisis to about 1,800. I believe. Of course, these are estimates. We don't know what happened in every area of China. But I am not aware of any authentic or respectable report of famines or starvation taking place. There was malnutrition, there were increases in certain diseases that are associated with low diets. On the other hand, they were successful in avoiding starvation. The birth rate did decline, which would be an effect of manutrition. In other words, certain people were not born who would have been born if people had been healthy.

But as far as I am aware, there was no large-scale starvation or famine in China during this period.

Now, if the Chinese are able to do this; that is, maintain about 2,000 calories per day, and this allows an individual to put out a work effort over a long period of time, there may come a time when the people might become unhappy or dissatisfied with merely a constant level of per capita consumption. But I would say that in the Asian context up to now, one would expect them to be fairly satisfied for at least the short run, or as far as I can see ahead.

Now, comparing this level to the prewar period, the 1930's, the prewar estimate of course depends on the production estimates and the population estimates, and both are very weak estimates. I see no reason for arguing whether it is or is not below the prewar level, per capita consumption. The total per capita output per person is of course higher than in the 1930's. It is per capita consumption that is argued to be lower than the 1930's.

Chairman PROXMIRE. What is the order of the difference?

Mr. DERNBERGER. If I am not mistaken, I believe Dr. Liu estimates that per capita consumption in 1957 was about 5 percent below the 1933 level.

Chairman PROXMIRE. All of that concentration you are giving us on calories, food production, and consumption, is in the sector that has been most widely viewed as depressed and unsuccessful—agriculture—at least in recent years. Most authorities would agree that the industrial production has increased and that the nonagricultural sector of the economy in total has increased; is that correct?

Mr. DERNBERGER. Yes. Not only has it increased, but it is at a significantly higher level. I would believe it is higher than some of the estimates that we have seen published in the committee's compendium.

It has changed completely the complexion of the Chinese economy from the prewar period, even though on a per capita basis it might appear to be numerically the same.

Chairman PROXMIRE. I see.

Well, thank you very much, gentlemen. This has been a most enlightening morning. I have certainly found it so, and I have learned a lot. I think we have a fine record. I am going to call it to the attention of the other committee members. I have had a number of calls from our Senators and Congressmen. This is a very bad time for at-

tendance. So many committees are holding hearings that we find ourselves spread rather thin. Our members who have been unable to attend were unhappy they could not be here, and have expressed their regrets to me. But they will be impressed by the fine record you have made.

We are having our next hearing tomorrow in this room, and we will have a panel consisting of Prof. Dwight Perkins, Prof. Alexander Eckstein, and Prof. John Gurley, all extraordinarily able men.

Thank you very much.

The meeting is recessed until tomorrow morning at 10 o'clock.

(Whereupon, at 11:45 a.m., the committee was recessed, to reconvene at 10 a.m., Wednesday, April 12, 1967.)

(Remarks of Senator Javits, cited above, follow:)

LINKING COMMUNIST CHINA WITH THE WORLD: A PROPOSAL¹

The most salient feature of the China debate in this country is its sterility. The debate lacks hard information and imagination, and has been misdirected. The new proposals have all been directed toward what the U.S. can do to improve relations with Communist China. For the immediate future this "them and us" approach is unrealistic. It makes little sense to argue whether we should extend diplomatic recognition to Communist China or whether we should encourage Peking membership in the United Nations, or whether we should begin to trade with Mainland China in non-strategic goods. We are not ready to make these moves, and even if we were, Peking would reject us outright.

The lack of genuine information is particularly evident. Experts and non-experts alike have been playing guessing games about everything from the meaning of leadership purges in Peking to the price of rice in Yen-an. Some of these judgments have been eloquent, some convincing, and some very confused—but all of them have lacked raw data and hard facts. On my initiative, the Joint Economic Committee has undertaken a thorough-going series of studies and hearings on the economy of mainland China. For the first time, these studies, covering everything from military capability to agriculture, allow us to make proposals and judgments with some basis in reality.

These studies have led me to one over-riding conclusion and to a new policy proposal. My conclusion; contrary to that currently in vogue, is that while China may be at present a third-rate industrial power, it is a first-rate world power. Many are now saying that China's economy will not be first-rate for ten or twenty years and that we have time before China becomes a world power. I say we have precious little time and that, in terms of impact, China is already a major power with which to reckon.

My proposal is that the United States should revise its policy and encourage other countries which already have extensive contacts with Communist China—principally Japan, India, Pakistan and the West European Countries—to broaden these contacts and act as intermediaries for the world community.

The theory behind this proposal is that the more ties China has with the outside world, the more likely it will be to act as a responsible member of the community of nations.

The aim is to provide China with a stake in regularized commercial and legal relations. The policy of promoting inter-dependency has worked well with the Soviet Union. There is no reason to believe it cannot work with Communist China in the long-run. It will take time and we must start now, always keeping in mind that we must try to do what is possible.

China has made great strides industrially. Yet, it does not rank as one of the top producers in the world. China's power and influence in the world today, however, are not so much a function of its present capabilities as of its potential. China does not have the strength to take on the United States, but it does have enough influence to create chaos and terror short of all-out war. It does exercise some ideological attraction on those who are totally in opposition to peaceful

¹ Remarks of Senator Jacob K. Javits at the Golden Anniversary Dinner of the International Executives Association, Statler Hilton Hotel, New York City, March 21, 1967.

change. Its message of total and violent rebellion is appealing to some of those who have nothing and to the fanatics.

Those who believe that because China is presently a third-class industrial power we can wait many years before we face China realistically are wrong.

For simple survival's sake alone, our goal must be to bring Communist China into the community of nations. In the last year, we have already changed our policy toward Communist China from one of strict containment and isolation to a policy of "containment without isolation." We should not use this new phrase to comfort ourselves into inaction. The phrase should provide us with a springboard to sensible initiatives, to proposals that bring our goal nearer without sacrificing our security and the security of our allies.

It is clear from past attempts that a frontal attempt by us to place our relationship with Communist China on a normal basis will still be rejected. Communist China's internal turmoil, its national xenophobia and its seeming need to maintain external enemies for ideological reasons prohibit any encouraging response to American proposals. The leaders in Peking do not want and are afraid of contact with the United States now.

In addition, our policy of preventing diplomatic contacts and trade with Communist China has not been very successful. Fifty nations now recognize Communist China diplomatically and many other nations deal with Communist China economically. We have stood in the way only to have others go around us. Japan, for example, is China's major trading partner.

The pattern is clear. More and more nations, including some of our closest allies, are establishing links with the Peking regime. This whole process is taking place despite our opposition. We may be slowing it down, but we are paying a price for doing so. The price is the growing belief that we are locked into ideological slogans and cold war rigidity, and loss of confidence in our own leadership.

In other words, we must revise our policy. Instead of attempting to discourage our allies from establishing these ties, we should encourage them to follow the natural course of their own interests which would also be in the interests of world stability. Nor need we worry about opening uncontrollable floodgates. It will even take time for other nations to establish diplomatic and trade links with Peking. As in the French case, these negotiations are complicated and take time.

These ties would, of course, include initiatives on the diplomatic and cultural as well as the economic fronts. Because the Joint Economic Committee studies are now available, however, I would like to focus on the economic possibilities.

The Chinese economy has undergone rapid growth in the last 17 years. This growth has not been uniform in all sectors of its economy. Its economy today is probably comparable to the Soviet economy in 1930. It has advanced most rapidly when its leaders were pragmatic.

We can expect that nations in Western Europe and Asia will want to take advantage of China's market availability, and we can expect the Peking regime to be sympathetic to many of these advances. In other words, there will be trade, credit, and investment growth with Communist China, but there will also be limits.

The limitations are important to understand. The first, obvious limit is strategic and political. In addition, for the next five years, it is unlikely that many nations will rush to extend long term credit to China or that China will be anxious to accept it over current levels. The principal problem in increasing Western credits to China is that in the absence of long term trade agreements, the Chinese market is too uncertain for Western traders.

Also, it is improbable that trade relations between Western Europe and China will rapidly increase over current levels. There is room for expansion, but the economies are not complementary enough now for substantial trade expansion. From the West European perspective, there is a limit to how much more material can be absorbed from Communist China. From the Communist China perspective, it prefers to gear its trade relations to export capacity. Communist China has always kept its imports and exports in balance. Its policy, as far as I can see it, is to maintain this balance and not to incur large external debts.

Let me try to put this picture in perspective by first painting the Communist Chinese economy in broad strokes, and then getting into some aspects in closer detail. Three statistics can provide an overall framework. First, Communist China's GNP is estimated at about \$73 billion. The size of this figure shows why this country can engage in sophisticated enterprises, such as nuclear weaponry.

Second, its per capita income is only \$100. This figure puts them near the bottom in the underdeveloped world and demonstrates the backwardness of Communist China on a human basis.

Third, its industrial productivity, which is the best measure of industrial participation, is only about one-third of Japan's.

From these figures, you can see the contradictory elements in the picture—great potential for growth combined with backwardness and imbalance. In some areas, like chemical research, practical engineering and welding, it is as advanced and sophisticated as we. In other areas, like agriculture and light industry, it lags far behind.

Let me dig in a little more deeply in three areas: (1) the scientific and manpower situation, (2) industrial productivity and (3) trade.

Communist China has shown great awareness of the importance of establishing a broad scientific and manpower pool to achieve rapid industrialization. During the 1949-63 period, nearly 1.2 million Chinese students graduated from college and universities, of whom 671,000 were training in the natural sciences, agriculture, medical sciences and engineering. For example, according to reliable estimates, the total number of technical and engineering personnel in 1962 was 8.5 times the number in 1952 and numbered 1.4 million. As far as scientific personnel is concerned, a good many of them were trained in the West and Communist China continues to send scientists to France, Denmark and the United Kingdom.

I don't want to create the impression that Communist China is progressing in this area without setbacks. The quality of many of its new scientists and technicians has been lowered by emphasis on "redness", over expertness, narrow specialization at the expense of basic subjects and the employment of scientists and engineers in administrative and political capacities. An even greater problem is the wide gap between senior and junior scientists and the limited contact with Western science and technology. In other words, Western training is still a very valuable factor in Communist Chinese economic advance.

As far as industrial productivity is concerned, about 20% of its GNP is invested in economic expansion—a rate which experts believe is adequate to alter gradually the economic environment in China.

In one of the papers prepared for the Joint Economic Committee, it was estimated that China's industrial output doubled during 1953-57, doubled again in 1958-60, declined about 40 per cent during 1961-63, and subsequently recovered in 1965 so that it was then about 50 per cent higher than the 1957 level. The average annual increase in Communist China's industrial production between 1949-65 is estimated at 11%. In comparison in this period, Japan's industrial production grew annually at 14.9%, the USSR's 9.6% and India's 6.5%. Other significant estimates show the following average annual rates of growth in output in the 1958-1959 period: electric power, 46%; petroleum, 59%; metal processing, 39%; chemical processing, 40%; paper, 33%; textiles, 26%.

The Chinese, however, have had less success in attempting to achieve a balance between a rapidly growing population and a limited amount of arable land. It supports $\frac{1}{4}$ of the world's population with only 7.8 percent of the world's cultivated land. Evidence indicates, however, that through intensive cultivation, China was able to maintain a balance—and even provide a modest per capita increase in farm output—during the 1950's. Since then and due to the disruptions of the Great Leap Forward in 1958, China has been unable to maintain the balance, and to this day must import agricultural products and fertilizers on a large scale. These imports, for example, accounted for 45 per cent of all of China's imports in 1965.

Communist China's international trade is an instrument of promoting Chinese influence abroad, obtaining needed capital equipment, and relieving domestic shortages. In 1965, China's total trade was valued at \$3.7 billion. Before 1960, Communist countries accounted for $\frac{2}{3}$'s of China's trade. Today, the Free World accounts for 70% of its total trade or \$2.6 billion. Its earnings from exports have been the dominant source of China's foreign exchange. But by the end of 1964, it obtained \$1.2 billion in 18-month Western credits, principally to finance purchase of 6 million metric tons of grain from Canada and Australia.

Two observations can be made here:

First, despite our embargo, China has obtained from other non-communist sources everything from raw materials such as cotton, rubber and wool, to manufactured products, to chemical fertilizers and grain. Since mid 1963,

China has contracted for 30 to 40 completed industrial plants with Western Europe and Japan. These plants, valued at \$170 million dollars, are financed mainly by medium term credits and, in some cases, include the services of Western technicians. In addition, Peking is currently negotiating with a West German consortium for a steel mill complex valued at about \$150 million dollars. Peking is also placing orders for transportation and construction equipment.

Second, over half of Communist China's trade with the non-communist world—about 1.4 billion dollars in 1965—is with Western Europe, Canada and Japan. For example, Sino-Japanese trade in 1965 had risen to \$470 million.

The conclusion to be drawn from these facts is compelling. Communist China is becoming increasingly dependent on the West for certain advanced equipment. This dependence is even more significant when considered in the light of the rupture between Peking and Moscow.

When this economic data is translated into political currency, Communist China is undeniably a world power of first rank. The paradox is that because China is a first rank power, it will become increasingly involved with and dependent on other nations.

If the United States does not stand in the way, but in fact encourages this trend, involvement and dependency can be turned into more normal relations. On the global scale, Peking's power is mainly the influence of ideology. Within Asia itself, however, Communist China can back up its ideology with concrete military strength. Its conventional military capability and the large Chinese minorities spread throughout the region cannot be denied without cost. Our job must be to provide other Asian nations with the confidence and support necessary to help themselves.

Underpinning all of this, is the present and growing nuclear capability of Peking. It has already exploded several fairly sophisticated nuclear devices, and progress is being made in missilery. By the time China becomes a first rank nuclear power in ten or fifteen years, we must have already succeeded in normalizing relations.

This brings me back to my point—the necessity for the U.S. to encourage non-communist nations to establish links with Communist China now. This is not the kind of situation we can play by ear, hoping it will all work out well in the end, believing that our strength will always serve to deter attack. Deterrence is not solely a function of countervailing power; it is a product of attitude and intention as well. Stability is not the end result of a deterrent policy alone; it is also the product of the search for ties that bind, of relations that create interdependence, and of a sense that the safety and well-being of each is a part of the whole.

MAINLAND CHINA IN THE WORLD ECONOMY

WEDNESDAY, APRIL 12, 1967

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The joint committee met at 10 a.m., pursuant to recess, in room 318, Old Senate Office Building, Hon. William Proxmire (chairman of the joint committee) presiding.

Present: Senators Proxmire and Javits.

Also present: John R. Stark, executive director; James W. Knowles, director of research; and Donald A. Webster, minority economist.

Chairman PROXMIRE. The committee will come to order.

This morning will conclude for the time being our hearings with respect to the economy of continental China. These hearings have been supplemental to the earlier publication of studies prepared for the committee which have covered such things as the general economic setting, the economic sectors, population, and manpower resources. We have not heard from Government witnesses at these hearings, but it is quite possible that, after responsible authorities in the State Department have had an opportunity to study the compendium of papers and the analysis presented at these hearings they may be able to contribute some additional evidence which, of course, the committee will welcome in the interest of promoting public understanding of the relation of the United States to the economic development of Mainland China as an economic entity.

Our discussion this morning will follow the panel format. First is Prof. Dwight H. Perkins of the Department of Economics at Harvard University, an associate of the East-Asia Research Center at that institution. He is the recent author of a book entitled "Market Control and Planning in Communist China." I hope that he, as well as the other members of the panel, can help us understand the implications of Chinese development to the United States.

The second witness will be Prof. Alexander Eckstein of the Department of Economics at the University of Michigan. He is a member of the Joint Committee on Contemporary China, sponsored by the Social Science Research Council and the American Council of Learned Societies. Before going to the University of Michigan, he was professor of international economics at the University of Rochester, and at a somewhat earlier date, chief economist in the China branch of the Department of State's Division of Research for the Far East.

The third member of the panel is Prof. John G. Gurley, who is no stranger to this committee. While Professor Gurley is a relatively latecomer among the "China-watchers," members of the committee will

remember him for his studies on liquidity and financial institutions in the postwar economy, and of his appearances before us in connection with domestic monetary policy. His varied experience with monetary policy in the United States and his recent intensive study of the place of China as an economic entity in the world will, I am sure, give us some fresh points of view.

The entire panel of three participants has been asked to help us sum up the evidence thus far presented and to interpret what the implications are for the United States of economic developments in China.

So we start off with Mr. Perkins. We welcome you, gentlemen.

**STATEMENT OF DWIGHT H. PERKINS, ASSOCIATE PROFESSOR
OF ECONOMICS AND ASSOCIATE OF THE EAST ASIA RESEARCH
CENTER, HARVARD UNIVERSITY**

Mr. PERKINS. In speculating about the implications of economic development in China, perhaps the key question for American policy-makers is whether it is in our interest to see the Chinese economy grow and transform China into a modern industrial state. Or, alternatively, would we prefer that economy to continue to stumble from one crisis to the next.

In the 1950's there was a widely held belief that if China grew rapidly, more rapidly than, say, India, the developing world would flock to the Communist banner. Whatever the merits of such a view at the time, it is clear today that the "Chinese model," even if its economic performance improves, is unlikely to gain adherents so easily, if at all.

In the light of these changed circumstances, or at least our perception of them, I should like to present an argument this morning in support of the proposition that it is in the long-term interests of the United States to see China's industry and agriculture grow and successfully meet the needs of three-quarters of a billion Chinese.

If this argument is valid, then the American embargo on nonstrategic trade with China is not only ineffective, as many acknowledge, but actually detrimental to the long-term interests of the United States. My reasoning is based on two strands of analysis: First, that whether China's rate of growth over the next decade or even longer is 3 or 6 percent, the development of her military and "trade warfare" capacities will not be much affected. China will be strong in a few areas and weak in most others, regardless of her overall economic pace; second, economic development and the increasing complexity of life that goes with it will gradually erode many of the simpler ideological components in the Chinese world view.

The belief that an increase in gross national product automatically carries with it enhanced military and economic power is so deeply ingrained in most of us that the first line of argument always meets great intellectual resistance. The point can be made most clearly in the context of China's relations with Africa and Latin America. No amount of growth in China over the next decade or two will much increase China's trivial share (less than 1 percent) in the trade of these countries. Nor will such growth provide China with the basis for a sufficient air and naval capacity with which to play any direct

military role on these continents. The Chinese Communists have offered revolutionary ideology and small arms to groups in these areas, but ideology and small arms are cheap and easily obtainable from many sources. Their provision has given China little leverage in Africa and Latin America in the past and the prospect for the future is for less, not more, Chinese influence.

China's military power on her own borders is, of course, considerable, and her rapid development of nuclear weapons and missiles which within the decade may be able to strike the United States is well known. These facts have already had an effect on various debates over policy in the United States, not only on Vietnam, but increasingly on such issues as whether we should build antiballistic missiles or not. The question I am asking, however, is not whether we can safely ignore Chinese military power. Obviously we cannot. The issue is whether this military power will be significantly affected during the next decade by a difference in China's economic growth rate as wide as 3 to 6 percent.

The answer, I believe, is that even a difference in rates of growth as wide as those postulated would not much change the pace or nature of China's military investment program. Her conventional army is large and apparently well equipped at least as an infantry force. No reasonable rate of economic development, however, is going to make it possible for China to change that force into one that can match the fire power, mobility, and air support of either the United States or Soviet armies. Nor will rapid economic growth have much effect on the pace of China's nuclear and missile programs. The bottlenecks in this sphere will more likely be technological than economic. If China could progress much more rapidly by spending more resources, she could do so today with her existing industrial and technical capacity.

Rapid economic growth will have even less effect on China's influence over her major trading partners than it has in the military sphere. Chinese trade in the decade ahead will continue to involve mainly the exchange of agricultural products and other raw materials for advanced industrial items from Japan and Europe. China today has little political leverage over any advanced industrial country and no likely change in the size and composition of her trade will enhance that leverage. The only areas of the underdeveloped world with which China trades to any significant degree are Southeast Asia and Hong Kong. But here too, the political leverage rests with China's trading partners, not with China. These countries could buy textiles and farm products from any number of sources other than China.

If economic development in China is not likely to increase the danger to the United States and allies of the United States, are there any positive benefits to us from such growth? The issue is more complicated than popular discussions of "goulash" versus "pantsless" Communists would lead one to believe. Rich Communists do not automatically become peaceful Communists as Mr. Khrushchev demonstrated with his attempt to put missiles in Cuba.

Operating a modern industrial economy, however, is possible only so long as planners and managers cater to the requirements of technology, complicated relationships between inputs and outputs and

between various levels of management, and much else. These problems have little to do with Marxist and even less with Maoist ideology. Operating Chinese heavy industry has far more in common with the management of General Motors than with the running of a guerrilla war, the latter being one of the principal sources of Mao's ideological maxims.

The complexities of modern life have already begun to erode faith in some of the simpler Maoist principles. The failure of the "Great Leap Forward" and commune movement of 1958-60 clearly had a traumatic effect on large numbers of Communist Party cadres. The timidity with which the Maoist forces approached the economy in 1966 provides evidence that even they learned something from the 1958-1960 period. When the "great proletarian cultural revolution" was allowed to enter the factories in early 1967 the result was immediate economic disruption and a rapid retreat back to comparative stability. Where it took 3 years to decide to call off the Great Leap Forward, it took more like 3 weeks to call off the attempt to interfere politically in the factories in January of this year.

What the final outcome of the events of the past year will be in the short run, no one, at least no one outside China, knows. In the long run, in my own opinion, it is difficult to see how the excesses of the Red Guards can have any effect other than the further erosion of faith in Maoist ideology. The more successful are "pragmatic" economic policies in bringing about economic growth, the more likely it is that this process of ideological decline will continue.

Erosion of ideology in domestic affairs does not necessarily lead to similar changes in the sphere of foreign policy. But Marxist-Maoist principles are supposed to have universal applicability and a questioning of these principles in one sphere is likely to affect other areas as well.

The decline of ideology, as I have already indicated, does not necessarily mean that China will be friendlier to the United States. It does mean, however, that future Chinese leaders are more apt to define China's national interest in less messianic terms, terms over which U.S. actions might have more of a constructive influence. It will continue to be important for the United States to discourage Peking from any belief in the efficacy of any adventurist foreign policy. But it will also be important to present these leaders with the prospect of meaningful gains from alternative, more peaceful policies.

The U.S. embargo on nonstrategic items ill suits this purpose. Most analysts believe the embargo has been ineffective in achieving its stated purpose. It is my belief that the embargo is probably worse than that. If the above lines of argument are correct to the degree the embargo has actually had some effect, that effect may not have been in American interests. At the very least, the embargo has been one of several measures tending to confirm Peking in its view of the United States as being completely hostile to all of China's interests, ideological or otherwise.

Thank you.

Chairman PROXMIRE. Thank you, Mr. Perkins.

TESTIMONY OF ALEXANDER ECKSTEIN, PROFESSOR, DEPARTMENT OF ECONOMICS, UNIVERSITY OF MICHIGAN, MEMBER OF JOINT (SOCIAL SCIENCE RESEARCH COUNCIL-AMERICAN COUNCIL OF LEARNED SOCIETIES) COMMITTEE ON CONTEMPORARY CHINA

MR. ECKSTEIN. Mr. Chairman, I have a somewhat shorter statement than the one I submitted. After writing it, I found it would not fit into 10 minutes.

CHAIRMAN PROXMIRE. Your longer statement will be printed in full in the record.

MR. ECKSTEIN. I appreciate this opportunity to appear before you to discuss some important economic policy issues affecting our relations with Communist China. With your permission I have submitted a longer statement in which I try to analyze some of the findings in the excellent studies sponsored by your committee and published in two volumes under the title "An Economic Profile of Mainland China." Therefore I will not deal with these studies in my brief initial presentation today.

Virtually all of the significant economic issues in our relations with Communist China revolve around questions of trade and payments controls. Therefore I will start with a brief analysis of the role of the international sector in Mainland China's economy, and will then proceed with a discussion of the U.S. embargo on China trade and the prevailing system of credit controls.

The international sector constitutes a small but very important branch of the Chinese Mainland economy. According to several independent estimates, exports or imports comprise only about 4 percent of GNP. However, this 4 percent has made some very significant contributions to China's economic growth in the fifties and to economic and political stability in the sixties. In the first decade Soviet credits and net capital inflows made modest contributions to saving. More importantly, imports made a very significant contribution to investment in the fifties and to alleviating acute food supply shortages in the sixties.

In considering the contribution of the international sector to saving we must differentiate between the situation in the fifties and the sixties. During the early fifties, i.e., between 1950 and 1955, China was a net importer of capital primarily due to the substantial Soviet credits drawn upon at that time. Such credits amounted to about \$1.4 billion. However, the credits extended in 1956 and 1957 were so small that in these last 2 years repayments of the Soviet debt greatly exceeded the last credit installments drawn. As a result, there was a significant shift in China's balance-of-payments position after 1955. Beginning in 1956 she became a net capital exporter, in part due to her repayment obligations and in part due to the fact that China started to extend foreign aid to other countries.

The net capital inflow for the 1950-57 period may be estimated at about \$430 million. This amount would constitute no more than about 0.3 to 0.4 percent of estimated gross national product for the 1950-57 period as a whole. On the basis of these calculations net capital imports during the recovery and first 5-year plan periods would have added no more than 1 percent to total savings.

As already indicated beginning in 1956 and up to the present day Communist China has been a net exporter of capital. For the 1958-64 period it is estimated that the net capital outflow may have amounted to as much as about \$1.7 billion. This may have constituted about 0.5 percent of gross national product and possibly about 3 percent of total saving for this period. In effect then total capital inflow thru 1957 added about 1 percent to total resources available for financing investments. However from 1958 on capital outflow diminished resources available for investment purposes by about 3 percent. If one takes the Chinese Communist period as a whole the Mainland still turns out to be a net exporter of capital, a most unusual condition for an underdeveloped country and a condition which—however marginally—imposes additional constraints on the possibilities of financing domestic investment.

It would, however, be misleading to confine an analysis of the role of the international sector just to a consideration of net capital flows and their effect on total resources available for financing investments. An equally and perhaps even more important consideration is the role of the international sector, and most particularly of the foreign trade sector, as a highway for the transmittal of new technology, new goods, and new methods of production. Viewed in these terms, foreign trade played an extremely strategic role in Communist China's economic growth, particularly during the first 10 years, i.e., during the period which the Chinese Communists characterized as "The Ten Great Years", 1949-1959. Abstracting from the real recovery period, the import component of investment may be estimated as 20 to 40 percent depending on what exchange rates are used for converting imports of complete plant equipment and machinery from the Soviet Union and East European countries to China. Not only was the import component of capital formation quite large but the particular type of industrialization that took place in the 1950's almost certainly would not have been possible without the ability to import machinery and other kinds of capital goods for expansion of investment goods capacity on the mainland.

Imports played an entirely different role in the 1960's. With the onset of the agricultural crisis, the character of the import bill was altered drastically. Capital goods imports were compressed very sharply while food imports were increased markedly. Prior to 1961 the latter averaged around 2 to 2½ percent a year. However since 1961 they have constituted 30 to 40 percent of total imports. This necessarily meant that the import component of capital formation was much lower, as a matter of fact it seems to be quite small in the 1960's. The principal contribution of imports in the 1960's was maintenance of economic and political stability. These food imports can be regarded in a sense as an investment in the improvement of agricultural incentives. That is, these imports relieve the pressure on the countryside and increase the reliance of urban areas on imported foodstuffs. At the same time, by easing the urban pressures on food supply they make a very significant contribution to containing inflationary forces. They also helped the regime in containing unrest at the depths of the food crisis. One may perhaps speculate that the pattern of the 1950's is not likely to be repeated again. It is improbable that imports will again

constitute such a large component of capital formation, in part because of the very experience of the 1950's mainland China's capacity to produce capital goods and plant equipment has been significantly augmented and therefore her needs to rely on imported components is somewhat lessened. More importantly perhaps, to the extent that a post-Mao leadership will have learned some lessons from the Great Leap disaster, one may reasonably expect a different investment mix in the future with less exclusive emphasis on the expansion of heavy industry, which in itself might lessen import dependence in capital formation.

Of course, all of the foregoing serves to illustrate the fundamental fact that these interrelationships between foreign trade, the international sector as a whole, and domestic goals and stability in China, hinge on the trends and annual fluctuations in agricultural output. Given China's economic backwardness and the weight of agriculture in the national product, and even more so in the labor force, agriculture acts as a most effective constraint on growth in all sectors of the economy including the international sector. Moreover it acts as a very effective constraint on investment levels, investment rates, on the size and composition of the export bill, and the size and the composition of imports. In these terms, the Great Leap may be viewed as a supreme effort initiated by the Chinese Communist leadership in an attempt to overcome this constraint by raising agricultural production and by thus correcting the growing disproportionalities, bottlenecks, and lack of complementarities which were very apparent by the end of the first 5-year plan period.

Given the economic importance of the international sector as outlined above, the Chinese planners and policymakers must necessarily pay close attention to it. This consideration is reinforced by the fact that foreign trade and aid can be used by the Chinese, just as by others, as an instrument of foreign policy. It is really through the international sector that the Chinese economy comes in contact with the rest of the world. Therefore this is one of the few areas in which at least some economic leverage can be exerted on China—either through pressures or inducements—by the non-Communist world.

In the United States we have handled this problem by imposing a complete embargo on all trade and other transactions with China. This embargo has been in force ever since the Korean war. In addition, most non-Communist countries ban exports of arms and fissionable materials to China and restrict the shipment of certain strategic goods as well. It would be fair to say that the U.S. trade embargo has proved to be ineffective in that it has not achieved its objective of inflicting damage upon the Chinese economy, of undermining the regime's political stability, or of retarding its investment programs. This is due to the fact that except for weapons, arms and fissionable materials, China has been in a position to import capital goods, consumer goods, and products of all kinds, first from the Soviet Union and from Eastern Europe in the fifties and in recent years from Western Europe and from Japan. Therefore, the practical effect of the U.S. trade embargo has not been of depriving China of imported goods and services but of depriving American businessmen of any share, however small, of the China trade.

This problem is further aggravated by the fact that the embargo not only bans direct trade between the United States and China, but indirect trade via third countries as well. This means that other countries cannot ship goods to China which utilize raw materials or manufactured components imported from the United States. As a result, there are many examples of U.S. corporations bidding on contracts in Europe and losing them simply because European manufacturers did not wish to be restricted in any way as to where they could sell their products, and most particularly did not wish to be hampered in their sales to China.

This issue of indirect trade has not only placed our manufacturers at a disadvantage in certain European markets but has also served as a continuous irritant in our relations with our allies. This, for instance, has been a repeated source of at least minor friction in our dealings with Canada.

It is perhaps time to ask as to what is the point of continuing the U.S. trade embargo. If it cannot attain its avowed objectives, what is the point of perpetuating it? I would argue that the only practical consequence of the trade embargo at present is a symbolic one in a double sense: as a symbol of our self-delusion that by maintaining the embargo we are somehow inflicting some damage on the Chinese economy, and as a symbol of our policy to isolate China. It is of course perfectly true that the President and the Secretary of State have stated on several occasions within the last year that we would be interested in seeking increasing contact and communications with Communist China. Some progress along this line has already been made on our side, at least in the field of relaxing travel restrictions to China. One can only hope that all of the remaining restrictions will be lifted as well and that travel to China will be placed on the same footing as that to Albania, Bulgaria, Rumania, and other East European countries. However this may be, it seems to me the time has come to subject our total embargo policy to a thoroughgoing reexamination. There are several questions we need to face up to. Should the embargo be relaxed? If it is relaxed, in what directions? Should it be totally lifted, except for shipments of arms and fissionable materials, or should merely certain categories of goods be exempted from the embargo? Perhaps as an initial measure should all restrictions on indirect trade be lifted, this to be followed by removing controls on shipments of wheat, foodstuffs, and other consumer goods?

Another issue that needs to be faced is the timing of any change in our trade policy vis-a-vis China. For instance, is this a good moment in time to lift or relax the embargo? Is it wise to consider these measures when China is in the throes of a far-reaching internal political struggle and when we are at war with an adversary in Vietnam who receives support from Communist China?

As to the first of these questions, the present internal struggles in China have undoubtedly weakened the regime but not at all to the point that one can reasonably expect a collapse of communism in China or the disappearance of the Communist system. What one might reasonably suppose is that these internal struggles will continue to limit China's capability to pursue an active and aggressive foreign policy. Therefore any relaxation of the embargo on our part

or any other measures designed to modify our past policy of isolating China could not possibly be interpreted as concessions extracted by China from the United States, or as measures taken by us under duress and in order to appease China. Perhaps the most important argument for taking these measures now is that precisely at the time when the Chinese leadership is groping and is in the process of crystallizing new policies, measures taken by us designed to reduce tensions between the United States and China might encourage those elements within the Chinese leadership which are themselves seeking some reduction in tensions with the West.

What about Vietnam? How can the United States take measures to relax the trade embargo during the Vietnamese war? As the studies in the two volumes of the "Economic Profile of Mainland China" show, China's contribution to the Vietnamese war has been quite limited. The foreword to volume 1 states: "The kind of support that China has given to North Vietnam in this conflict has involved, chiefly, large quantities of small arms." They have also contributed some engineering troops for road, bridge, and rail construction and have of course made a contribution in terms of transporting Soviet shipments of military supplies; however, China receives payment for the latter. There is no doubt that the Soviet contribution to North Vietnam's military posture is much more significant than that of China. Yet, we are not embargoing trade between the United States and the Soviet Union or the East European countries nor is this being proposed as official United States Government policy. Of course, the case against relaxing or lifting the embargo would be overwhelming if it could be shown that the resumption of commercial relations between China and the United States would in any way augment China's ability to support the war in Vietnam. However, this is most improbable. In fact, if all trade restrictions were lifted tomorrow China's trade with the United States is likely to be restricted to fairly modest levels. It is of course quite possible that the Chinese would refuse to trade with us altogether for some years to come. Even if they did enter into commercial relations with us these would be restricted by the scarcity of foreign exchange resources at China's disposal and her inability to compete in the U.S. market with more highly industrialized countries. This means that our exports to China would necessarily be confined to quite modest levels and could therefore make only a very small contribution, if any, to China's economic development prospects. Therefore the prime argument for lifting the embargo is a political one—a symbolic one. Thus just as the embargo now stands as a prime symbol of our efforts to isolate China, so would its relaxation and removal stand as a significant indication of a change in the United States posture and in United States intentions and relations vis-a-vis Mainland China.

A closely related, yet separate, issue in our economic policy vis-a-vis China concerns credit policy. Of course, the United States has not extended any credits to China since the Communists came to power. And it seems to me that there would not be much point in considering now a change in this particular policy. However in time, if trade relations with China should be reopened, this might be an issue we would want to face up to. A more concrete problem is the question

of the credit policies pursued by Japan and the West European countries vis-a-vis China. All of these countries adhere to an agreement limiting credits to 5-year terms. The Japanese Government in particular has been under great pressure to relax this 5-year limitation. I must confess that I am less clear and certain in my own mind as to whether these credit restrictions should be lifted at the present time or not. However, it ought to be pointed out that if China could gain access to more and longer term credits from the West, this measure could greatly contribute to bringing about a gradual rapprochement between these two parts of the world. It is true that long-term credits could make a significant contribution to strengthening the Chinese economy. They would undoubtedly make it easier for the Chinese Communists to have their cake and eat it too, that is, to pursue investment programs and defense programs simultaneously without feeling as acutely the pinch of competition for resources between development and military needs. On the one hand, closer credit relations between China and Japan on the one hand and China and Western Europe on the other could very significantly contribute to integrating China—however slowly and gradually—into the world international system.

Thank you.

Chairman PROXMIRE. Thank you, Mr. Eckstein.

(The prepared statement of Mr. Eckstein follows:)

PREPARED STATEMENT OF ALEXANDER ECKSTEIN

ECONOMIC TRENDS IN COMMUNIST CHINA AND ITS POLICY IMPLICATIONS FOR THE UNITED STATES

I appreciate this opportunity to appear before you to discuss the findings in the studies of mainland China's economy conducted under the auspices of your committee. If I may, let me first of all commend the authors of these studies for the significant contributions that they have made to improving our understanding of economic trends and policies in Communist China.

With your permission, what I would like to do in this introductory statement is to: (1) analyze and appraise the broad assessment of economic trends that emerges out of the two-volume *Economic Profile of Mainland China*, and indicate the points on which I agree and disagree with the key findings; (2) discuss the role of foreign trade in mainland China's economic growth; and (3) explore the implications for U.S. policy that emerge out of the broad assessments in these studies. In this analysis of policy implications I would like to particularly focus on the foreign trade and international sector of the Chinese economy since this is the area in which economic measures and economic instruments used by the United States might conceivably have some impact on China and vice versa.

I. A BROAD ASSESSMENT OF ECONOMIC TRENDS

Let me start by indicating that I find myself in general agreement with the broad economic trends sketched out in these studies. However, I detect a certain tendency to minimize the performance of the Chinese economy in the 'fifties and again during the recent recovery. In saying this I am, of course, fully conscious of the difficulties and complexities of conducting research on the Chinese economy and of striking the proper balance between assessing failures and weaknesses on the one hand, and exaggerating achievements on the other. I am similarly conscious of the fact that complete objectivity in such an emotion-laden subject is difficult to achieve indeed. The problem is further complicated by the fact that in matters of this kind it is very difficult to gain a proper historical perspective. Most of us tend to be at least unconsciously influenced by most recent trends and therefore perhaps tend to give greater weight to experience of the most recent past in appraising the performance for the Com-

munist period as a whole. Thus, in the fifties, when the Chinese mainland economy was performing very well, most accounts tended to underplay the weaknesses and to emphasize the strengths and achievements. In the last few years, however, since the economy has been doing much less well, one detects the opposite tendency of placing great emphasis on weaknesses and underplaying achievements.

To illustrate this general point, may I cite just a few examples from the text of *An Economic Profile of Mainland China*. In the foreword we are told that "the Great Leap produced only a modest rate of new growth estimated at 13 percent between 1957 and 1958." Both by historical and contemporary international standards, a 13 percent rate of growth can hardly be considered modest. The long-term historical average for the United States is around 4 percent. For the Soviet Union during the first two Five Year Plan periods, and again, since 1950, it has been around 6 to 7 percent a year on the average. In Japan, since 1950, it has been around 7 to 8 percent on the average. Of course, in the Japanese case, one can find rates of growth well above 13 percent for individual years. Yet, even for a single year this can hardly be considered a low rate of growth. The foreword also indicates that "since 1963, industry had been slowly climbing back to the 1960 level, but had covered only part of the way back by 1965 [48 percent above 1956]." This statement is based on Dr. Field's paper on industrial production. His Table 1, on page 273, indicates that the index of industrial production moved in the following way:

Year:	Index
1956.....	100.0
1958.....	143.8
1959.....	181.6
1960.....	188.5
1965.....	147.6

At first sight, it would really seem as if the 1965 figures are indeed well below the peak levels achieved in 1959 and 1960. However, one might well raise some questions about the meaningfulness of the basic production figures for 1959-1960. For instance, in Appendix C of Dr. Field's paper we find that coal production in 1958 is estimated at 270,000 metric tons, in 1960 at 425,000 metric tons, and in 1965 at 210,000 to 230,000 metric tons. Is it really reasonable and plausible to presuppose that coal production could have increased by as much between 1958 and 1960? Is it not possible or even probable that the coal figures for these different years are not really comparable? The 1960 coal figures may include considerable admixtures of coal dust or possibly even stone. At best, it is of much, much lower quality than the coal included in the output figures of 1958 and 1965. This really raises a more general question, namely, that there is no doubt whatsoever that the quality of the output produced in 1965 represents a considerable improvement over that in 1958, 1959, and 1960. Viewed in this perspective, it would seem that 1965 industrial output in sheer quantitative terms was at about the same level as 1958 production, but still somewhat below that of 1959 or 1960 but if one allows for the qualitative factor, perhaps not much below that.

Similar and even more fundamental problems arise in measuring agricultural output, which in turn constitutes forty to fifty percent of total national product. Agricultural output for 1952 to 1957 was estimated by Professor Liu in the following way: he assumes that the official Chinese Communist production figures for 1957 can be considered fairly valid. He supports this conclusion by translating food production figures into final household consumption in terms of per capita caloric intake. He thus finds that the 1957 caloric intake levels are roughly the same or somewhat below those for 1933, and therefore they may be considered as reasonable. Dr. Liu then calculates food production figures for the years between 1952 and 1957 on the assumption that per capita consumption during all of these years remained stable and that an increased proportion of annual crop production went into food rather than other uses. According to this method agricultural production between 1952 and 1957 grows more or less at the same rate as population so to speak by definition.

There are a number of questions one can raise about this particular method of estimating agricultural product. Admittedly, official Chinese Communist farm production data are not satisfactory. They unquestionably contain an upward

bias, in part due to the fact that crop reporting in the early years was incomplete; therefore as the crop reporting service extended its scope of operations part of the increase in production reflects a statistical improvement factor rather than just a real increase in production. However, it is doubtful that this is a sufficient basis for assuming that agricultural production between 1952 and 1957 grew at the same rate as population so that per capita output and consumption remained stable. It is also doubtful that one can really test the plausibility of 1957 output levels on the basis of 1933 output and consumption estimates per capita.

It must be noted that the 1933 agricultural production figures themselves are open to question. As careful as the land use surveys of J. L. Buck and his associates were, there are a number of questions one can raise about their results. Similarly, population figures for 1933 are subject to considerable margins of error. It is thus doubtful that 1933 per capita caloric consumption intake can really serve as an adequate check for 1957 consumption and production figures. The whole problem is further compounded by the fact that it is extremely difficult to estimate caloric consumption levels from raw production data. This requires a number of intermediate steps such as estimating the proportion of food crop output wasted in harvesting and in storage, the proportion diverted to industrial uses, the share allocated to livestock feeding, and, of course, the population size. For none of these elements are the data reliable and each of these steps requires more or less hypothetical estimates with attendant margins of error resulting therefrom.

To the extent that Professor Liu's method might underestimate the rate of growth in agricultural product, it would also automatically underestimate the pace of increase in food consumption and the rate of growth in total consumption; the latter, because food constitutes the most significant single item in the total consumption basket, and also because agricultural production trends would affect estimates of raw material availability for consumer goods industries such as textiles and processed foods. Thus agricultural estimates would affect part of the industrial estimate as well. All of this raises certain questions about Professor Liu's statement that "the pre-war 1933 level [of consumption] had not been regained by 1957." This may very well be true but I would merely suggest that the case is far from proven one way or the other. We will need to do much more work and will have to have many more data before we can confidently make such a statement.

Similar problems arise in estimating the agricultural product for recent years. As is clearly brought out by these studies, Chinese Communist authorities have imposed a virtual blackout on all statistics since 1960. Therefore, agricultural output data have to be estimated on the basis of very fragmentary information. All of us owe a great debt of gratitude to the agricultural officers in Hong Kong for conscientious attempts to reconstruct food crop and cotton production series since 1957 on the basis of many small bits of evidence. These data have been used by most of us. Yet it is perhaps time to raise some doubts about this. We find three food crop production series in these studies. The first is based on the agricultural officers reports from Hong Kong. The second represents an attempt to reconstruct an official Chinese Communist series, and the third are estimates made by Mr. O. L. Dawson who has spent many years in China as an agricultural officer. The first series are introduced in Professor Liu's paper, and the other two we find in Mr. Edwin Jones' paper. Let me compare the three series:

Food crop production

Year	Agricultural officers' estimate	Official Chinese Communist estimate	O. L. Daw- son's estimate
1957.....	185	185	185
1958.....	194	250	204
1959.....	168	270	170
1960.....	160	150	160
1961.....	167	162	170
1962.....	178	174	180
1963.....	179	183	185
1964.....	183	200	195
1965.....	180	200	193-200

It should be noted that the last series i.e., Mr. Dawson's estimates are quite close to those arrived at by the most careful of the Japanese specialists on the Chinese economy. It seems to me that just on the basis of *a priori* reasoning, the last series appears to be much more plausible than the one derived by the agricultural attache in Hong Kong, particularly for the years since 1962.

It must be borne in mind that all along, and certainly since 1962, Chinese population has continued to grow although we do not know precisely at what rate. If food crop production in 1965 was only around 180 million tons, then even with the import of 5 to 6 million tons of grain net per capita availability of food should be significantly below 1957 levels. Yet, in recent years there are no indications of serious food stringencies on the Chinese mainland. Reports of a number of Western diplomats, scholars who have spent more than just a month in China, and Western journalists, all suggest a significant improvement in the food situation between 1962 and 1965 to the point where by 1965 the per capita food position does not appear to be perceptibly worse than in 1957. There is another reason why one might have some doubts about the plausibility of the agricultural attache's series. Mr. Larsen's study of Chinese agriculture shows that total chemical fertilizer availabilities increased from 1.8 millions tons in 1957 to about 7 million tons in 1965—that is a near quadrupling in about 8 years. Admittedly, even 7 million tons represents at best a modest rate of chemical fertilizer application given the cultivated land area of China. However, there is definitive evidence that this fertilizer is selectively applied primarily to rice cropping and most particularly to areas where there is likely to be the greatest payoff in terms of increases in yields. It is difficult to believe that such a significant increase in fertilizer application between '57 and '65 would have led to no net increase in agricultural output in these eight years.

If these considerations were to lead one to work with Mr. Dawson's figures one would have to increase Professor Liu's agricultural product estimate by about 10 percent and, since agricultural product contributes about 40 percent to GNP, the gross national product estimates for 1965 would need to be raised by about 4 percent. This, then, according to Professor Liu's own estimates, would mean that national product levels in 1965 would be somewhat above those in 1958.

In assessing Mainland China's economic prospects the foreword to these studies concludes that "assuming that the civil turbulence will subside within the near future, the economic prospects facing China still remain rather bleak." How valid is this judgment?

As one analyzes Communist China's economic performance from the vantage point of 1967, i.e., after eighteen years of the new regime in power, one finds that the record is far from spectacular. The average annual rate of economic growth between 1952 and 1966 was probably no more than 3 to 3½ percent a year. Assuming the average annual rate of population growth was about 2 percent, this would mean a rate of increase in per capita product of no more than one to one and a half percent a year. This would constitute a rate of growth below the long-term historical average for the United States, significantly below the long-term historical average for Japan, and certainly well below the post-war economic record of Japan and of a number of Western European countries and of the Soviet Union as well. This would mean that the average rate of growth in China was about the same as in India. However, in evaluating this record one necessarily must go beyond this single average.

As these studies clearly bring out, China's growth record has been uneven. The economic performance of the first ten years, 1949 to 1959, was in many respects quite impressive. Admittedly, the early part of this period was characterized by rapid recovery from abnormally low production levels occasioned by war devastation. The end of this ten-year period encompasses the two abnormal Great Leap years. The rapid spurt in growth in 1958 was achieved at the expense of a small decline in national product in 1959 and an accelerated decline between 1959 and 1962. Thus, the Great Leap led to the Great Crisis, bringing with it a deep depression in all sectors of the economy, unprecedented in scope in any other Communist system. Since 1962 we witness a gradual economic recovery which probably by 1965 to 1966 reached the point that output levels may have exceeded the former peak attained in 1958.

In contrast, India never attained the rates of growth witnessed in China in the 1950's. In India rates of growth have all along fluctuated in the neighborhood of 3 percent. Another significant difference between the two countries

is that China's rate of industrial expansion was somewhat above that of India even for the period as a whole, while her rate of agricultural growth lagged somewhat behind that of her neighbor. Furthermore, these roughly comparable performance records were attained amidst very different income distribution patterns; i.e., both regional and inter-personal income inequalities were probably much greater in India than in China so that a relatively poor growth record may have had many more negative implications in terms of personal income levels for vast numbers of the population in the former country as compared to the latter. Finally, it must be borne in mind that China relied largely on her own resources in carrying out her development program. She was indeed a beneficiary of relatively modest Soviet aid up to 1955.

However, beginning in 1956 she started repaying these credits and as a matter of fact has since then been a net exporter of capital. In contrast, Indian has been a beneficiary of large scale foreign aid and without such aid her growth performance would undoubtedly have been much poorer.

What are the implications of these growth patterns for Mainland China's economic prospects? Is the outlook necessarily as bleak as is suggested in the foreword to these studies? The poor economic performance of the '60s can be directly traced to the far-reaching policy, planning, implementation, and technical errors of the Great Leap extending from 1958 to 1960. This in turn can be traced to certain ideological predilections, attitudes, and biases of the top leadership group in Communist China. It is the same set of attitudes and biases that in many ways account for the launching of the "Great Proletarian Cultural Revolution" which has set in train the recent turmoils in China. The good performance record of the first Five Year Plan would suggest that national economic policies can lead to solid progress amidst Chinese conditions. This does not mean that the achievements of the '50s can be reproduced. At that time, the Chinese were recipients of Soviet credits. Moreover, the economic expansion of the first Five Year Plan period was at least in part due to the better and fuller use of underutilized resources. Moreover, agricultural stagnation had not yet reached such proportions as to seriously interfere with the industrial advance.

A vastly different situation confronts China in the post-Leap period of the '60s. She can no longer count on long-term Soviet credits and if industrial expansion is not to be checked, levels of agricultural production must be raised appreciably. This means a different pattern of growth and a different order of planning priorities than prevailed in the '50s. It necessarily calls for lower rates of investment so as to ease the tax and collection pressure on the peasantry and thus contribute to more favorable farm incentives. At the same time it requires allocating a larger share of investment resources to agriculture and agriculture-supporting industries.

If the Chinese Communist leadership should decide to pursue such a growth path, there is no inherent reason why the mainland economy could not attain a 4 to 5 percent rate of growth with the pace of agricultural expansion proceeding somewhat more slowly, while industrial advance could proceed at a faster rate. However, the pursuit of such a growth path implies an entirely different range of leadership attitudes than prevailed in the past. It is improbable that one can expect a long-run commitment to such a more modest development path as long as Mao is alive. However, it would be surprising indeed if he were not succeeded by a more technocratically oriented and pragmatic leadership group. Viewed in these terms, the long-term prospects for China's economic growth need not be as bleak as it is often suggested. Of course, the rates and patterns of growth assumed above would mean a rather slow and gradual rise in per capita product and perhaps an even slower increase in the standards of living. These rates also imply that it would necessarily take quite a long period of time for China to become industrialized to an appreciable degree.

II. THE ROLE OF THE INTERNATIONAL SECTOR IN COMMUNIST CHINA'S ECONOMIC DEVELOPMENT

The international sector constitutes a small but very important branch of the Chinese Mainland economy. According to several independent estimates, exports or imports comprise only about 4 percent of GNP. However, this 4 percent has made some very significant contributions to China's economic growth in the '50s and to economic and political stability in the '60s. In the first decade Soviet credits and net capital inflows made modest contributions to saving. More im-

portantly, imports made a very significant contribution to investment in the '50s and to alleviating acute food supply shortages in the '60s.

In considering the contribution of the international sector to saving we must differentiate between the situation in the '50s and the '60s. During the early '50s, i.e. between 1950 and 1955, China was a net importer of capital primarily due to the substantial Soviet credits drawn upon at that time. Such credits amounted to about \$1.4 billion. However, the credits extended in '56 and '57 were so small that in these last two years repayments of the Soviet debt greatly exceeded the last credit installments drawn. As a result, there was a significant shift in China's balance of payments position after 1955. Beginning in 1956 she became a net capital exporter, in part due to her repayment obligations and in part due to the fact that China started to extend foreign paid to other countries.

The net capital inflow for the 1950-57 period may be estimated as about \$430 million. This amount would constitute no more than about 0.3 to 0.4 percent of estimated Gross National Product for the 1950-57 period as a whole. On the basis of these calculations net capital imports during the recovery and first five year plan periods would have added no more than 1 percent to total savings.

As already indicated beginning in 1956 and up to the present day Communist China has been a net exporter of capital. For the 1958-64 period it is estimated that the net capital outflow may have amounted to as much as about \$1.7 billion. This may have constituted about 0.5 percent of Gross National Product and possibly about 3 percent of total saving for this period. In effect then total capital inflow thru 1957 added about 1 percent to total resources available for financing investments. However from '58 on capital outflow diminished resources available for investment purposes by about 3 percent. If one takes the Chinese Communist period as a whole the Mainland still turns out to be a net exporter of capital, a most unusual condition for an underdeveloped country and a condition which—however marginally—imposes additional constraints on the possibilities of financing domestic investment.

It would, however, be misleading to confine an analysis of the role of the international sector just to a consideration of net capital flows and their effect on total resources available for financing investments. An equally and perhaps even more important consideration is the role of the international sector, and most particularly of the foreign trade sector, as a highway for the transmittal of new technology, new goods, and new methods of production. Viewed in these terms, foreign trade played an extremely strategic role in Communist China's economic growth, particularly during the first ten years, i.e. during the period which the Chinese Communists characterized as THE TEN GREAT YEARS, 1949-1959. Abstracting from the early recovery period, the import component of investment may be estimated as 20 to 40 percent depending on what exchange rates are used for converting imports of complete plant equipment and machinery from the Soviet Union and East European countries to China. Not only was the import component of capital formation quite large but the particular type of industrialization that took place in the 1950s almost certainly would not have been possible without the ability to import machinery and other kinds of capital goods for expansion of investment goods capacity on the mainland.

Imports played an entirely different role in the 1960s. With the onset of the agricultural crisis, the character of the import bill was altered drastically. Capital goods imports were compressed very sharply while food imports were increased markedly. Prior to 1961 the latter averaged around 2 to 2½ percent a year. However since 1961 they have constituted 30 to 40 percent of total imports. This necessarily meant that the import component of capital formation was much lower, as a matter of fact it seems to be quite small in the 1960s. The principal contribution of imports in the 1960s was maintenance of economic and political stability. These food imports can be regarded in a sense as an investment in the improvement of agricultural incentives. That is, these imports relieve the pressure on the countryside and increase the reliance of urban areas on imported foodstuffs. At the same time, by easing the urban pressures on food supply they make a very significant contribution to containing inflationary forces. They also helped the regime in containing unrest at the depths of the food crisis. One may perhaps speculate that the pattern of the 1950s is not likely to be repeated again. It is improbable that imports will again constitute such a large component of capital formation in part because of the very experience of the 1950s Mainland China's capacity to produce capital goods

and plant equipment has been significantly augmented and therefore her needs to rely on imported components is somewhat lessened. More importantly perhaps, to the extent that a post-Mao leadership will have learned some lessons from the Great Leap disaster, one may reasonably expect a different investment mix in the future with less exclusive emphasis on the expansion of heavy industry, which in itself might lessen import dependence on capital formation.

Of course, all of the foregoing serves to illustrate the fundamental fact that these interrelationships between foreign trade, the international sector as a whole, and domestic goals and stability in China, hinge on the trends and annual fluctuations in agricultural output. Given China's economic backwardness and the weight of agriculture in the national product, and even more so in the labor force, agriculture acts as a most effective constraint on growth in all sectors of the economy including the international sector. Moreover it acts as a very effective constraint on investment levels, investment rates, on the size and composition of the export bill, and the size and the composition of imports. In these terms, the Great Leap may be viewed as a supreme effort initiated by the Chinese Communists leadership in an attempt to overcome this constraint by raising agricultural production and by thus correcting the growing disproportionalities, bottlenecks, and lack of complementarities which were very apparent by the end of the first five year plan period.

III. ECONOMIC POLICY ISSUES

It is really through the international sector that the Chinese economy comes in contact with the rest of the world. Therefore, it is not surprising that the concrete economic policy issues effecting U.S.-China relations all revolve around questions of trade and payments controls.

Ever since the Korean War we have imposed a complete embargo on all trade and other transactions between the United States and China. In addition most non-Communist countries ban exports or arms and fissionable materials to China and restrict the shipment of certain strategic goods as well. It would be fair to say that the U.S. trade embargo has proved to be ineffective in that it has not achieved its objective of inflicting damage upon the Chinese economy, of undermining the regime's political stability, or of retarding its investment programs. This is due to the fact that except for weapons, arms and fissionable materials China has been in a position to import capital goods, consumer goods, and products of all kinds, first from the Soviet Union and from Eastern Europe in the '50s and in recent years from Western Europe and from Japan. Therefore, the practical effect of the U.S. trade embargo has not been of depriving China of imported goods and services but of depriving American businessmen of any share, however small, of the China trade.

This problem is further aggravated by the fact that the embargo not only bans direct trade between the United States and China, but indirect trade via third countries as well. This means that other countries cannot ship goods to China which utilize raw materials or manufactured components imported from the United States. As a result, there are many examples of U.S. corporations bidding on contracts in Europe and losing them simply because European manufacturers did not wish to be restricted in any way as to where they could sell their products, and most particularly did not wish to be hampered in their sales to China.

This issue of indirect trade has not only placed our manufacturers at a disadvantage in certain European markets but has also served as a continuous irritant in our relations with our allies. This, for instance, has been a repeated source of at least minor friction in our dealings with Canada.

It is perhaps time to ask as to what is the point of continuing the U.S. trade embargo. If it cannot attain its avowed objectives, what is the point of perpetuating it? I would argue that the only practical consequences of the trade embargo at present is a symbolic one in a double sense: as a symbol of our self-delusion that by maintaining the embargo we are somehow inflicting some damage on the Chinese economy, and as a symbol of our policy to isolate China. It is of course perfectly true that the President and the Secretary of State have stated on several occasions within the last year that we would be interested in seeking increasing contact and communications with Communist China. Some progress along this line has already been made on our side, at least in the field of relaxing travel restrictions to China. One can only hope that all of the remaining restrictions will be lifted as well and that travel to China will be

placed on the same footing as that to Albania, Bulgaria, Rumania, and other East European countries. However this may be, it seems to me the time has come to subject our total embargo policy to a thoroughgoing reexamination. There are several questions we need to face up to. Should the embargo be relaxed? If it is relaxed, in what directions? Should it be totally lifted, except for shipments of arms and fissionable materials, or should merely certain categories of goods be exempted from the embargo? Perhaps as an initial measure should all restrictions on indirect trade be lifted, this to be followed by removing controls on shipments of wheat, foodstuffs, and other consumer goods?

Another issue that needs to be faced is the timing of any change in our trade policy vis-a-vis China. For instance, is this a good moment in time to lift or relax the embargo? Is it wise to consider these measures when China is in the throes of a far-reaching internal political struggle and when we are at war with an adversary in Vietnam who receives support from Communist China?

As to the first of these questions, the present internal struggles in China have undoubtedly weakened the regime but not at all to the point that one can reasonably expect a collapse of Communism in China or the disappearance of the Communist system. What one might reasonably suppose is that these internal struggles will continue to limit China's capability to pursue an active and aggressive foreign policy. Therefore any relaxation of the embargo on our part or any other measures designed to modify our past policy of isolating China could not possibly be interpreted as concessions extracted by China from the United States, or as measures taken by us under duress and in order to appease China. Perhaps the most important argument for taking these measures now is that precisely at the time when the Chinese leadership is groping and is in the process of crystallizing new policies, measures taken by us designed to reduce tensions between the United States and China might encourage those elements within the Chinese leadership which are themselves seeking some reduction in tensions with the West.

What about Vietnam? How can the United States take measures to relax the trade embargo during the Vietnamese war? As the studies in the two volumes of the *Economic Profile of Mainland China* show, China's contribution to the Vietnamese war has been quite limited. The foreword to volume one states "The kind of support that China has given to North Vietnam in this conflict has involved, chiefly, large quantities of small arms." They have also contributed some engineering troops for road, bridge, and rail construction and have of course made a contribution in terms of transporting Soviet shipments of military supplies; however, China receives payment for the latter. There is no doubt that the Soviet contribution to North Vietnam's military posture is much more significant than that of China. Yet, we are not embargoing trade between the United States and the Soviet Union or the East European countries nor is this being proposed as official U.S. government policy. Of course, the case against relaxing or lifting the embargo would be overwhelming if it could be shown that the resumption of commercial relations between China and the United States would in any way augment China's ability to support the war in Vietnam. However, this is most improbable. In fact, if all trade restrictions were lifted tomorrow China's trade with the United States is likely to be restricted to fairly modest levels. It is of course quite possible that the Chinese would refuse to trade with us altogether for some years to come. Even if they did enter into commercial relations with us these would be restricted by the scarcity of foreign exchange resources at China's disposal and her inability to compete in the U.S. market with more highly industrialized countries. This means that our exports to China would necessarily be confined to quite modest levels and could therefore make only a very small contribution, if any, to China's economic development prospects. Therefore the prime argument for lifting the embargo is a political one—a symbolic one. Thus just as the embargo now stands as a prime symbol of our efforts to isolate China, so would its relaxation and removal stand as a significant indication of a change in the U.S. posture and in U.S. intentions and relations vis-a-vis Mainland China.

A closely related, yet separate, issue in our economic policy vis-a-vis China concerns credit policy. Of course, the United States has not extended any credits to China since the Communists came to power. And it seems to me that there would not be much point in considering now a change in this particular policy. However in time if trade relations with China should be reopened, this might be an issue we would want to face up to. A more concrete problem

is the question of the credit policies pursued by Japan and the West European countries vis-a-vis China. All of these countries adhere to an agreement limiting credits to five-year terms. The Japanese government in particular has been under great pressure to relax this five-year limitation. I must confess that I am less clear and certain in my own mind as to whether these credit restrictions should be lifted at the present time or not. However, it ought to be pointed out that if China could gain access to more and longer term credits from the West, this measure could do more to bring about a gradual rapprochement than perhaps any other single move. It is true that long term credits could make a significant contribution to strengthening the Chinese economy. They would undoubtedly make it easier for the Chinese Communists to have their cake and eat it too, that is, to pursue investment programs and defense programs simultaneously without feeling as acutely the pinch of competition for resources between development and military needs. On the other hand, closer credit between China and Japan on the one hand and China and Western Europe on the other could very significantly contribute to integrating China—however slowly and gradually—into the world international system.

**STATEMENT OF JOHN G. GURLEY, PROFESSOR OF ECONOMICS,
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STUDY OF THE BEHAVIORAL SCIENCES**

Mr. GURLEY. Senator Proxmire, this committee and its contributors to the two-volume study of Mainland China's economy deserve to be congratulated for producing such a timely and stimulating work, "An Economic Profile of Mainland China (2 volumes), Joint Economic Committee, U.S. Congress, February, 1967." The study is indeed, as Senator Proxmire stated, "a valuable source book" for all interested people, and "an aid and a stimulus to private scholars working on this subject."

It was certainly a stimulus to me, though I must admit primarily because I disagreed so very much with the overall impression left by the studies. Most readers, I am certain, will come away from these papers feeling that Communist China has not done well and is not likely to do well. And that, I think, is wrong.

Similar impressions, as I remember them, were left by earlier studies of the Soviet Union's economy, during the days when many took great delight in deflating her every claim and in predicting disaster for her economy, but before the more recent days of sputnik and the various "gaps" when we came to look upon her people as 10 feet tall. Our enemies have to be either pygmies or supermen. It seems almost impossible for us to look upon them as they really are. We are now going through the "pygmy" stage with China, denigrating almost everything she has done, grudgingly acknowledging a few accomplishments that we cannot deny, and forecasting doom and gloom for the Chinese people.

The Foreword-summary to the two-volume study was evidently written in this spirit. There we find that, while the Communists somehow completed the work of economic rehabilitation during 1949-52, and while the economy grew at a "respectable rate" from 1952 to 1957—mostly due, however, to economic aid from the Soviet Union—the Great Leap Forward in 1958-59 changed just about everything for the worse.

Not only was there "only a modest margin of new growth (p. x) during these years, but the Great Leap, by stressing communal life and

neglecting private initiative, laid the groundwork for the serious disasters of 1960–61. And to this day, although there has been a modest improvement since 1962 (p. xviii), the economy has not fully recovered its 1959 levels.

Almost a decade has been lost “without any growth, while most of the countries around the globe registered a healthy measure of growth and development during the same span of years” (pp. x, xi). The Foreword notes that it is true, of course, that Communist China has made much progress in providing better health to her people, but this is only because “health services are popular with the people” (p. xiii) and so must be taken into account even by an authoritarian regime. It is also true that gains have been made in education, but actually the gains have been too rapid, for the “plethora of newly trained personnel” cannot easily be absorbed into the economy, and this “is known to have produced a depressing effect on social morale” (p. xv). Furthermore, while China’s leaders have advanced scientific research and development, they have tried for “quick and spectacular results” and have underrated basic research (p. xv). Finally, China’s economy is now in so precarious a state that it would be greatly endangered if she stepped up her efforts in Vietnam to any substantial extent (p. xviii). All in all, “the economic prospects facing China still remain rather bleak” (p. xviii).

That is the picture. Let me say, emphatically, that I simply do not believe it. Indeed, much of the information contained in these two volumes belies that picture. The Chinese are not supermen, but there is plenty of evidence that they have done very well. Considering the miserable economic condition of the Chinese before 1949—plagued by century upon century of poverty, disease, famine, and illiteracy—I should think that it would be absolutely impossible for anyone to miss the progress that has been made in recent years, even if, for many, it is impossible to rejoice in it.

What is the evidence of progress? Field’s estimates show that, from 1949 to 1965, industrial production—industry and handicraft—rose on the average by 11 percent per year (Field, p. 273), and Jones records a 9 to 10 percent per annum increase from 1952 to 1965, calling these gains “remarkable” (Jones, pp. 85, 95). Since other authors of this committee’s study present higher output figures for some of the key components of industrial production—for example, for steel, coal, oil, and cement—these estimates may be on the low side.

But, even if we accept them, they still show rapid industrial progress in terms of index numbers, from 50 in 1949 to 100 in 1952, to 200 in 1957, to 290 in 1965, (Jones, p. 95). And growth is not now at a standstill by any means. The Chinese claim that industrial production rose by 15 percent in 1964, by more than 11 percent in 1965 (Wang, p. 172; for estimates of 10 to 20 percent, see *Far Eastern Economic Review*, Sept. 29, 1966), and by 20 percent in 1966 (*Peking Review*, 1, 1967), (Field, p. 284), (Jones, p. 85).

If the 1966 claim is at all accurate, the industrial production index is around 350 right now and still climbing. I know of few impoverished countries in the world with a better record than that.

The committee’s studies also show that China’s industrial progress is not likely to be held back by any lack of natural resources. On the

contrary, Wang states that China is richly endowed and is already a significant world producer of mineral products, though she is deficient in a few, notably nickel and copper.

He adds: "Given favorable development conditions, the country can become an industrial giant" (Wang, pp. 169-170). Except for the exaggerated figures of 1960, Wang believes that China's mineral output is now at a record high. She is one of the four top producers in the world of coal, iron ore, mercury, tin, tungsten, magnesite, salt, and antimony.

In recent years, she has made large gains in the production of coal, iron and steel, chemical fertilizers, and oil. In fact, since the huge discoveries at the Tach'ing oilfield, China is now self-sufficient in oil, and has offered to export some to Japan (Wang, pp. 171, 186). And China's coal resources are good for at least a century for any possible rate of growth (Ashton, p. 302). The picture in regard to natural resources is far from bleak, to say the least.

Agriculture has been the weak spot in the Chinese economy. Still, one foreign visitor after another in the last few years has reported ample food supplies in Chinese cities. And, a year and a half ago, the Far Eastern Economic Review reported, with regard to food supplies, that "China has become a land of plenty" (Aug. 19, 1965). This is no doubt exaggerated, but the evidence does seem to point to a fairly good agricultural situation.

To begin with, the per capita grain supply—output plus imports—is today almost equal to that of 1957 (Jones, pp. 84, 93). On top of this, however, there have been very large gains in the supplies of eggs, vegetables, fruits, poultry, fish, and meat (Larsen, p. 260). Indeed, the number of pigs has risen so sharply that feeding them has become a major problem (Far Eastern Economic Review, June 10, 1965). China is today exporting more food than she is importing (Price, p. 585), (Larsen, pp. 205, 253), and lately she has stored a good part of her wheat imports (Far Eastern Economic Review, June 10, 1965).

All of this does not suggest a desperate food situation, but rather an improving one. Still, it is true that the steady growth of population—it should be pointed out that the steady growth of population over the past 18 years, from about 540 million in 1949 to perhaps 775 million today, is graphic testimony of long-term economic prosperity and peace—always threatens to overtake the food supplies. But China today is in a much better position than ever before to ward off natural disasters. She has made significant progress in irrigation, flood control, and water conservancy (Larsen, pp. 239-242); she is using rapidly increasing supplies of chemical fertilizers, the volume of which is now over 10 times that of the early 1950's and three times that of the late 1950's (Wang, p. 171), (Larsen, pp. 243, 246); there have been substantial gains in the output of tractors, pumps, and other farm implements (Larsen, pp. 247-249); and progress has been made in the control of plant disease and in crop breeding (Larsen, p. 251).

Many of these industrial and agricultural gains were made possible by a heavy capital investment program. Gross investment averaged around 25 percent of GNP during the 1950's, climbing to over 30 percent in 1958 and 1959 (Hollister, p. 125). During the 1960's, the investment ratio has probably been between 20 and 25 percent. These

are unusually high investment rates for an underdeveloped country; most poor countries can manage to scrape up no more than 10 to 15 percent for capital formation.

But I do not think that China's economic growth can be properly understood only in terms of investment in material things without reference to the gains she has made in investment in human beings through education, medicine and public health, and scientific research.

To begin with, there has been a major breakthrough in education. Today, the number of children and young adults in full-time educational institutions is five to seven times the school enrollment in 1949. In primary schools, the number has jumped from 25 million to well over 100 million, including almost all urban children and a great majority of rural children. The enrollment in secondary schools is only one-tenth that of primary schools, but this enrollment of over 10 million must be compared to that of 1 million when the Communists came to power. Students in high education now total about a million; there was only a handful 17 years ago (Orleans, pp. 507-512), (Cheng, pp. 529, 531).

In addition to this full-time education, there is much part-time, part-study education going on, where students spend half of their time in school and half at work. There is also spare-time education, which allows workers to take classes in a wide range of subjects after working hours. Indeed, if "school" is extended in meaning to include these as well as study groups organized by communes, factories, street organizations, the army—then there are schools everywhere in China; then China may be said to be just one great big school.

Education not only means learning to read and write—though this in itself was extremely important in a country with almost 80 percent of its people illiterate in 1949—and it not only inculcates the scientific attitude to dispel foolish actions based on myths and superstitions, but it is also designed to turn out scientists.

In pre-Communist China, the favored and capable people were engaged in literary, artistic, or political activities; very few knew anything about science and technology. The Communists have changed all that: since 1949, the educational system has produced about a million graduates in science and engineering (Cheng, p. 531). (I have extrapolated Cheng's figures to 1966.)

In addition, about 8,000 students were sent to the Soviet Union and Eastern Europe for university training, and recently students have been in England and France. The Communists have also extensively trained and utilized women in scientific fields, who are now one-quarter of all scientific personnel. Scientific knowledge has been widely disseminated, and much progress has been made in the development of new branches of science and technology, such as nuclear physics and ultrasonic technology.

China's gains in the medical and public health fields are perhaps the most impressive of all. The gains here are attested to by several U.S. experts and by many recent visitors to China. For example, a Canadian doctor recently visited medical colleges, hospitals, research institutes, a commune, a factory—everywhere he found good equipment, high medical standards, excellent medical care; almost all comparable to Canadian standards. He noted that the Chinese

have put special emphasis on public health, G. Leslie Willcox, "Observations on Medical Practices," bulletin of the Atomic Scientists, June 1966, page 52. See also William Y. Chen, "Medicine and Public Health," in *Science in Communist China*, pages 384, 397-399:

"Disease was a major problem in China, and they have accomplished a great deal in preventing the large epidemics. The infant mortality rate has dropped until it now is comparable to Canada's rate. Cholera, smallpox, typhoid, typhus, and venereal disease have been almost eliminated. Schistosomiasis, a parasitic infection seen chiefly in southern tropical China, has been brought under control. Human excrement is processed to make it safe before it is used on the fields. The doctors are well-trained in public health matters, but their efforts would be useless without the intensive radio propaganda and group talks, to enlighten and direct the entire population in a mass program of health and sanitation consciousness."

All of this has been subscribed to by others, including a member of the U.S. Public Health Service, who a few years ago stated that "the prevention and control of many infections and parasitic diseases which have ravaged (China) for generations" was a "most startling accomplishment." He noted, too, that "the improvement of general environmental sanitation and the practice of personal hygiene, both in the cities and in the rural areas, was also phenomenal."

So, there it is—a picture of an economy richly endowed in natural resources, but whose people are still very poor, making substantial gains in industrialization, moving ahead much more slowly in agriculture—but, nevertheless, moving ahead—raising education and health levels dramatically, turning out increasing numbers of scientists and engineers, expanding the volume of foreign trade and the variety of products traded, and making startling progress in the development of nuclear weapons.

This is a truer picture, I believe, than the bleak one presented by the Foreword-summary and by most of the papers in the two-volume study. It is a picture of substantial, though uneven and unsteady, progress, and there is nothing in the picture that suggests to me imminent collapse.

From the industrial, agricultural, and other gains I have outlined, I would estimate that China's real GNP has risen on the average by at least 6 percent per year since 1949, or by at least 4 percent on a per capita basis. This may not seem high, but it is a little better than the Soviet Union did over a comparable period (1928-40), much better than England's record during her century of industrialization (1750-1850) when her income per capita grew at one-half of 1 percent per year, perhaps a bit better than Japan's performance from 1878 to 1936, certainly much superior to France's 1 percent record from 1800 to 1870, and far better than India's 1.3 percent growth during 1950 to 1966.

In the last 4 or 5 years, China's real income per capita has been growing, I would guess, at 4 to 6 percent, which if continued would double it by 1980, and then double it again by 1995. However, even by the end of the century, China's income per capita is not likely to exceed \$500, which is less than Japan's today. This only underscores what we already know, that it took a long, long time for Japan, the U.S.S.R., and other successful countries to work their way out of the world's slums. It will take China a long time, too, but as far as I can see she, unless she is attacked, is now well on her way.

Chairman PROXMIRE. Thank you, Mr. Gurley.

These are three very stimulating and interesting papers.

Mr. Perkins, is it not true that in view of the nature of the emphasis of the Chinese economy, that is industrial development, steel development, military production, especially nuclear production, that any further growth in GNP could represent, would represent a somewhat greater—however modest the increase would be—a somewhat greater threat, military threat?

What I am thinking of particularly is the argument that we have had by some expert witnesses who have appeared that the prospect of China coming into the Vietnam war is less than their going into the Korean war because her transport in southern China has not been as well developed as in the Manchurian area, and her sources of production in southern China are—rather the amount of production in southern China is less than the Manchurian area.

And I would think that if China develops at a 6-percent rate, that she might be in a stronger position to build the roads, build the railroads, and to move into area on her periphery, if she wished to engage in aggression.

Mr. PERKINS. Well, as you can gather from my statement, I do disagree with that formulation.

I have tried to make the calculations at times of how much it would cost China to enter various kinds of conflicts. When you make these calculations, you find that in fact even with a much smaller economy than China has today, she would have no problem putting very large numbers of troops into Vietnam.

Chairman PROXMIRE. Nobody has denied that. I think that is stipulated to.

Can she supply the troops, provide the ordnance, provide the capacity to make those troops as effective as she did in Korea?

Mr. PERKINS. I don't think there is any question in my own mind about that at all. The only issue would be whether American air interdiction of Chinese supply lines could be so effective that it could prevent the supplies coming south. They have the transport capacity.

Chairman PROXMIRE. Of course, that is part of the question. Could she supply the troops in the face of the kind of firepower we could bring to bear, air and elsewhere, on the troops moving in?

Mr. PERKINS. Here the best evidence, the simplest kind of evidence, is Korea. China in late 1950 had an economy that was flat on its back. The Communists had just attained political control of the country. In spite of those conditions, they were able to put something like 50 divisions, counting reconstituted North Korean divisions—I think 70 divisions into Korea. There is nothing particularly easy about the supply problems in Korea. There are only a limited number of routes to the front. In fact, our bombing did as I understand it have great effect in slowing down the equipment getting to the front, and in causing the troops getting to the front to be somewhat shellshocked by the time they were there. The fact is they got the 70-odd divisions to the front, they were supplied, and they were effective against the United Nations forces. Today China's heavy industrial capacity, her transport capacity—in south China as well as the north—is far greater than in 1950.

Heavy industrial capacity is seven times what it was in 1952. Transport capacity has been expanded. Considerable effort has been made in these areas. It is inconceivable to me that China could not put 50 or 70 divisions into Vietnam, supply them, and supply them at a cost, (barring the destruction of China's industrial capacity by bombing) that is well within her capacity.

Chairman PROXMIRE. Does she have the roads and the railroads and so forth in that area to do this job?

Mr. PERKINS. I don't pretend to be an expert in detailed military logistics, but my impression is yes. If she does not have them, she has the ability to build them in a hurry.

Chairman PROXMIRE. Again, to get back to the basic argument you made, which is that it is a matter of indifference as far as military capacity is concerned, whether she grows at 6 or or 3 percent—over a period of 10 years, compounded that would make a difference of far more than 30 percent in their capacity. And you think this would make no real difference in armament potential, no real difference in nuclear potential—nuclear I suppose less than the other areas. But after all—

Mr. PERKINS. She could build more trucks, build more tanks; the question is what would she do with those trucks and tanks—more than she can do already.

As I say, in the Vietnam calculation, even if you assume a Chinese division in combat needs several times as many supplies as it needed in Korea (when they required 50 tons a day) you still get a figure for Vietnam that would cost China something on the order of \$2 billion a year to maintain 50 to 70 divisions. That figure does not take into account United States bombing of the industrial bases in Manchuria or some similar action. It assumes the United States would confine itself to dealing with such problems as the interdiction of Chinese supply lines in South China.

Chairman PROXMIRE. Do you think that the biggest factor restraining Chinese intervention is the threat of U.S. bombing of their industrial plants?

Mr. PERKINS. No, sir. I think the basic reason why the Chinese are not intervening is because there is really nothing they can do in Vietnam. When I say they can get the troops into North Vietnam, and they can supply them in North Vietnam, it doesn't mean they can send 70 divisions into South Vietnam and effectively drive the United States out. I think they would be defeated, or stopped and they wouldn't have accomplished anything by this process. They cannot fight the guerrilla war for the North Vietnamese. All they can do is turn it into a conventional war.

Chairman PROXMIRE. Yes, I see more clearly now your position. In a conventional war, our firepower would be much more effective. And our firepower has increased geometrically since the Korean war. It is a far different dimension.

Mr. PERKINS. The other part of this argument is that China probably could not begin to afford a war in India. That is, a war in India that took her down onto the plains of India. If you assume, say, a reasonably effective 30 Indian divisions, China would have to put at least double that number into India to have an effective offensive

capability. China would probably also have to have armor on the Indian plains, and would have to supply this force over a thousand-mile supply line across Tibet. The costs of that operation runs quickly into \$10 billion or \$20 billion a year and more. This cost is something China cannot afford today. I do not see that a 30 percent increase in GNP or even a hundred-percent increase is going to make that kind of an operation economically feasible for them.

Chairman PROXMIRE. How about a massive increase in Chinese nuclear power as a threat to Japan?

Mr. PERKINS. The Chinese, it seems to me, are clearly going to go ahead with nuclear weapons and missiles, and have missiles that will be able to strike Japan, in the not very far distant future.

They will also eventually have missiles that will strike the United States—leaving aside the antiballistic missile debate.

It is difficult to see where the rate of economic growth will affect the pace of this development.

Chairman PROXMIRE. You do not think there is any economic restraint on the nuclear development?

Mr. PERKINS. I don't see it. Again, even if you assume it costs China three times as much as it costs France—there is no way of really knowing what it is costing the Chinese—you find the cost of a nuclear missile program for China is somewhere around \$1 or \$2 billion a year. It is inconceivable to me that China, given her position in the world today, with everyone around her being essentially hostile, or she being hostile to them, that she could afford not to develop this program. The cost is not in any sense prohibitive. The bottlenecks, I believe—although I am not an expert on nuclear weapons or missiles—are really primarily technical. If she doubled her expenditures on missiles and nuclear weapons, this step probably would not increase the speed of her development very much.

Chairman PROXMIRE. Did you want to comment on that, Dr. Eckstein?

Mr. ECKSTEIN. Yes, Senator Proxmire. I go along part of the way with Mr. Perkins, but I cannot go along with him quite all the way.

It seems to me that he hasn't sufficiently considered the reverse side of the coin; namely, how the defense program affects the investment program. The competition for resources between defense and investment becomes much less tight when you have a 6-percent rate of growth than when you only have a 3-percent rate of growth. This is particularly the case if you put about 10 percent of your GNP into defense, which is roughly what the current estimate is for China—although this is, of course, subject to a large margin of error. A defense program of this size necessarily puts a tremendous squeeze on your investment program. I would agree with Mr. Perkins that the Chinese would have roughly the same kind of nuclear program with a 6-percent as with a 3-percent growth rate.

I think it is also true that they would have the same capability to fight a certain kind of people's war regardless whether the growth rate is 3 or 6 percent. However, I am not sure that their capabilities for fighting a conventional war over a 10-year period would be the same with a 3-percent or a 6-percent rate of growth. That is where I disagree with him.

Mr. PERKINS. I certainly did not mean to imply the military investment program of China is no strain on China. It is a strain on China. It does reduce resources that could go into investment. My basic point is they have little choice given their world posture, but to make that kind of investment regardless of the rate of growth over the next decade or two.

Chairman PROXMIRE. But as they make that choice, as they put a given amount into defense, and as it amounts to 10 percent of their GNP, then the capacity that they will have 10 years from now militarily would be, I should think substantially is enhanced if their growth is 6 percent. Because the margin, it would seem to me, is so small.

Mr. PERKINS. Conceivably it would be a little bit easier to have a few more airplanes, but they could shift more resources away from nonmilitary sectors today, if they felt these airplanes would do them a lot of good.

Chairman PROXMIRE. Three percent and 6 percent—a GNP of a hundred billion dollars—that would mean they would grow at \$3 billion a year. And of course it is compounded. It would make a difference of \$30 billion gross national product 10 years from now. That \$30 billion might make it possible for them to have a stronger military force. But their GNP today is more like \$50 billion, not \$100 billion.

Mr. ECKSTEIN. With 6 percent, it would almost double, and with 3 percent it would increase roughly by a little less than 50 percent. So it would go from \$100 to \$150 versus \$100 to \$200 billion.

Chairman PROXMIRE. In other words, it would make a difference of \$150 billion or \$200 billion GNP 10 years from now?

Mr. ECKSTEIN. Roughly.

Mr. PERKINS. That \$200 billion would imply they were getting into the league of the Soviet Union of the 1950's, whereas that will not be the case.

When they do get a GNP of in the neighborhood of \$200 billion, over a hundred billion dollars of which is in the modern sectors, I have no doubt this will have a significant impact on their conventional capability. They may then have some ability to build an air force that could really stand up to the United States.

Chairman PROXMIRE. Maybe even some kind of a naval force that might be effective.

Mr. PERKINS. Conceivably, too.

Chairman PROXMIRE. Mr. Gurley indicated they seemed to have a commitment—it is an understandable commitment—to provide a certain proportion for food, and an earlier witness, Mr. Dernberger, yesterday, indicated they had been able to maintain 2,000 calories daily per capita for some time. And they want to make a substantial commitment to health, a substantial commitment to education. And therefore the leeway is very very important from a military standpoint, it would seem. If they can grow twice as rapidly, therefore they would have more to move into this military operation than if they cannot.

Mr. PERKINS. I am not sure they would move it into military operations.

Chairman PROXMIRE. Perhaps not. But they would have the option.

Mr. PERKINS. They would have the option. And in maybe 20 or 30

years' time, that option might actually materially enhance their military power. In the next decade it is very difficult to see how this would be the case.

Chairman PROXMIRE. You said the political interference in factories has been called off. You said in the Great Leap it took 3 years to call it off, this time it took 3 weeks. Are you pretty firm on that? Is the evidence unequivocal that the political interference is ended?

Mr. PERKINS. I think anybody who is firm on what has been going on in China the last year and a half would be very foolish. I think there is substantial evidence that suggests that they did go into the factories in early 1967 in a way different from 1966, and that they caused great disruption—their own press releases indicate this. I think it is also quite clear that this massive disruption, this great effort, was definitely called off in some sense.

Chairman PROXMIRE. Professor Richman, who was a witness here 2 days ago, is a Canadian citizen. He visited China in 1966, went to a number of factories, and observed the situation. He said that it had deteriorated in the months he was there, that the interference in factories became worse and worse not only in terms of the policies of requiring the managers to spend more and more time on the assembly line, and purify themselves in that way, but also in their taking more and more time from production to have ideological meetings at which they would discuss whether they were deviating from Maoist doctrine by getting a spare part, or something of that kind.

Mr. PERKINS. Political influences have always been in the factories. They were undoubtedly accentuated in 1966, and they undoubtedly continued after what I referred to as the ending of the major disruption. I would agree with Mr. Richman that these continuing political influences in the management of the factories undoubtedly have a detrimental effect on the efficiency of Chinese industry.

When I say call off, it was Red Guards in the factories, really running things or interfering with operations that was called off fairly quickly. Whereas in the Great Leap Forward you had more or less the entire factory operating this way for a period of 2 or 3 years—building factories that were not needed, using machinery improperly, and the like. This sort of thing only went on for a few weeks this time.

I think there is no question the cultural revolution will have detrimental effects on the economy for some time to come, at least in some limited way.

Chairman PROXMIRE. You and Ambassador Reischauer both take the position that we should end our trade embargo, and I take it the other members of the panel agree that at least to some extent we should modify the embargo. There is some question as to how far we should go in that direction. But you feel we should end it, and it would have a beneficial effect, or at least potential.

Is not that true as long as we have military presence, especially in Vietnam, and possibly as long as we have a big military presence in Asia, that China is not going to trade with us anyway. They have the option of trading with Western European countries, with very little difference in price, and so very little commercial sacrifice. So why should they trade with us, and why should it make any difference, and why should it really change their attitude in view of the

military presence which it seems to me would have a far more significant effect on the attitude both of their people and their Government than whatever we say, whatever change we make in a trade embargo.

Mr. PERKINS. I don't disagree with anything you have said. The basic determinant of our relations with China will be what we do in Vietnam and elsewhere in Asia, particularly in the military sense.

Chairman PROXMIRE. How far, in your view, do we have to modify our Asian policy? Say that the Vietnam war ends in 6 or 8 months, and that by a year from now we have withdrawn from Vietnam, and that we have kept our commitment not to have a base in Vietnam. But we still have troops elsewhere in the Asiatic area.

What do we have to do in your view in order to provide a basis for a change in Chinese attitude toward us?

Mr. PERKINS. I don't have great hope that any change is going to come about rapidly, or that anything the United States is going to do in the next year or two is going to make a major difference, or even that much will happen within a decade. I would agree with Professor Eckstein that getting rid of the embargo at least puts us in a position whereby a future leadership in China can say, "Well, look, the United States is not firmly opposed to everything we stand for—whether it has anything to do with communism or not. The United States is not trying to bring down the Chinese economy. They are quite willing to deal with us on a more pragmatic, nonideological basis. Why don't we go ahead and do this?" I don't think such a step will lead to much trade in the near future. But even if it did lead to trade, this would probably be all to the good, not to the bad, from the point of view of the United States.

When you say withdraw from Vietnam, I assume you would mean withdraw under some conditions—

Chairman PROXMIRE. Yes. There is no question, while there are many dissenters, we are not going to withdraw from Vietnam until we get some kind of negotiation which would be a number of months at least at the very best, and maybe a number of years. But I am just trying to determine—I think you have given me a pretty good answer—what your view is as to the military situation that has to develop before any abatement of our trade embargo has any real significance.

Mr. PERKINS. Whatever we do in Vietnam will dwarf whatever we do with regard to recognition, travel, and trade. I do not believe there is any question of that. I feel that it is very important to stay in Vietnam, and to see it through in some sense.

But I think that the advantage of all these various little moves is that they create a posture for the United States which will, as I say, allow some future Chinese leader to take some different course if he so desires. Whether he does take that different course I think will be primarily determined by domestic developments within China, and I have tried to suggest that economic growth would probably tend to speed up those developments rather than retard them.

Chairman PROXMIRE. Before I call on Senator Javits, I would like to ask each of you gentlemen how you feel about a theory which was enunciated to me the other day by Professor Scalapino of the Uni-

versity of California, Berkeley, who indicated that a sensible reason for our attempting to do everything we can over the long run to reach some better understanding of mainland China, and to develop trade and other relationships with China, is that if we do so, that it may offer an alternative to the Chinese from a closer approach to Russia, and that it is in our interests to prevent any closer relationship developing between Russia and China of the kind they had up until 1958 or 1959.

Mr. Gurley, do you want to start out, and each of you gentlemen give us some remarks on this.

Mr. GURLEY. I think there is something to the theory. It is in our interests, no doubt, to keep China and the Soviet Union at odds with one another. And I think that relaxation on our part with regard to trade, travel, and other things may, over a long period of time, draw China closer to the United States. However, it would seem that China would continue her quarrel with the Soviet Union with or without such an alternative.

The main purpose of our trading with China and perhaps even extending aid to her would be to help one-fourth of the world's population to live a little bit better.

Chairman PROXMIRE. Mr. Eckstein?

Mr. ECKSTEIN. I tend to also go along with this theory. I have always felt, and I tried to imply it in my statement, that it is to our national interest to give China as many options as possible for gradual rapprochement with the non-Communist world. I have no illusions. I know—I don't actually know, but I am reasonably convinced that from China's point of view the key issues are Taiwan and Vietnam now. That until those two issues are in some sense resolved, it is going to be very difficult to have more normal relations between China and the United States.

On the other hand, it is perfectly possible that if the Vietnam conflict is settled in one way or another, that a new leadership in China, a post-Mao leadership in China, will not give Taiwan the same unalterable absolute inflexible priority that the past leadership did, in which case some kind of normalization of relations between the United States and China may become possible. And the more the ground has been prepared for that in advance by these small moves, as Professor Perkins referred to them—trade embargo, travel, other things—the easier it will be at that particular time.

I will put it this way.

It seems to me our task now is to open doors, and to open as many doors as we can, but to open doors in a way that they involve no great risk for us. We are not giving anything away; that is, anything very substantial. We are just opening a few doors. And one day, when the Chinese are ready, let them walk in.

Chairman PROXMIRE. Mr. Perkins?

Mr. PERKINS. I think I agree with what both these gentlemen have said. I think it is in our interest, with regard to Mr. Scalapino's statement, to play whatever role we can in preventing the Sino-Soviet bloc from becoming a bloc again. I don't think in fact there is much likelihood of it becoming such a bloc again.

Chairman PROXMIRE. Ever?

Mr. PERKINS. "Ever" is too long. One should never say never. In any case I don't think what the United States will do here will be the crucial determinant of this. But to the extent that trade with the United States and China would tend to give the Chinese leadership an alternative to realignment with the Soviet Union, I think it would really work in our interests.

Chairman PROXMIRE. Thank you.

Senator Javits?

Senator JAVITS. Gentlemen, your papers—I am very sorry I was not here to hear them, but I have the essential sense of them—your papers lead me to ask this question.

Do you think that the economics of China—that is, whether China is prosperous or reasonably so, considering her standards, or is lean and hungry—will have an effect upon its foreign policy in the sense that a somewhat more satisfied China will tend to pursue the traditional Chinese policy of closing itself in, whereas, a lean and hungry China will undertake a more revolutionary expansionist policy, and tend to move out to acquire lands or influence throughout the Asian continent?

Do you have any views on that?

Mr. GURLEY. I don't think that will make a great deal of difference within a fairly wide range—if her economy were 10 percent more prosperous now than it is, or if she grew at 5 percent over the next 10 years instead of 2 percent. China will continue to promote people's revolutions wherever she can. I don't see anything in the offing so far as land expansion is concerned.

Mr. ECKSTEIN. I agree with Professor Gurley's comments. I would like to add one or two words.

I think as long as China is in a very backward state of development, as long as her economic growth is relatively slow, this contributes to a set of frustrations.

I do not think that the set of frustrations are likely to take the form of external expansion, territorial expansion. But they are likely to contribute to a rather militant political posture, because as long as these frustrations are present, and there is no clearly visible rapid economic growth, one of the ways in which the leadership can project an image of forward movement, both internally and externally, is by a very militant posture.

Therefore, I would argue—and here I go along with the spirit of Professor Perkins' initial statement—that in the long run it is to the national interest of the United States to see a more rapidly growing and prosperous China rather than a poor China. I do not mean to suggest that a poor China is going to go out and grab territories, but a poor China is more likely to be a de-stabilizing factor in international politics, in the international political system.

I think it is to our interest to try to, if you like, domesticate China as an international animal. And I think this is easier to do in a China that is relatively more prosperous than in a China that is very poor.

I would not like to venture to predict that a prosperous China is not going to be militant. But I just say that it is somewhat more probable that it can be domesticated.

Mr. GURLEY. May I respond to that, Senator Javits, before Professor Perkins speaks?

I think that the main factor here is not whether she is hungry, or whether she is doing better economically, but rather the threat of attack from the United States or from the Soviet Union.

China will promote peasant revolutions in Thailand and elsewhere if she thinks she can tie up more U.S. forces, and so lessen the chances of attack on her.

As a matter of fact, the "cultural revolution" in large part is an attempt to prepare her people for a coming attack by the United States or by the Soviet Union. This is where the militancy comes from.

MR. PERKINS. I am afraid I do not go all the way with Mr. Gurley on this last statement. I think that a lot of Chinese militancy today comes—in addition to the factors he suggests—from their ideology. That is, I think, they genuinely believe in the world revolutionary movement, that the leaders are interested in this movement to some extent for its own sake. I think if you try to explain some of their actions, particularly the Sino-Soviet dispute, without taking into account ideology, you run into a very difficult problem. That is, some of their actions do not seem rational in the light of a simple power security calculation. They only seem rational if you accept the view that they consider the promotion of world revolution very important.

As to the effect of economic development on all this—I also have a certain shade of difference with at least Professor Gurley. I think that economic development and the complexities of the industrial world will erode ideology, and by eroding ideology, will also reduce some of China's interests in revolution.

I think this ideology will erode, even if they do not have economic prosperity. I think economic prosperity will make it erode more rapidly, and perhaps in a more constructive way.

What a China with a large industrial base, but basically still poor in terms of being unable to feed its people, would be like is difficult to say. But the history of the world—prewar Japan among others—does not lead one to believe this would be a very happy prospect.

There is one point that you made in your initial statement as to whether China is interested in southeast Asia for economic reasons. To this I think one can give a categorical no. The rice surplus of southeast Asia is something they can get by trade far more efficiently than they can ever get by invasion. It would be the most incredibly inefficient way of solving their agricultural problems.

Senator JAVITS. Do you two gentlemen agree with that?

Mr. ECKSTEIN. Very much.

Senator JAVITS. As economists you are telling us—because I think it is very critically important to the reason why I wanted these hearings and inquiry—as economists, you are telling us that the economics are against Chinese expansionism by force rather than trade. And unless China is really cornered, it is unlikely that she would take the course of force versus trade.

Mr. ECKSTEIN. If I may speak to that, Senator—

Chairman PROXMIRE. For the record, I see Professor Perkins nodding, and agreeing. And Mr. Gurley apparently agrees, too.

Mr. Eckstein?

Mr. ECKSTEIN. Well, I would just like to underline this conclusion. At the risk of sounding immodest—in a book I published a year

ago, this was one of the central points I tried to bring out. I think the evidence is overwhelming that it would be very foolish for China to attempt to solve her agricultural problem and try to gain rice surpluses by invading neighboring territories. One way of not getting rice is to invade the areas of southeast Asia. The Chinese have had plenty of problems with their own peasantry, and these problems would be a million times compounded with a conquered peasantry. Therefore, I just cannot see it. It seems to me there has been a great deal of misunderstanding among the public on this issue—people see the population hordes of China, and have the impression that these are bound to seek *lebensraum*. I think the *lebensraum* theory has never been a viable one in the field of international politics. It has always been a rationalization for a policy rather than a reason for it.

Senator JAVITS. So your theory is Communist China's aid to North Vietnam is ideological and security in character—that is the same theory as the Russians in Europe—have as many buffers as you can around you, in terms of security, on the theory that the "Imperialist Wilson" will come and get you one day. And, secondly, proselyte states to become Communist states as much as you can. But it does not really have an economic base.

You all agree.

Very interesting. And in my judgment extremely important to our discussion.

Now, the next question I would like to ask you relates to Professor Perkins' paper.

What he argues—just as you argue economically that it is more profitable to trade by the Communist Chinese than to invade and possess, he argues that—foreseeable rates of economic development are not likely to increase Communist China's military potential appreciably.

That is what I gather to be the end result of that—is that so?

Mr. PERKINS. The military potential will increase at a rate determined by China's military situation—regardless of the rate of growth.

Senator JAVITS. The implications that if we trade with them, and don't try to inhibit others from trading with them, we are not adding to the military potential of Communist China in any material way. Is that your conclusion?

Mr. PERKINS. Yes.

Senator JAVITS. What do the others think about that?

Mr. GURLEY. Well, we discussed this question, Mr. Javits, just before you came in. There was some disagreement about this.

For myself, I agree with Mr. Perkins' statements with regard to nuclear capability. China, with her present economy, can do just about what she wants to do in nuclear weapons development within the limits of her expanding technical know-how. I am not so certain, however, concerning more conventional warfare, including intervention in Vietnam. A faster growing economy over the next 2 or 3 years may allow her to do a few more things in Vietnam.

Mr. ECKSTEIN. That is very much my position.

Mr. PERKINS. I think we all agree that China could intervene in a major way in Vietnam, finance a very major involvement in Vietnam, regardless of the rate of growth. The difference may be—and I am

not sure there is a real difference—may be on how large that involvement is—whether it is 80 or a hundred divisions.

Mr. ECKSTEIN. Well, this I think is a very complex problem.

Theoretically I would say "Yes." If China could be sure that her intervention would not evoke a different kind of U.S. intervention—that is invasion of North Vietnam and bombing of Chinese targets—then I think Professor Perkins is right. But I suspect that one of the major deterrents to Chinese intervention in North Vietnam—not the only one—is the possibility that this would indeed lead to U.S. retaliation.

Senator JAVITS. And escalation would not be unilateral on the part of Communist China—no question about that.

Now, nonetheless, I gather you agree that enlarging, to the order of magnitude that you have testified to, of the commercial contacts between Communist China and the rest of the world, even if it has this possibility, or capability, to use a military term, is worth the considering of the other things which will be gained.

Mr. ECKSTEIN. Well, Senator Javits, as I tried to indicate a little earlier, I cannot see how renewing commercial intercourse between the United States and China could really in any significant way contribute to China's military capability.

Senator JAVITS. I don't think, Professor Eckstein, that is our choice. I was coming to that question. I might as well ask it now.

Frankly, I don't believe that it is likely that the United States' economic contacts with Communist China will have any change for the foreseeable future. That is my judgment.

I don't agree with that. But that is my judgment—just for the reality.

Where I think you find a change, and a change is entirely practicable, would be in a policy determination by the United States that it will no longer regard it as unfriendly for other nations to deal with Communist China in nonstrategic goods. And this will especially affect Japan. This does not mean we have any undue influence in Japan or anywhere else. But we are a very great power, and other powers, who are our intimate trading partners and friends, find it much more profitable to have good relations with us than with Communist China.

Now, when those are relatively speaking mutually exclusive, this has an automatic inhibitory effect, even though we don't use any undue influence, and I am sure we do not—it would be very unwise and counter-productive if we did. But nonetheless, it is very important.

So I think what you are dealing with is not just the United States doing a hundred million dollars' worth of business with Communist China a year in tung oil or some other commodity, which is not too critical—or something else—but in the general policy thrust of the other great superpower in the world, in respect of our allies, and our friends, and our trading partners—and that is very important.

Now, in the light of that, let me have your answer.

Mr. GURLEY. I can only agree with your statement.

Senator JAVITS. In other words, you feel that we should not inhibit our friends and trading partners in the world from proceeding without any fear that we will be sore about it, to do whatever business they wish to do with Communist China?

Mr. GURLEY. Right. China can then buy a Caravelle from France, without being told that there are a few U.S. parts in it.

Senator JAVITS. Or do business with Japan, without Japan being fearful that—since Japan is one of our principal suppliers in many things—that we are going to crack down on her, because she is doing too much business with Communist China, or the German Federal Republic, or the United Kingdom. These are the big sellers. Right?

Mr. GURLEY. Yes.

Mr. ECKSTEIN. Senator Javits, there is a concrete problem here, too. Professor Gurley has alluded to it; namely, it is not just a matter of our indicating that we have no objections. We also have to indicate that we have no objections to their using our components. This has been quite a serious stumbling block in many cases—that contracts have not been concluded because we have not permitted—not licensed—export of certain goods which would go as components into Western European or Japanese goods, which then would be shipped to China. So that might be the first step.

Senator JAVITS. I am afraid that would not be the first step politically. I think what I have said is likely to be the first step—that is a diplomatic easing of the situation, as far as we are concerned, of our displeasure.

I think that components would come later, just as trade would come later. But in the fairly approximate future, a change in American policy would be possible, depending upon the weight of the evidence which you are giving now.

Mr. PERKINS. I would completely agree with your initial statement, and add that I think that it is probably far more important in many respects for China to have as much contact—not only in trade, but in every other way—particularly with Japan, and also with Western Europe. That is, I think that contacts between Japan and China, particularly the more Chinese that go to Japan, are likely to have over time a very substantial effect on the attitudes of Chinese leaders as to what is the future of China.

Senator JAVITS. Now, next question.

Professor Eckstein says—my people have analyzed your statement and tell me this—Professor Eckstein says that lifting of the embargo would have a positive effect in terms of a better and less intransigent orientation to the rest of the world in the present leadership struggle in Peking. Is that your feeling?

Mr. ECKSTEIN. I did not quite put it as strongly. What I believe I said was that lifting the embargo might encourage those elements in the leadership which are more sympathetic or open to a reduction in tensions.

Senator JAVITS. Do the others agree with that? Professor Gurley?

Mr. GURLEY. Well, this is a very difficult question.

As far as I can see—let me underline that no one can be absolutely certain about what is going on in the struggle within China—some of the anti-Maoists are for rapprochement to some extent with the Soviet Union, and for further intervention in the Vietnam war.

Now, if trade undermines the Maoists' position, and brings in the anti-Maoists, then it may line China up more with the Soviet Union against the United States "Imperialists" rather than do the reverse.

Mr. ECKSTEIN. May I respond to that, Senator?

I, of course, agree that all of this is very speculative, because we have very little evidence. But there is some evidence that there really are three schools of thought in China on this—on the issues which Professor Gurley posed. These can be labeled hawks, doves, and “dawks”.

Chairman PROXMIER. Is this the thing you hit in badminton?

Mr. ECKSTEIN. I don't know—an attempt to compromise.

The positions are roughly the following:

On the one hand you have certain elements in the army which probably were led by the purged chief of staff, who were in favor of a rapprochement with the Soviet Union in order to accelerate, or in order to support the professionalization and modernization of the army, and in order to pursue a more active military posture in Vietnam, in unity with the Soviet Union.

On the other side you have the doves, who favored rapprochement with the Soviet Union for exactly the opposite reasons—low military posture in Vietnam, in order to accelerate economic development, to receive more economic aid from the Soviet Union.

And in the middle, Mao himself, and the leadership group around him which is the reason for “dawks,” who opted for a low military posture in Vietnam, absolute and unalterable opposition to the Soviet Union, no reconciliation under any circumstances, and as a substitute for an active military posture, a very active and militant verbal and political posture.

Now, if this kind of analysis has any validity—and of course it is speculative, although there is some documentary evidence for it—then in a sense one could argue that it is to the U.S. interest to support the doves. I mean we cannot support them, but to pursue policies which might possibly play into the hands of the doves.

Now, at best these are very marginal contributions to that policy. Our leverage is extremely limited. But this is really the rationale.

Mr. PERKINS. If Professor Eckstein's remarks are put in context of how do we effect some future discussions among the leadership in China 5, 10 years hence, then I go along with him. If it is how we effect the present power struggle in China today, then I would suggest that, even in a marginal sense, I don't think we have any idea what the effect would be. If the Chinese thought we were using this as a device to try to manipulate the power struggle, it would have the reverse effect from what it would have if they did not realize this. There is little question in my mind first that the power struggle is primarily determined essentially not by foreign policy issues, but by domestic issues.

I agree there are these foreign policy differences, but I do not think they are fundamental. I think that the importance of the issues dividing China today to the domestic future of China is so great, they are going to be resolved by domestic considerations within China. The United States really has no way of effecting the short-term power struggle and should not even try.

Mr. GURLEY. Mr. Javits, I think we agree there are at least two main issues involved. One is a domestic and one is a foreign policy issue. The domestic one is how best to develop economically—how to do it. One group desires rapprochement with the Soviet Union for the very purpose of getting capital goods and aid from the Soviet

Union for this purpose. The other group says that man is superior to machines, and with the right ideological development, China can develop very rapidly without aid from the Soviet Union.

The foreign policy issue is how to prepare for a possible coming attack by the United States. And here one group argues that the best way to prepare for this attack is rapprochement with the Soviet Union. So that up-to-date, modern military weapons may be given to China in the event that an attack occurs. The other group again argues that a man is more important than machines, that the way to prepare for a coming attack is to prepare ideologically.

Now, you can prepare ideologically for foreign policy reasons and for domestic reasons. There is a common solution to both problems. And this is what the Maoists are presently up to.

Senator JAVITS. Very interesting.

I would like to ask just one last question: How do you evaluate the rate of progress of Communist China as a less-developed country with India and with Latin America—just to take two criteria?

When I was in India 10 years ago—my wife and I were both there—there was a tremendous amount of discussion about the fact that they were being outstripped by Communist China in economic progress, and therefore the Communist Chinese techniques, Communist China itself as a country, its leaders, were very popular in India.

Now, that, of course, got a big blast when the Communist Chinese hit them over the head militarily.

I just wondered what is your present analysis of the situation as you look at these staff studies and other information you have.

Mr. GURLEY. Well, so far as Latin America is concerned, I think that the facts are that for the last 15 years, Latin America as a whole has had a 5-percent income growth rate, but about a 3-percent growth of population; so that income per capita has grown by approximately 2 percent. India in the last 15 years has had a growth rate of income per capita of 1.3 percent, which is fairly low.

Mr. ECKSTEIN. Would you say that again?

Mr. GURLEY. India's growth rate in income per capita has been 1.3 percent since 1950.

Now, we often say that we cannot be sure of the Chinese figures, and we emphasize this. It is also true you cannot be sure of the Latin American figures or the Indian figures. But that does not make the Chinese figures any better.

But as far as I can see, the income per capita in China has grown somewhere between 4 and 5 percent since 1949 or 1950. That has been the average annual rate of growth, which is quite a bit higher than India's. However, the performance of China has been more erratic than that of India. India has grown steadily, at a slow pace. China has grown very fast over a couple of periods, and has plummeted over one period. China would seem to have much greater potential for growth—up and down.

Senator JAVITS. She has plummeted, but is now coming back.

Mr. GURLEY. She has come back very fast.

Senator JAVITS. Professor Eckstein?

Mr. ECKSTEIN. I am afraid I find myself somewhat in disagreement with Professor Gurley on that. I am in an intermediate position. I,

too, think that the Foreword to the studies—the excellent studies which the committee has sponsored tends to underplay China's achievement. In that respect I completely agree with Professor Gurley, and I have outlined some of my specific criticisms in the longer statement which I have inserted in the record.

I think that expressions such as "the prospects are bleak" are inappropriate, misleading, and do not adequately reflect the actual situation of economic progress in Mainland China, and in some ways I would say even are a disservice to the public.

On the other hand, I have a feeling that Professor Gurley, in an attempt to correct for a possible bias, has overcorrected for it.

I doubt very much that the notion of an average rate of GNP growth for China of 6 to 8 percent on the average for the period as a whole can really be documented.

If I may I would like to take a moment to outline this.

The situation, it seems to me, has been roughly as follows.

China in 1949 was grossly devastated. Its economy was very low. Between 1949 and 1952 it achieved very rapid progress, and probably GNP at that time—we don't really know—may have grown as much as possibly 9 to 10 percent a year, but it was really recovering to a former level.

It is generally felt that by 1952 the Chinese economy had recovered roughly to its previous peak level. So that 1952 is a better base year to use than 1949.

Now, between 1952 and 1959 the economy progressed very rapidly. Between 1952 and 1957, the rate of growth probably was around 7 percent plus or minus. For 1958 and 1959 it was higher than that—we don't really know precisely how much, because the data for those years are rather poor—but probably let's say somewhere between 8 and 9 percent. So that on the average, from 1952 to 1959 perhaps the average rate was somewhere between 7 percent to 8 percent a year.

Between 1959 and 1962, GNP declined very markedly.

We don't really know precisely by how much, but it may have been by as much as 20 percent or so—quite significant.

Since 1962 it has been recovering, and probably by 1966 it was somewhat above the peak 1958 level, or just about at the peak 1958 level.

This would mean for 1952 to 1966 as a whole, an average rate of growth of at most 4 percent a year—with a population growth of about 2 percent plus or minus, which means a per capita rate of growth of about 2 percent a year. This is not a bad performance for an underdeveloped country but neither is it a spectacular performance. It is the same on a per capita basis as that of Latin America, on an aggregate basis it is somewhat poorer than Latin America. It is significantly better than that of India.

On the other hand, in comparing China with India certain other factors must be taken into account.

Industry grew faster than in India. On the average, as the paper by Mr. Field brought out, about 11 percent a year. Industrial performance on the average has been quite good, even for the period as a whole. But agricultural performance has been so poor, that it has held down the GNP as a whole. Agricultural performance in India is nothing to write home about, as we all know, but it was

a little better perhaps than it was in China. But industrial performance was poor.

Another factor that must be taken into account is that the Chinese have had very little foreign aid. Soviet aid was by international standards not very much. India received a great deal of foreign aid, and is still receiving it. China has not received any foreign aid in significant quantities since 1955. Thus, China has achieved a somewhat better performance on the average than India with very little foreign aid.

Income distribution in China is much more equal than in India. Therefore, the social and political stability effects of even the same rate of growth in India and China would be quite different. A 3-percent aggregate rate or a 1½-percent per capita rate in India means there are millions of people whose income may not be growing at all, or may even be declining, because of the tremendous income inequalities.

Chairman PROXMIRE. That was most enlightening. I realize that international statistical comparisons of GNP, rates of growth and per capita income are hazardous, but they do have some significance in ranking the countries. I would like to have the staff look into this subject and make their findings part of the record. (See app. IV, p. 240.) Thank you.

Mr. PERKINS. I think I would agree pretty much down the line with Professor Eckstein. I would say there are two questions here. One is the question what has been the performance to date, and the second question is what will be the performance in the future vis-a-vis India.

With regard to the first question, I think I would agree with Professor Eckstein. I would probably guess that the average rate of growth has been a little higher than 4 percent, and I would tend to argue for 5 percent, but this is no time to get into this kind of detailed discussion.

I feel that that rate is by no means unimpressive. This is higher than the historical rates pre-1940 of most of the countries of the world. However, it is not all that impressive in the context of the postwar world.

The question of how the economy of China will perform in the future is a much more difficult one to answer.

I think that if China can keep politics out of the economy, there is every reason to believe that China will grow considerably faster than at least India. She has a much higher rate of investment. I think she probably has a much more manageable labor force, a much more manageable economy in a variety of ways. The social and political problems in India are very serious. I think if China can keep politics out of the economy, she has every reason to expect a 4- to 6-percent rate of growth for some time into the future.

The real question is whether she will keep politics out, whether the Chinese leadership is, in effect, willing to sacrifice the economy to some extent to get the kind of society it wants. To that question I don't think any of us have the answer, because we do not know to what extent Mao is really in control of things, what future leaders will do in this regard, and so on.

Mr. GURLEY. May I add to this statement?

I think that Mr. Eckstein, in correcting my statement, tended to overcorrect it a little.

Now, it is certainly true that if one starts with 1953 instead of 1949 or 1950 for China —

Chairman PROXMIER. He said 1952, I believe.

Mr. GURLEY. I am sorry. If one starts with 1952 rather than 1949 or 1950, one does get a lower growth rate of income per capita in China.

I have compared Chinese and Indian growth over various periods, 1950 to 1966, 1953 to 1966, 1957 to 1966, 1962 to 1966. And in every case China comes out substantially higher than India, except for 1957 to 1966, when India's income per capita grew by around 1.4 percent, and China's perhaps about the same.

I would like to comment on Mr. Perkin's statement about keeping politics out of economic development.

The superior social conditions in China as compared to India are due in part to keeping politics in. What the Maoists are trying to do is to grow in an egalitarian way, so that no privileged classes arise in the process of economic growth. This requires strong emphasis on moral incentives, rather than on material incentives. It requires people to work hard for the public good rather than for private gain. And to the extent this happens the economy can achieve productivity gains and growth within a context of income equality.

Mr. PERKINS. We could have a useful discussion on whether there is a value in having a certain degree of politics in. I think this is a difficult question to answer.

I think there is very little question that there was far too much politics in the Chinese economy in 1958 and 1959, and perhaps last year and in the early part of this year.

You can carry the argument on and say that they have to have these great campaigns in order to maintain the political spirit of the cadres and so on. I doubt it. I think in fact these campaigns are counterproductive. The confession of Liu Shao-ch'i, for example, which has been published in Tokyo and originally appeared in wall posters, suggests that the failure of the Great Leap Forward had a traumatic effect on many senior party leaders and on lower cadres as well. When you have too much ideology, too much politics, it clearly I think has a negative effect on the economy and very likely has a negative political impact as well.

Senator JAVITS. One thing occurs to me, by way of summing up. I have heard practically everything each of you have said, that is, Latin America and Communist China in terms of rates of progress can probably be not exactly but roughly equated. Not India. And what I would read—testifying as a professor myself—into what you have said, that in India the benefits of the private ownership, private enterprise system, have not been realized—perhaps also for political reasons. And that therefore it has not had an opportunity to provide for the egalitarianism of the Chinese Communist system through its own dynamics and incentives. And the lesson is if you really do not want to do something for a less developed country, the most explosive possibility exists if you really unleash the private enterprise system

with some reasonable political framework which will assure that the rich will just not get bloated and richer. But that is entirely possible within a democratic society, too.

I think this is a very instructive lesson you gentlemen have taught us all.

Mr. Chairman, I feel very rewarded by what we have heard today.

Chairman PROXMIER. I have just a few more questions for Mr. Eckstein and Mr. Gurley.

Mr. Eckstein, we have gone down the road a long, long way and talked about the future of years from now in discussing our trade with Red China. We not only have some difficulty I think in persuading Members of Congress to think about raising the embargo on Red China. We are even having difficulty on East-West trade—in the House, there is a lot of opposition against that. When West Germany was to sell a steel plant to China, there was a great deal of protest on the floor of the Senate by a number of Senators of all ideological persuasions. But I think it is healthy and constructive to look down the road a way. And I think that is the only way you ever make progress anyway.

I would like to ask you if you feel this embargo you said could take various forms—it could be modified in various ways—would you say that we should or should not extend credit to China in your view, we should or should not provide technical assistance—either technical assistance by Government or technical assistance by private business which is engaged in trade with China.

Mr. ECKSTEIN. On the credit issue, I am a little less clear in my own mind. I have thought about it a great deal, and I cannot quite make up my mind.

Of course, we all know that as of now there is a 5-year credit limitation as far as our allies are concerned, sort of an informal agreement. And we ourselves of course are not extending any credits.

I think the more immediate issue is whether the 5-year limitation should be relaxed. This is a particularly important issue for Japan.

There have been many disputes, discussions, controversies in Japan. They are not only constrained by us, but also constrained by Taiwan, by the Nationalist Government.

Chairman PROXMIER. Is not a central part of this if credit is extended to Red China by this country, it could make a difference in the amount of its investment, and in the growth and, therefore, in its capacity to do one of two things—either to become more pacific, because they are progressing satisfactorily, or to become potentially more dangerous, because they have more economic power?

Mr. ECKSTEIN. Well, that is the critical issue, as you suggest. And I think as we tried to imply earlier in our discussions, it is far from clear that it is not to our national interest to in some sense assist a more healthy economic growth in China.

If I were pushed, I would argue that it is to our national interest to help China become a more viable, economic entity and also to come more and more in contact, commercially and otherwise, with a number of countries. This, in turn, might contribute to bringing them into the community of nations. I think it is to the interests of world stability that China should enter the community of nations in all pos-

sible forms, and that it is our job, as the stronger power and as the more secure power, to seek avenues by which this will become possible. Credit may be one possibility. Not by us. I do not think that is an immediate issue, of our extending credit—as Senator Javits has appropriately suggested, there are many intermediate steps, many bridges that have to be crossed before it comes to that. But there is the question of credit by other countries. And this may be one possible move that perhaps we ought to encourage—more credit by other countries.

Chairman PROXMIRE. But you see there are two elements here that tend to contradict that. One is during the period from 1957, 1958, China was making good progress. Part of that progress is because of the trade assistance of the Soviet Union. What happened at the end of that period? At the end of the period, Red China was at Russia's throat. Trade with the U.S.S.R. did not moderate Red China, did not make it more harmonious.

The other is the statement you made that internal struggles in China will prevent military aggression. In the first place, I am not sure that conclusion is necessarily documented or established. But, in the second place, if it is true, it would suggest to us that the more chaos going on in China, the more internal struggle going on, the less likely they are going to be free to engage in aggression against their neighbors.

Mr. ECKSTEIN. Well, I said I believe that these internal struggles weaken China's capacity to engage in external moves, or external aggression, if you like. I think this is probably true. I do not think that it necessarily follows from that that if there are no political struggles that then China will engage in external aggression.

I was really talking about her capacity, and not the motivation for external aggression. I think there is a difference there.

I would say her capacity is reduced now. It does not mean that conversely her motivation to engage in aggression will be increased if there are no internal struggles. So I don't think this is as contradictory as it might appear. I am not sure I really responded to your question.

Chairman PROXMIRE. I am not sure either that we can conclude that internal struggles tend to prevent military aggression. One indication is that Red China did, indeed, engage in aggression against India.

Mr. ECKSTEIN. They did attack India but they did not follow up by invading the Assam Plain. There was nothing really to prevent them theoretically from invading the Assam Plain. There wouldn't have been any point to it. They achieved their objective. It was a limited objective, a limited action, and that was achieved. Moreover, whether China was the aggressor there I do not think is entirely clear.

The story of the Sino-Indian border dispute remains very much to be still written.

Chairman PROXMIRE. You made a very interesting observation that I am sure will come as news to many people—that China is an exporter of capital. It is a developing country, a relatively poor country. What do you regard as the strategic implications of this?

Mr. ECKSTEIN. Well, because of the fact that China had to repay until 1965 the Soviet loan, and because of her foreign aid, these two

factors combined have placed her in a position of having to export more than she imports, so in effect she has become an exporter—not necessarily of capital goods, but she has a net export surplus, which in effect amounts to a net export of capital in an economic sense.

I am making a distinction between capital and capital goods.

Chairman PROXMIRE. If she clings to this position, credits are not very important anyway, are they?

Mr. ECKSTEIN. Well, of course—

Chairman PROXMIRE. Maybe she is an exporter because she has to establish credit, because she is surrounded by hostile countries.

Mr. ECKSTEIN. She had to be an exporter of capital, because she had to repay the Soviet loan. This is the largest factor. Foreign aid has also been a factor. But the foreign aid is not as important a factor as the Soviet loans. The Soviet loans now are repaid. And the kind of things that she could buy with credits—foreign credits—would be quite different than the kind of things she ships in order to maintain an export surplus. So these are not—these are again different kinds of things.

It is true—you could argue that credits would in a sense augment Chinese ability to supply foreign aid. This I suppose you could argue. Indirectly this would be true, perhaps.

Senator JAVITS. I think a very essential corollary of everything you have said about opening things up with Communist China, including trade, is a continued reiteration of the fact that you gentlemen believe that it will not have a pronounced effect in enhancing Communist China's military capability. I think the American people would harry us out of this room—unless you coupled your views as to the desirability of that from the point of view of ultimate peace and stability with your deep conviction that it will not have—even if we do it—it will not have a material effect on enhancing Communist China's military capability.

Chairman PROXMIRE. I think Mr. Perkins has answered that directly in his testimony. But I think the other gentlemen have left me a little big vague as to their position on this. I think your position—and correct me if I am wrong—is that you do not know?

Mr. ECKSTEIN. Well, I will put it this way. On the credit issue—steel—I can see where that might raise red flags, if the West Germans wanted to ship a steel plant on credit, with technical assistance. This may not be the best place to start.

Grain is an entirely different matter, wheat, consumer goods. The Japanese have shipped on credit one synthetic fiber plant. I should imagine one could encourage the shipment of other textile plants. I don't see how this can augment China's military capability. I think—what I really come down to is not perhaps a blanket rule, credits for everything, but selective credits, and selective encouragement of trade. I guess that is ultimately my position. Forms of trade and credit which do not aid or contribute to China's military capability.

Mr. PERKINS. I feel that this position of Professor Eckstein may have some political merit. But I don't feel it really has very much economic merit. That is, either you are for giving long-term credit or you are not. And if you give it on grain, it is going to be just

as much assistance as if you give it on a steel plant. That is, they will simply use the long-term credits to finance grain, and then go ahead and buy the steel plant on a short-term basis.

One runs into similar problems with foreign aid. Unless you have elaborate controls over the planning organization of a country, you can give them foreign aid for one purpose: for something that you want them to do. If they were going to do it anyway, however, then the aid simply frees some of their own resources perhaps to do something which you did not want them to do. There are ways of controlling this, but not vis-a-vis China.

My own feeling is that the issue of long-term credit is a trivial one. If it got to the point of giving long-term aid, real substantial aid, then we would have to talk about it seriously. But as long as we are talking about long-term commercial credit, where firms expect to make a profit, we are talking about very small sums of money—increments of 1, 2, 3 percent to Chinese import capacity, and that is about all.

Although I would argue that such increases are probably our longrun benefit, I can see no merit in drawing a line, for economic reasons, between long-term credit and short-term credit.

Chairman PROXMIRE. Let me ask Dr. Gurley—we have had everything neatly cataloged—not everything, by any means, but many things. And then you came along, as an iconoclast, and did a fine job, I think, of upsetting some of these views.

There is almost unanimous testimony the Chinese were making a serious economic mistake by excessive political intervention—by taking managers of plants and having them go on the assembly lines for 2 or 3 days, by having almost no difference, or very little difference, in pay between a manager of a plant and an unskilled worker—this kind of thing.

But you say that superior growth in China is because they are keeping politics in. And I think to some extent you have made a case. Certainly as far as education is concerned, as far as health is concerned—this is impressive. Your argument—combined with Dernberger's testimony—that they have been able to maintain a much better caloric consumption than other countries, so the food problem has been reasonably good.

Nevertheless, I must say that the overwhelming bulk of the testimony we have had seems to contradict that.

Don't you think political intervention in economic production has been excessive, and don't you think that is the issue—that there is very little likelihood that China is going to take all of their ideological convictions out that they have got now? To the extent they have this struggle going on now—this is counterproductive economically. Or do you feel, even if the Maoists prevail with their view, that you have to purify and purify, that this is still going to mean economic expansion—the Great Leap really was for other reasons than intensive political intervention—the Great Leap failure, I should say.

Mr. GURLEY. There are quite a few questions there.

The ideological campaign may not have helped China's growth rate, significantly, up to this time. But they probably have achieved and maintained an egalitarian society. And the Chinese may be will-

ing to reduce their growth rate a bit to achieve their ideal society.

Chairman PROXMIRE. But you would not go as far as they did in the Great Leap. Don't you think this was overdoing it? There was an enormous decline. You seem to agree with Professor Eckstein that they had this serious economic setback—maybe not all the way to 30 percent.

Mr. GURLEY. Yes, I agree.

Chairman PROXMIRE. Would you not agree there they must have gone too far, and was it not the political intervention that did it?

Mr. GURLEY. Yes, it certainly was. The specific thing as far as I know that did it was—was the poor statistical reporting which for almost a year misled the planners into thinking that grain harvests were ample enough to divert labor into industrial pursuits, and this in itself had to be corrected when they found the error.

But let me point out that—

Chairman PROXMIRE. Yes. But it wasn't the diversion that would account completely for this, would it—the diversion of agricultural workers into industry, because industry itself did not progress significantly.

Mr. GURLEY. Yes. It went ahead very rapidly. Industrial growth was quite rapid.

Chairman PROXMIRE. During all the years of the Great Leap?

Mr. GURLEY. Yes, during 1958 and 1959.

Chairman PROXMIRE. 1960 and 1961?

Mr. GURLEY. No, no, 1960 and 1961 were very poor years; there were declines in both agricultural and industrial production. But you know, Senator Proxmire, that all this was not the result of poor planning. Part of it, anyway, was the result of 3 years of disastrous harvests, perhaps the worst weather over a 3-year period that China has had in a century, and the decline was also due to the pullout of the Russians in June 1960.

You cannot blame all of this on the planning techniques of the Great Leap—although those faulty techniques certainly come in for their share of criticism.

Now, let me come up to date.

I don't think that the cultural revolution is having a highly disruptive effect on the economy. There is quite a bit of evidence that the Chinese themselves have exaggerated the extent of the struggle. Just one example is that the Chinese reported a very intense struggle between the Red Guards and factory workers and other elements in Lanchow, in Kansu. A British engineer came out of there a month later, after working there for 4 or 5 months, on his way back to Britain through Hong Kong where he was interviewed. He said nothing was going on, everything was normal, all the supplies were coming in.

Chairman PROXMIRE. Could one man be that competent an observer? Isn't it possible that in a country as vast as this is—

Mr. GURLEY. Yes. But this is a city, he was intimately involved in industrial pursuits in that city. And this is not just an isolated instance. There are many cases of this. I think that what the Maoists have been doing is purposely exaggerating the extent of the struggle because struggle has a therapeutic value. There is a struggle going on all right. But it is not nearly as intense as they have reported it, because they feel it is good to be engaged in a struggle.

Chairman PROXMIRE. You put emphasis on education. Was not there a great deal of educational loss here? Were not literally millions of students, instead of being school, engaged in all kinds of irrelevant political activity?

Mr. GURLEY. I agree. That was a loss of formal education for half a year to year. But it is more serious loss through Western eyes than it is through Chinese eyes, because the Chinese consider that the cultural revolution has accomplished a useful educational job for the youngsters, for millions and millions of youngsters.

Chairman PROXMIRE. If it is so effective and successful, and accomplishing so much in education and health and even in industrial progress and so forth, why is there this continued purging and this constant conflict that seems to be going on—agreeing with you perhaps that it is not as violent as reported, nevertheless it has an adverse effect.

Mr. GURLEY. It has had its violent moments. No doubt about it. I think we have agreed here that there are at least two extremely important issues involved, and the leaders are fighting over how to resolve them. One is how to develop economically. And the second is a foreign policy issue. I have phrased it in terms of how to meet a possible coming attack by the United States. This may be phrased differently by Mr. Eckstein and Mr. Perkins. But nevertheless it is an important foreign policy issue. The leaders are fighting over how best to resolve these. Mao probably believes that he has found a solution to both of these problems in the cultural revolution.

Chairman PROXMIRE. I just have a couple of very brief additional questions. You said that China was richly endowed in natural resources. I thought in terms of their population, recognizing they have 750 million people, they were quite deficient in resources. The simplest and most vital resource of all is soil. The relationship between their population and arable soil is bad. They are deficient certainly in that essential resource, and many mineral resources.

Mr. GURLEY. Yes, I agree. I am not an expert in this area. I was quoting from the committee's study—Mr. Wang's paper in that study.

Chairman PROXMIRE. He had it in aggregate terms rather than per capita.

Mr. GURLEY. Yes, that is true. But he was also talking mostly about mineral resources. As you say, it is true that China is short of arable land, which as I understand it, is about 11 or 13 percent of the total land area. And that is a small percentage.

Chairman PROXMIRE. Now, one final question for you gentlemen. Professor Ta-Chung Liu, our first witness after Professor Reischsauer, was not challenged by any of the witnesses who appeared with him—and until this morning he had not been challenged—when he stated that China had never been able to secure the per capita consumption level that they achieved in 1933. That at the peak, which he says was 1957, others said 1959—it was still below the 1933 level of per capita consumption. Dernberger seemed to challenge that to some extent. But I would like to have you gentlemen say whether you agree or disagree.

Mr. ECKSTEIN. Senator Proxmire, I have something on this in my long statement which I have inserted in the record. I would un-

equivocally challenge that not in the sense that I can prove that it is wrong, but I would submit that nobody can prove that it is right. I think that is a nonsequitur.

Chairman PROXMIRE. Because the early figures are unreliable?

Mr. ECKSTEIN. There are several problems with that.

First, that conclusion is based on an estimate of agricultural production in 1933 which itself is surrounded by a high degree of uncertainty. Second, it is based on a population estimate that is subject to very large margins of error. Third, it is based on converting production figures into caloric consumption figures which means you have to make an estimate of how much of your output is wasted in harvesting and storage, how much of it goes into industrial use, and how much of it goes into feeding livestock. For each of these three components data are lacking. For each of these you have to make an estimate. Each of these estimates is subject to a truly sizable margin of error. Professor Liu's assignment is essentially like a pyramid, based on a series of assumptions each of which can be challenged. Thus, if any one of the assumptions is invalidated the whole structure collapses like a house of cards.

Chairman PROXMIRE. Even if you can make that statement with any kind of respectable support, it is quite an indictment. After all compare almost any other country in the world between today and 1933, the consumption in this country and any Latin-American country, and any European country, it is just overwhelmingly greater.

Mr. GURLEY. Was that statement made in relation to grain output only?

Chairman PROXMIRE. No—per capita consumption.

Mr. GURLEY. Of everything; food, clothing.

Chairman PROXMIRE. Everything?

Mr. PERKINS. As far as interpreting how bad or good the performance is, one has to take into account that China had 13 years of civil war in between 1936 and 1949. She could not very well have grown under those circumstances, regardless of the kind of system she was operating under.

On the second point I agree with what Professor Eckstein has said. I have recently been doing a considerable amount of work on data of this type. I feel that the Liu-Yeh grain output estimates for 1933 are probably too high. Basically Liu and Yeh imply in their estimates that yields of grain have declined from 1933. This is an assumption for which there is absolutely no evidence. If you assume yields remain constant, per capita consumption of grain is about the same in 1957 as 1933.

Chairman PROXMIRE. In Dernberger's conclusion they are consuming 2,000 calories per capita, and the latest information is that they are exporting food—it is pretty hard to assume even in agriculture it has declined so precipitously. And you all seem to agree there is an enormous increase in nonagricultural production and consumption.

Mr. PERKINS. Another issue with regard to calorie intake is the fact that China is in a fundamental sense and was even in the 1930's richer than India. China was not right down on the rockbottom of subsistence where if output dropped 2 percent everyone started starving. Some of the misinterpretation of the events of 1961 has been based on

the belief that China was at this rockbottom subsistence level, when in fact she was not, and she probably has not been in recent history. That does not mean she has much of a margin, but she does have some. As for the question of per capita consumption, I would tend to go along that per capita consumption in 1957 was not much higher than in 1933. Per capita income clearly was higher—that is if you include heavy industry.

Mr. GURLEY. And also if one includes in consumption the consumption of health services, the consumption of educational services, rather than putting those in investment, I think there is little doubt about per capita consumption being higher in 1957 than 1933.

Mr. PERKINS. If you are asking were the Chinese people better off in 1957 than in 1933, then you are in a real tangle of considerations. On the one hand, how do they react to socialization and collectivization? On the other hand, how do they value the fact that the death rate has gone way down? How do they value education?

Chairman PROXMIRE. How do you value education when a large part of the adult education is indoctrination? But Professor Gurley would argue, perhaps, it is wholesome to a considerable extent. Others may argue it is perverse and unfortunate.

Mr. PERKINS. There has also been equalization of income so that, in effect, people at the bottom do not starve today. On the other hand, some people are clearly worse off. How you weigh one against the other, there is nothing in economics to tell you how to do that.

Mr. GURLEY. The economy is certainly better organized, too, against disasters. The harvest disasters of 1959 to 1961 were perhaps comparable to ones in the northwestern Provinces of 1926 to 1929 when, reportedly, 20 million people starved. Since few people starved in 1960-61, at the very least this means that the economy was better organized—the available food supplies were distributed more equally.

Mr. ECKSTEIN. Also there is much less income inequality than in 1933.

Chairman PROXMIRE. Thank you very much, gentlemen. This has been most enlightening, and you have been patient giving us your time and talent so considerably in this area.

(Additional material bearing on these hearings will be found in the appendix.)

The committee will stand in recess, subject to the call of the Chair.

(Whereupon, at 12:30 p.m., the committee was adjourned, to reconvene subject to the call of the Chair.)

Appendix I

ON THE MARXISM-LENINISM OF CHINESE COMMUNIST DEVELOPMENT STRATEGY

BY PETER SCHRAN, ASSOCIATE PROFESSOR OF ECONOMICS, DEPARTMENT OF
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INTRODUCTION

In economic analysis, we explain events by attributing subjective meaning to human actions. We define the objectives which actors pursue, the resources which they command, and the circumstances which they face. We also assume as a rule that they act rationally, and by this we mean that they aim to attain their objectives with their resources in their circumstances as well as they can. We measure the explanatory power of our theory which these premises constitute, by the degree of similarity between actions which we infer from our premises and actions which we observe in fact. On the assumption that we reason logically, we attribute dissimilarities between our inferences and our observations to dissimilarities between our view and the actor's view of his objectives, resources, circumstances, and rule of behavior. We resolve such discrepancies by finding that either our view or both his view and our view of his view are deficient. In identifying deficiencies on his part, we do not challenge the actor's objectives in order to avoid normative statements. We criticize his view of his resources and circumstances, and we question the rationality of his behavior only if his action is inexplicable otherwise.

When we apply economic analysis to the development strategy which the Chinese communists have chosen, we assume correspondingly that they acted rationally in choosing it. And we proceed to define the other determinants of their action. For this purpose, we turn first to the explanations which the Chinese communists provide. We discover that they identify their objectives and their view of resources and circumstances as Marxist-Leninist. We note that their assertion of their adherence to Marxism-Leninism is most consequential for our analysis of their action. If this ideology determines their policy, it is relevant for us as such, irrespectively of its truth or falsity as a theory of human behavior and thus irrespectively of its adequacy or inadequacy as a policy reference. We therefore have to base our analysis on its premises rather than on those of neo-classical economics.¹

To this end, we attempt to define the premises of Marxism-Leninism and encounter difficulties at once. We find that the Chinese communists interpret and apply doctrine but that they do not state their ideology of socialist economic development systematically in abstract terms. We observe in addition that their interpretations and applications of doctrine often differ from those of others who also profess Marxism-Leninism. We therefore turn to Lenin for enlightenment and discover that he argued and acted in the same manner. Again we note, too, that his arguments and actions frequently conflicted with those of others who laid claim to Marxism. We finally turn to Marx for a resolution and miss in his writings a systematic treatment of socialist economic development. We thus come to the conclusion that we cannot resolve our difficulties without resorting to ideology criticism, and such an undertaking would lead us far astray.

In order to avoid this procedure, we choose a less definitive approach and speculate on the premises of a Marxist-Leninist ideology of socialist economic development. In this endeavor, we proceed from the writings of Marx. We find that he criticized capitalism from a specific point of view which implies specific premises. In addition, we discover that before he wrote most of his

¹ Note that this procedural conclusion does not imply that the premises of neo-classical economics are false. They may well be true, and their truth implies the falsity of Marxist-Leninist doctrine as well as the inferiority of any doctrinally rational action.

critique of capitalism and notably his *Capital*, he attempted to clarify his perspective on two occasions. We extract from his *Economic and Philosophic Manuscripts* of 1844 and from his *Introduction to the Critique of Political Economy* of 1857 the elements of a general system of political economy.² We observe that this system is a general theory of economic development which accounts for capitalist development and socialist development as successive phases or stages of development. And we infer from this observation that his general theory therefore implies a special theory for the stage of socialist development which we can make explicit.³

Next, we note that this implicit Marian theory is irrelevant for China because it presupposes that transition to socialism occurs when capitalism has matured. In order to render it relevant, we have to revise the theory of development so that "premature" transition to socialism becomes possible. When we turn to Lenin and to Mao Tse-tung in order to find out how this is to be done, we discover that they relate the opportunity for premature transition to imperfections in the process of development from which Marx abstracted.⁴ We infer that such a change in presumptions affects Marx's theory of socialist development as well as his theory of capitalist development. And we assume that we can make the necessary changes in analogy to neo-classical analytical procedure. We move from a "pure" situation which we associate with Marx, to an "imperfect" situation which we associate with Lenin, and to a "dualistic" situation which we associate with Mao Tse-tung.

Finally, we hold that this revised theory becomes an ideology of socialist economic development when it engenders efforts to reshape reality so that it conforms with theory. In search of the presumption which causes such a response, we turn once more to Lenin and to Mao Tse-tung. We find that they proceed conceptually from Marx's dialectic materialism rather than from his economic interpretation of history, and that they consequently require action (activism) rather than observation as the method of verification. And we presume that they mean what they say.

THE PURE VARIANT

Marx holds contrary to utilitarian doctrine that mankind needs as well as aspires to be creative and that it therefore acts to produce more than it consumes in order to produce again. Marx's economic theory consequently resembles the theory of the firm. In its simplest form, his model consists of (1) a production function which relates the output of products to the inputs of capital and labor, (2) a capital cost (reproduction) function which relates the wear and tear of capital to the capital stock and to investment, (3) a labor cost (reproduction) function which relates labor effort to the population stock and to consumption, (4) a distribution equation which attributes output to capital cost, labor cost, and surplus, and (5) a disposal equation which relates output to capital cost, consumption, and net investment.

Marx infers that socialism and communism serve the "true" objective of mankind because they enable and require every human being to produce and to accumulate surplus as his own. They serve this objective best when all consumption is effort related and when the entire surplus is invested. Marx's model of socialist economy therefore specifies his general model so that the distribution equation and the disposal equation becomes identical. In any period of production during which the social state (socialism), the technical state, the stock of capital, and the stock of population are given, output is a function of constants and of variable labor inputs. Capital costs are assumed to be constant. And labor efforts are a function of a constant and of variable consumption. The objective is to invest, and this objective is met best by the maximum of investment which the means and the circumstances permit. Investment reaches its maximum when the transformation of consumption into labor and of labor into production becomes optimal within the constraints which the constants impose.

² Note that both manuscripts were published posthumously and are at issue for this reason. Some students of Marxism have doubted their authenticity. Others have demonstrated the conceptual consistency of the early philosophical writings with the later works of Marx.

³ For a brief derivation and relevant citations cf. Peter Schran, "Economic Planning in Communist China," *Asian Survey*, Vol. 2, No. 10, (December 1962), pp. 29-36.

⁴ Cf. *ibid.* The primary consequences of imperfection which Lenin and the Leninists emphasize, i.e. the systemic indivisibility of capitalism and the emergence of capitalistic imperialism, can be traced to Marx, but Marx implicitly attributed little importance to them. On the other hand, Lenin had to stress them also in order to reconcile Marx's predictions with real events, thus vindicate Marxism theory and philosophy, and thereby reassert its value as a policy reference.

Optimal transformation of labor requires that the incremental product of labor equals the incremental consumption of labor and that the second order conditions are met.⁶ The analogy to profit maximization is evident.

Marx asserts that the above set of relations depicts not only the conceptually final state in a process of development but also its initial state of *primitive communism*. Yet there is one substantive difference. Initial communism is characterized and indeed defined by social and technical constraints which are so great that they prevent the origination of surplus. People act rationally in such a situation when they transform optimally in order to subsist. In all subsequent states, these constraints are not as great. But the production as well as the allocation of surplus now depend on the objectives of the ruling class which appropriates the means of production and thereby acquires the power of decision.

Ruling classes differ from each other in their objectives. Non-proletarian ruling classes do not pursue the "true" interests of mankind, and the original identity of distribution equation and disposal equation disappears. *Feudalists* seek both leisure and luxury for themselves at the expense of others whom they have dispossessed. They refrain from contributing labor and induce others to produce surplus for them which they consume. They attain their objective best when they do not work at all, when they maximize the production of surplus by these others, and when they consume this surplus entirely. As a result of feudalistically rational behavior, the capital stock remains constant, and the process of transformation does not change so long as the other constraints remain the same. Marx called this process which he derived in part from Quesnay, a process of "constant reproduction."

Capitalists aim to "accumulate, accumulate . . .," and they save as well as manage surplus for this purpose. But the speculative investment activities which they undertake and which define them functionally, do not constitute labor in Marx's terms. They, too, therefore do not contribute labor but require laborers who do not own means of production, to produce surplus for them. And they also serve their objective best when they concentrate on their activities and when they maximize the production of surplus by these laborers. Because capitalists need and desire to consume, they cannot invest the entire surplus. However, any amount of net investment which capitalistically rational behavior entails, adds to the capital stock and causes the process of transformation to expand. Marx called this development "enlarging reproduction," and he associated it in particular with capitalism.

The economy according to Marx moves from state to state due to the fact that people form and improve their ideology and technology while they act. The movement from primitive communism to "true" communism thus becomes a dynamic process of development. Because we assume that the transition to socialism occurs prematurely by Marx's standards, we need not concern ourselves with the particulars of this process. And for the same reason, we may look at the feudalist, capitalist, and socialist economies instead in the un-Marxian perspective of comparative statistics. Socialization of the means of production first leads to the addition of former feudalists and capitalists to the labor force. On common premises, such an expansion of the process of transformation entails shifts of the labor product and labor cost functions which bring about increases in production relatively to labor related consumption. The production of surplus therefore increases, and all rather than part of it is invested. A socialist economy *ceteris paribus* thus produces and invests more surplus than either a feudalist or a capitalist economy does.

The initial effects of socialization on production, labor related consumption, and the production of surplus must be small when the relative share of former feudalists and capitalists in the labor force is small. Correspondingly, labor productivity and labor consumptivity or wages cannot change greatly at once under such conditions. However, net investment increases substantially and total consumption decreases similarly on the premise that the former feudalists

⁶ We can state the model in its reduced form algebraically as follows:

$$\begin{aligned} X &= C + I \\ X &= X(L, \bar{K}) \\ L &= L(C, \bar{P}) \end{aligned}$$

It follows that $I = X(\bar{K}, L(\bar{P}, C)) - C$. On the assumption that the second order conditions are met, $I = I_{\max}$.

when $dI = 0$ and $\frac{dX}{dL} \frac{dL}{dC} = 1$; i.e., when $dX/dL = dC/dL$.

and capitalists used to consume surplus conspicuously in the past. The greater addition to the capital stock in turn causes an accelerated expansion of the process of transformation in the following period of production. And the *ceteris paribus* assumption ceases to be meaningful from then on.

The Marxian conclusion that a socialist economy *ceteris paribus* labors more and produces more and invests more than a capitalist economy does, conflicts with the results of neo-classical analysis. Neo-classical economics can accept the proposition that a socialist economy *ceteris paribus* invests more and therefore grows more rapidly. But it must infer that it can invest more only by failing to meet consumer objectives. And it must conclude that such a failure leads consumers to labor less and to produce less. At issue between Marxian analysis and neo-classical analysis is thus not the state of socialist economy but the state of capitalist economy. Marx holds that every ruling class and the capitalists in particular have the power to act like an entrepreneur who faces a situation of pure monopoly in the labor market. Neo-classical economics rejects this assertion and presumes instead that capitalistic firms are constrained by competition as well as by labor union monopoly.

The issue of the power of the capitalists shares with many other problems of Marxian analysis the fate that it loses significance when premature transition to socialism occurs. Classical economics does and neo-classical economics can agree with Marx on the point that feudal elements have the power to act monopolistically. It therefore becomes conceivable that socialization induces in addition to more investment greater efforts and more production *ceteris paribus*. But the assumption that other determinants do not vary must be questioned next.

THE IMPERFECT VARIANT

In the above, we have stated in a highly aggregate form Marxian economic models which are pure or perfect in the sense that they lack elements of inertia and friction by assumption. Such a premise is of course most unrealistic, and in order to be more realistic we must move to an imperfect situation. We follow neo-classical procedure when we constrain for this purpose a person's knowledge of his opportunities of goal attainment to less than all of the possibilities. But we face different analytic consequences. Marx and all Marxists hold that man derives all of his ideas from his environment, and they therefore deal not only with man's technology but also with his ideology endogenously. As a consequence, man's ideology as well as his technology may be deficient in any social and technical state, and both may change incompletely in response to social and technical change. Moreover, people may change their ideology and their technology by learning from each other under conditions of heterogeneity in various forms.

The assumption of imperfection leads us to modify our basic model substantially. In any period of production, labor is a function not only of consumption and of a given stock of population but also of the states of ideology and technology of that population. These states of mind may change as a result of spontaneous learning, but they are also affected by the organized teaching and learning of ideology and technology. Study thus becomes a "productive" or effective activity and therefore a substitute for labor. As such it also depends on consumption, on the stock of population, on the state of ideology, and on the state of technology. Its "product" or effect is comparable to material investment in every respect. Study tends to change the states of ideology and technology marginally. These marginal changes affect labor lastingly, and they thereby induce gradual change in the social and technical states. But they also perish with the persons in whom they are embodied, and they therefore have to be reproduced in persons. On the simplifying premise that the periods of production and of learning are the same, the analogy to capital formation is complete. And the disposal equation changes correspondingly so that ideology formation and technology formation appear as alternative uses of surplus.

The introduction of ideological and technological imperfections in this form limits in particular the possibilities of transition to socialism. Due to it, any change in the social state is "premature" when it is not matched by ideological change, just as any change in the technical state is "premature" when it is not matched by technological change, however either change may come about. A communist rise to power is to be attributed accordingly to a preceding ideological change, and the initial extent of communist power is limited by this change.

If the communists do not want to jeopardize their rule, they have to act within its constraints. And they act rationally during the initial period of production when they maximize the production of surplus subject to the limitations which the given stocks of capital and population and the given states of ideology and technology impose. Their rise to power gives them control over surplus, and they share surplus with others in proportion to power. To simplify matters, we assume that non-communist recipients of surplus consume their share. Communists serve their interest with their share when they allocate it to investment, training, and socialist indoctrination. And they serve their interest best when they maximize the future accumulative effects of these alternative uses.

By disposing of their surplus in this manner, communists induce an expansion of the process of transformation, and they also extend their control over it in various ways. By investing socialistically, they add to the capital stock. They thereby induce the socialist production of additional surplus which entails its socialist appropriation. By improving the state of technology, they add to the skills of the population and to the technical value of labor. They thereby induce technically superior efforts which result in more and technically superior surplus. By improving the state of ideology, they add to the commitment of the population and to the social (socialist) value of labor. They thereby induce socially superior (i.e., more socialistic) efforts which result in more and socially superior surplus (i.e., surplus which is appropriated more socialistically). In these ways, communists come to have at their command an increased share of a larger and technically superior surplus. They allocate it once more to investment, training, and indoctrination, and the process repeats itself time and again until the economy is fully socialized. Then transition to communism begins.

Under conditions of ideological and technological imperfection of the population, transition to socialism thus occurs gradually during a process of economic development. It becomes evident not only in the increasing socialization of the capital stock but also in its growth due to increases of production relatively to consumption. And because human ideology and technology function as the strategic constraints, the pattern of development depends decisively on the effectiveness of indoctrination and training. The cumulative nature of learning which accounts for progress in Marxist doctrine generally, implies increasing returns to ideology formation and technology formation. Such increasing returns entail increases of the productivity of labor relatively to the consumptivity of labor and consequently an increasing rate of surplus of labor. Whether they imply increases or decreases of the consumptivity of labor is at issue, as the Marxist debate over absolute versus relative immiseration under capitalism indicates.

The issue is obscured by a further implication of the premise of imperfection. The analogy between capital formation and learning points to the problem that in a state of imperfect knowledge, people view the personal knowledge which they form by learning, as their private property. And they therefore expect to receive a private return on it in compensation for their productive use of it. Such a view is consistent with a capitalist situation in which surplus is appropriated privately and invested privately for profit. In a socialist economy, however, the entire surplus must be accumulated publicly, either in the form of capital or in the form of knowledge. Just as labor does not give title to a private return on the resulting investment goods, study does not justify a claim to a private return on the consequent increase in knowledge. To be compensated in both instances is the *contribution*, in the case of labor by means of wages and in the case of study by means of student stipends. And the wages of skilled labor must differ from the wages of unskilled labor only by the skill maintenance costs.

The constraint of ideological imperfection renders such a state unattainable in the short run, and knowledge therefore has to be socialized gradually in analogy to capital. In any period of production, communists must pay knowledge rents in accordance with the states of ideology and technology. But they also must provide for a future decline of these rents in two ways. They must socialize the process of learning in order to prevent the emergence of new claims to rents. And they must add to knowledge through learning in order to diminish the real cause, i.e. ideological and technological imperfection. From period to period, they must diminish rents in accordance with ideological and technological advances. The process repeats itself until a state of ideological and of technological perfection is reached. Then transition to communist "distribution according to need" begins.

The gradual transition to socialism manifests itself thus also in the gradual elimination of wage differentials. Such a process may lead to a decline of the consumptivity of labor. But the decline cannot occur in the absence of ideological progress. In particular, it depends on the ideological progress of those who possess technical skills. If they cannot be convinced that they should "work for the sake of working" and by implication study for the sake of working better, the wage level must rise during the course of socialist development. Their ideological progress is particularly problematic when transition to socialism occurs in a highly backward economy. In such a situation, the effectiveness of their training is enhanced by their absorption of the advanced technology which contributes to the high level of labor productivity in the developed economies abroad. But the effect of their indoctrination is diminished by their absorption of the "backward" ideology which contributes to the high level of labor consumptivity in those economies. In an imperfect situation, communists cannot separate foreign technology from foreign ideology perfectly. And they also cannot eradicate entirely the domestic manifestations of both which originated during earlier times. The limited absorption of foreign ideology and technology during those times resulted in a dualistic situation which we consider next.

THE DUALISTIC VARIANT

Besides dispensing with elements of perfection in the model, we have to disaggregate. At the price of oversimplifying the initial conditions, we may limit ourselves to distinguishing between *traditional* and *modern* sectors and transformation processes in technical as well as in social perspective. In the traditional sector, labor has formed a pre-modern technology and a pre-capitalist ideology, and it makes use of producer goods and forms of organization which are correspondingly outdated. It produces consumer goods and services as well as such producer goods, and it reproduces itself by consuming primarily these goods and services. In the modern sector, labor has been exposed to modern technology and to capitalist ideology, and it utilizes correspondingly modern producer goods in capitalistic forms of organization. It produces modern consumer goods and services as well as modern producer goods, and it reproduces itself by consuming traditional as well as modern consumer goods and services. Both traditional and modern labor produce surplus, the latter at a much higher rate than the former. Traditional surplus can be transformed into modern surplus internally through inter-sectoral transfer as well as externally by means of international trade. In pre-socialist times, much of the surplus is spent "unproductively" by its traditional and modern recipients and notably by the former.

Under conditions of imperfection, people in both sectors also may be incompletely conscious of their sectoral social and technical conditions. To simplify our inquiry further, however, we may abstract from this additional constraint and merely allow for the fact that the transfer of labor from the traditional to the modern sector costs training and indoctrination outlays. If we include such costs in capital outlay and assume in addition that each production process uses labor and capital in constant proportions and yields constant returns of surplus to scale, we can depict the initial situation as a simple linear programming model. With given stocks of capital and labor, the modern process and the traditional process are used best in that combination which requires the employment of all capital and all labor. The comparative effectiveness of the two processes which is indicated by the slope of the iso-surplus line, does not affect this combinatorial choice due to the fact that both capital and labor are given.

Appropriately gradual social change in these circumstances which results in the socialization of the modern sector and in the intermediate collectivization of the traditional sector, has two effects. On the one hand, it induces the transfer of surplus from consumers to investors and thus leads to more substantial additions to the capital stock during subsequent periods. In the absence of changes in labor supply and production technology, an increase in the capital stock results in the partial displacement of the traditional process by the modern process. On the same premises, the process of modernization must accelerate over time due to the increasing use of the more effective modern process.

However, gradual social change on the other hand induces additions to the labor supply during subsequent periods. This change affects the optimal combination of processes immediately as well as intermediately. Immediately, it

counter veils the change in the capital stock and therefore retards the displacement of the traditional process by the modern process. The degree of retardation depends on the relation between change in labor supply and change in capital stock. In the extreme, the effect may be even one of traditionalization rather than of modernization. Intermediately, however, increases in surplus due to increases in labor supply enlarge the capital stock further and overcome at least in part the preceding delay. Finally, there exist definite limits to increases in the labor supply in response to collectivization and socialization. The existence of such limits implies that the displacement of the traditional process by the modern process is not impeded forever.

All of our considerations presume, of course, that there are no technical alternatives to the modern and traditional processes. The introduction of an intermediate semi-modern process with a lower capital-labor ratio in the same circumstances would preclude the use of the modern process. Moreover, its use would entail a more limited operation of the traditional process from the beginning, and it also would result in the more rapid displacement of the traditional process over time. The introduction of a semi-modern process presupposes, however, that it is comparatively effective. If it yields less surplus at any level of operation than that combination of modern and traditional processes does which uses capital and labor in the same proportion, it is inferior to that combination. And under such conditions, the adoption of the semi-modern process would be an irrational choice.

The Marxist explanation of progress predisposes communists toward the latter view. But their choice of *walking on two legs* in production is affected in addition by their ability to preserve dualism in reproduction. *Walking on two legs* in consumption may not be fully practicable in an imperfect situation. The population of the traditional sector becomes aware of modern living conditions at home just as the population of the modern sector at home becomes aware of modern living conditions abroad. And they, too, may aspire to modern living. In such a situation, communists can and must attempt to limit the effect of such aspirations on traditional production by segregating and indoctrinating the population of the traditional sector over time. But they also must take into account that the existing interests constrain traditional efforts at any time. During any period of production, they therefore have to meet these interests optimally by changes in the pattern and level of traditional consumption. They thus have to raise the level of consumptivity of the entire economy for yet another reason.

The population of the traditional sector may aspire to modern living from the beginning. But their aspirations may be enhanced considerably by transition to socialism in traditional production which renders traditional labor socially more similar to modern labor. Due to this response, *walking on two legs* becomes costly. In order to increase traditional labor efforts and the production and accumulation of traditional surplus by socialization, communists also must improve traditional consumption during the course of it. Again communists act rationally when they attempt to control these aspirations optimally over time and when they maximize accumulation subject to them at any time. They therefore resort less to *walking on two legs*. And *ceteris paribus*, they also socialize the traditional sector more slowly than the modern sector.

Finally, any attempt to socialize and modernize traditional means of production and to indoctrinate and train the traditional population must lead to contacts between them and the modern population. As a result, the income problem of the "connecting parts of the labor force" arises, especially in the case of those members of the *intelligentsia* who are transferred from the modern sector to the traditional sector in order to perform these functions. Such persons share with members of the *intelligentsia* in the modern sector the scarce knowledge which sets both apart from common labor in both sectors, and they are conscious of this scarcity. But they also experience together with the traditional population the backward living conditions which differentiate both from all persons in the modern sector, and they are conscious of this backwardness. Both circumstances therefore must affect their incomes.

Communists at any time must award the transferred knowledge rents in recognition of their scarcity consciousness, and they also have to grant them transfer rents on account of their backwardness consciousness. But they thus enable these persons to consume "conspicuously" in the traditional sector, and they thereby raise the aspirations of the population of the traditional sector and consequently counter their indoctrination and segregation efforts. Such

indirect effects of the inferior ideology especially of technical *intelligentsia* may add greatly to the cost of training and must limit the extent of modernization additionally at any time. Communists act rationally when they attempt to diminish these effects over time by segregating *intelligentsia*, by indoctrinating the transferred, and by reducing the transfer rents in accordance with the ideological progress of the transferred. Their ideological progress thus may affect the process of gradual transition to socialism through *walking on two legs* significantly. The Chinese communists in fact attributed so much importance to the problem that they engaged in analytical work on the "connecting parts of the labor force."⁶

HYPOTHESES AND PROBLEMS OF TESTING

If the Chinese communists act in accordance with our Marxist model in its modified imperfect and dualistic form, they have to attempt to maximize during any period of production the production and utilization of surplus by methods which include in particular social change. It is virtually impossible to test this proposition directly, but it appears feasible to test it indirectly at least in part. We can hypothesize the inter-periodic consequences of optimal periodic allocations, and we may expect to be able to accept or reject most of them on the basis of the information which has been made available. Limitations to our information keep us from testing hypotheses in regard to ideological change, and they also lead us to focus on the "ten great years" 1950-1959.

Our analysis should lead us to expect the following aggregate developments:

- (1) The gradual expropriation of private owners of means of production and the gradual proletarianization of the entire population.
- (2) Gradual increases of the rates of participation of the population in labor and learning activities.
- (3) Gradual increases of the productivity of such efforts.
- (4) Gradual decreases of the relative shares of consumption-related production in total production and of consumption in total expenditures.
- (5) Gradual increases both of the relative shares and the absolute amounts of production-related production and of accumulation in the forms of capital and technical knowledge.

In contrast, we cannot anticipate with similar certainty whether these developments require gradual increases or no changes or gradual decreases in the levels of consumption-related production and of consumption. However, we may speculate as follows. On the one hand, we may reiterate that the greater the share of surplus that was consumed "unproductively" during pre-communist times, the more likely is a decline in the level of consumption from then to early communist times. On the other hand, we may hold that if increases in productive efforts during the communist times *ceteris paribus* require more than proportionate increases in consumption, different relations between changes in efforts and changes in consumption must be sustained by improvements in technology or in ideology. And if we assume that minor improvements are more probable than major improvements of the latter, we also may infer that a positive relation between changes in production and changes in consumption is more likely than a negative one. On common premises, we thus may expect an amelioration rather than a deterioration of the level of living during periods of growth.

So far as structural change is concerned, our analysis lends support to the conjecture that during the earlier years of the process of development, efforts to improve dualism prevail over efforts to eliminate. Such a strategy implies in particular the following gradual changes: (6) Dualistic socialization in the form that the traditional non-capitalistic sector is collectivized at first and socialized later whereas the modern capitalistic sector is socialized immediately. (7) Restriction of inter-sectoral mobility and intra-sectoral utilization of additional productive efforts. (8) Inter-sectoral differentiation of changes in the productivity of labor. (9) Inter-sectoral differentiation of changes in the relative shares of consumption in production and expenditure. (10) Inter-sectoral differentiation of changes in both the relative shares and the absolute amounts of production and accumulation of surplus.

In analogy to the aggregate situation, we cannot anticipate with as much confidence whether the differential between modern and traditional levels of

⁶ Cf. in particular Hsü Kang, "'Chieh-ho pu-fen chih-kung' t'ung-chi ti yi-i ho hua-fen piao-chun" (The Meaning of Statistics on the 'Connecting Parts of the Labor Force' and Their Standards of Classification), *T'ung-chi Kung-tso* (Statistical Work), No. 23 (December 14, 1957), pp. 18-19.

consumption has to increase or remain unchanged or decrease. However, we once again may speculate. The concentration of modern training on the modern sector tends to increase skill differentials and skill related consumption differentials. But the socialization of training costs tends to diminish their growth. And the desire for modern living on the part of the traditional population tends to offset increases, too. On balance, we may consider it likely that the intersectoral consumption differential does not change greatly during comparatively short periods. However, we also may expect that the differential between the "connecting parts" and the traditional population declines.

When we turn to the factual evidence in order to verify these hypotheses, we find that the developments during 1950-1959 which the Chinese communists assert, are consistent with our expectations in practically every respect. But we also face the question whether the assertions of the Chinese communists are factually true. In the opinion of most non-communist students of things Chinese, they are not. The common belief is that the official data are affected by underreporting during the earlier fifties and by overreporting during the later fifties. And this belief leads to the conclusion that the Chinese communist understate the achievements of the past as well as overstate their own achievements considerably. Such defects have been pointed out and corrected by independent estimates of most economic indicators.

The results of independent estimation which enable us to verify some of our expectations and which keep us from verifying others, are based on additional information which may be questioned as well. The Chinese communists take a similarly dim view of the major alternative source, i.e. estimates of economic indicators during the Republican period. And they have charged during the *Hundred Flowers* period that "bourgeois economists" have a mistaken view of the factual situation during pre-communist times and therefore fail to assess the changes correctly. However, they have yet to present their view of the past definitively.

We cannot resolve this conflict of opinion. But we can specify the areas of disagreement. In general, we find that official estimates of developments in the modern sector are questioned less than official estimates of developments in the traditional sector and notably in peasant agriculture. The latter accounted for the mass of the population and concentrated on consumer goods production. In the aggregate, we therefore find that official and independent estimates are not so far apart from each other in the spheres of producer goods production, investment, and education. And they differ from each other largely in the spheres of total employment, consumer goods production, and consumption. Moreover, both agree that producer goods production, investment, and education increased notably from pre-communist to communist times. But they disagree on changes in unemployment, consumer goods production, and consumption during the same interval.

When we relate these observations to our analysis of the consequences of a move from capitalism to socialism, we find that the official assertions are in line with Marxist preconceptions which entail a move from capitalist to socialist monopsony. But we also find that the independent estimates are consistent with neo-classical theorizing which implies a move from more or less effective competition to monopsony. These correspondences lead up to consider the possibility that under conditions of factual uncertainty, conflicts of opinion over facts may be affected by value conflicts which become manifest in conflicting theories and ideologies. And they do not keep us from concluding that the Chinese communists practiced a development strategy which was Marxist-Leninist in our terms.

Finally, we may note once more that our preceding attempts at hypothesizing and verifying are limited to the years of evident growth. When we deal with the subsequent history of decline and slow recuperation, we have to add first to our analysis. In order to account for a decline, we have to introduce in addition to natural causes the possibility of error on the part of communists. And in order to arrive at recuperation, we have to determine appropriate responses to error. I have discussed the developments during 1958-60 in these terms in my appended essay "On the Rationality of the Great Leap Forward and Rural People's Communes," *Ventures*, Magazine of the Yale Graduate School, Vol. 5, No. 1, 1955. (See p. 224.)

ON THE RATIONALITY OF THE GREAT LEAP FORWARD
AND RURAL PEOPLE'S COMMUNES¹(By Peter Schran¹)

To many a person mildly interested in things Chinese, the Chinese mainland appears as the *pièce de résistance* of the inscrutable Orient—made even more impenetrable by the bamboo curtain. Closer scrutiny reveals this view as a myth which contains its grain of truth, as most myths do. China has imposed considerable constraints on our information about her affairs since 1949, and she has made them much more stringent in recent years. But these limitations do not prevent us from understanding many of the developments which have occurred on the mainland under Communist rule. In particular, they do not keep us from comprehending such seemingly incomprehensible events as the institution of the *great leap forward* and the formation of rural *people's communes*. If myths share with old soldiers the prospect of immortality, we may try to help one of them fade away by attempting to explain these two occurrences as manifestations of rational behavior on the part of the Chinese Communists.

Since the Chinese Communists claim to be guided in their actions by Marxist-Leninist doctrine, we must define rational behavior on their part as behavior which is meaningful in terms of that doctrine. Presupposing that we interpret their doctrine correctly, we may assert that they socialize economic activities for the purpose of increasing production relative to consumption. They thus increase the production of surplus value which they accumulate materially in the form of additions to the existing stock of producer goods. Moreover, so long as people do not learn all that there is to know about nature and society in a spontaneous manner, they also through organized training and indoctrination accumulate non-material surplus value in the form of additions to the stocks of technical and social knowledge which are presently embodied in the labor force. Expecting that more producer goods, greater skills, and better attitudes all will increase production further relative to consumption, they view themselves as fully successful when they socialize, produce, consume, and accumulate at any time on the pattern which yield a maximum of surplus value over time. To the degree that their own knowledge of natural and social conditions in the country is imperfect, they may fail to devise the pattern most conducive to their desired end. Being conscious that their knowledge of conditions is limited, they tend to proceed pragmatically in relating planning to performance. They encourage the best possible performance irrespective of their plan, and they revise their plan when it is inconsistent with performance. Because they see changes in the production and accumulation of surplus value induced by changes in the distribution of ownership of the means of production, their revision of plans in response to errors need not be limited to the re-allocation of material resources. They also may err about the optimal speed of social transformation, and the correction of such an error may involve the acceleration or deceleration of the process of socialization. In the extreme, it may even require retrogression to "inferior" forms of social organization.

Did the Chinese Communists act rationally within this frame of reference when they chose to leap forward and to communize the countryside in 1958? In answer to the question, we may first look at their *first five-year plan* (FFYP) and at the results of the FFYP period. Devised apparently in 1953/54 and adopted formally on July 30, 1955, the FFYP set targets for the years 1953 to 1957 which seem to have been viewed soon after its enactment as too modest. In response to a call for a concerted effort which may qualify as a minor leap, many of the plan's objectives were attained in 1956. The planners then adjusted their annual plan for 1957 to this change in circumstances, and they took care to correct various imbalances which had arisen during the course of 1956. Yet their 1957 plan as well as the FFYP were overfulfilled on a most interesting pattern. Labor force participation, student enrollment, and the gross value of material production all exceeded the FFYP targets considerably. But whereas industrial production and rural subsistence capital formation through basic construction had increased much more than expected, agricultural production had grown hardly any more than anticipated, and the number

¹ Reprinted from *Ventures*, magazine of the Yale Graduate School, volume V, number 1, January 1965. Statistical tables and documentary footnotes have been omitted.

of student graduates had risen much less than planned. In accordance with these changes in production, social retail sales had increased somewhat less than expected, and basic investment had grown much more than predicted in the FFYP. In combination, these observations suggest that increases in consumer goods production and material consumption which had been forecast with a fair degree of accuracy, had had two unanticipated effects: they had induced increases in producer goods production and material accumulation of an unexpectedly large magnitude, and they had yielded increases in non-material accumulation through formal education which were disappointingly small.

Once the Chinese Communists had become aware of this discrepancy between planned performance and actual performance, they rationally had to react as follows: they had to identify the causes of their mistaken expectations and to revise their planning accordingly. If they did not doubt the accuracy of their factual information, they could attribute the unforeseen success in material production to unexpected technological and/or ideological progress on the part of the labor force which could have been the result of spontaneous learning as well as of on-the-job training and indoctrination. Correspondingly, they could relate the unforeseen lack of success in formal education to unexpected technological and/or ideological retardation of the full-time students. Their first reaction came in 1955, as soon as it became apparent that certain FFYP targets would be substantially surpassed. In response to Mao Tse-tung's report on *The Question of Agricultural Cooperation* in July 1955, the Central Committee of the Chinese Communist Party reached its *Decisions on the Question of Agricultural Cooperation* in October 1955:

"After the sixth plenary session of the Central Committee of the Communist Party of China, at which rightist, conservative ideas were criticized and rectified, hundreds of millions of Chinese peasants, responding eagerly to the call of the Chinese Communist Party and Chairman Mao, brought about an upsurge in the socialist transformation of agriculture. This was followed, in swift succession, by a high tide in the cooperative organization of handicrafts and the change-over of capitalist industry and commerce, by whole trades, to joint state-private operation. As a result, the national economy reached new heights." (State Statistical Bureau, *Report on Fulfillment of the National Economic Plan of the People's Republic of China in 1955*, Peking: Foreign Languages Press, 1956, p. 5.)

In other words, underestimates of material production and material accumulation were attributed first of all to mistaken notions about possible improvements in society's social consciousness (rightist, conservative ideas). The revision of anticipations resulted in the decision to collectivize or socialize all means of production at once and well ahead of the schedule set in the FFYP. The FFYP had predicted that individual proprietors would predominate in agriculture and in handicrafts and that capitalistic industrialists and private merchants would retain substantial shares of industry and commerce, respectively. In fact, most private activities had been socialized in one form or the other by 1957.

In their annual plan for 1957, reported to the National People's Congress on July 1, 1957, the Chinese Communist planners attempted to make allowance for this change in anticipations subject to one further constraint. Excess demand for consumer goods which had become apparent in 1956, had to be eliminated. The annual targets for employed persons within the state plan, for students, and for the gross value of industrial production were substantially higher than the FFYP targets. The annual target for social retail sales fell short of the FFYP target. Information on the annual goals for basic investment and rural subsistence capital formation under the FFYP is lacking, but the available data suggest a considerable upward adjustment for 1957, even though 1956 levels were not to be aimed for in the interest of balancing the supply and demand for consumer goods. A comparison of 1957 targets and 1957 results indicates that the planners had underestimated the number of employed persons within the state plan and that they had overestimated the number of full-time students. It also reveals that they had anticipated far too little industrial production and somewhat too much agricultural production. Finally, it shows that they had predicted slightly lower retail sales and much less basic investment plus rural subsistence capital formation. Once again they thus could come to the conclusion that increases in consumer goods production and material consumption which had been forecast fairly accurately, had induced producer goods production and material accumulation will in excess of their anticipations, despite the

fact that they had called for the consolidation of gains made in 1956 rather than for a continued exceptional effort. Once again they had to ask for the reasons for their mistaken expectations.

The proposals for the *second five-year plan* (SFYP), adopted by the 1956 congress of the Chinese Communist Party, obviously could not contain the planners' response to what they had learned during the course of 1956 and 1957; it did not even reflect the feeling which had begun to develop in 1955 that all planning had been too conservative in setting goals for the development of the society and economy. The annual plan for 1958, reported to the National People's Congress on February 3, 1958, apparently did not make allowances for these experiences, either, because it proposed advances which did not much exceed the average annual targets set by the SFYP. Soon thereafter, however, the Chinese Communists clearly demonstrated the lessons which they had learned from their repeated planning mistakes. First came their call for a *great leap forward* in industry and agriculture which gained nation-wide momentum in the Spring of 1958 and resulted in successive upward revisions of most physical production targets during the Spring and Summer. It was followed in late Spring and early Summer by the propagation of rural *people's communes* as appropriate forms of social organization of the great leap forward in agriculture and in rural industries. On August 29, 1958, the Political Bureau of the Central Committee of the Chinese Communist Party adopted its *Resolution on the Establishment of People's Communes in the Rural Areas*. By late Fall, most agricultural production cooperatives had been transformed into production brigades which functioned as subunits of communes, and most peasant cooperators had become communal wage laborers. In the urban non-agricultural sector, most handicraft production cooperatives were replaced by so-called cooperative factories, and most handicraft cooperators became wage laborers, too. In both instances, systems of cooperative sharing according to contribution were replaced by semi-industrial wage systems. In addition, there was experimentation with urban communes and with "distribution according to need." Rural communes distributed part of the total compensation payment on a per capita basis rather than according to services rendered, and various industrial enterprises introduced similar systems of distribution.

In view of the preceding experiences, we may question the rationality of the choices of *leaping* and *communizing* in two steps. On the assumption that past relations would remain unchanged, we may say that if actual productive efforts, actual producer goods production, and actual material accumulation inclusive of subsistence capital formation had exceeded the targets in the past substantially and repeated at reasonably well-predicted levels of consumer goods production and material consumption, then it was reasonable to expect that current targets which had been set in the past in similar error, would be surpassed again substantially, and it was consequently reasonable to call for their revision in the interest of facilitating the best possible performance. Correspondingly, if labor efforts in combination with spontaneous or organized on-the-job learning had been more productive than anticipated while formal educational efforts had been less effective than expected, then it was reasonable to foresee a recurrence of this experience, and it was consequently reasonable to emphasize under certain additional conditions labor plus on-the-job learning relative to formal education. Thus, the major *directions* of change which the Chinese Communists initiated with the *great leap forward* appear to be plausible even on most restrictive premises. Moreover, to the extent that they could attribute the unexpected results (especially in the case of rural subsistence capital formation through basic construction) to unexpected improvements in social attitudes, they had to draw additional conclusions: Because they had underestimated ideological progress in the past, they had not socialized rapidly enough and thereby had forgone still better performances; in order to facilitate the best possible performance for 1958, they now had to make up for this omission. Thus, a further step in the *direction* of complete socialist proletarianization appears to be plausible, too, and also on most restrictive premises.

In contrast, we cannot explain the envisioned *magnitudes* of change in these directions, i.e., the planned greatness of the leap and the planned extent of social change, without reference to additional expectations. In the Chinese Communist view, the assumption that nothing else would change, seem to have been unwarranted in at least three respects. First there was the belief that as continuously good natural conditions promised an unusually rich harvest and consequently

unanticipatedly large increases in consumer goods production and material consumption, these unforeseen increments in material incentives in turn were pointing toward additional increases in productive efforts, producer goods production, and material accumulation in excess of those forecast in the 1958 plan. Then there was hope for gains from improvements in agricultural technology. Deep ploughing, close planting, heavy fertilizing, and other methods of truck gardening which had been enumerated and propagated in the *eight point charter* required, in addition to minimal learning efforts, large increases in labor efforts. But they also promised to render such efforts as well as rural capital formation through basic construction much more effective. Given this conviction, further increments were to be expected in consumer goods production and material consumption, which would add substantially to the effects of favorable natural conditions. Finally, ideological progress could be projected on the basis of past experiences. The anticipation of increasing adaptation to social change warranted not only the expectation of still greater increases in the production and accumulation of surplus value; it also called for a more far-reaching change in social organization itself in pursuit of the best possible performance.

In short, "great expectations" tend to explain both the greatness of the leap and the sweeping character of the concomitant social reform. But were such expectations justified? Subsequent events suggest that the Chinese Communists were at least in part mistaken. Moreover, their propagation of materially productive work at the expense of all other activities led to the deterioration of their statistical work and kept them from discriminating satisfactorily and in time between fact and fancy. Thus they came to claim achievements for 1958 which were at least in part fictitious, and thus they came to plan for 1959 on a largely illusory basis. Once they had realized belatedly that they had been mistaken in their expectations and in their claims, they adjusted both the 1958 results and the 1959 targets publicly. Although the accuracy of the revised data is still in question, the pattern of revision itself and the accompanying statements shed light on their interpretation of preceding errors:

"The planned targets for 1959 require adjustment in the light of problems which emerged in carrying out the plan in the first half of this year, in the light of the verified figures of the output of grain, cotton and other agricultural products of last year, and in the light of this year's serious natural calamities." (Chou En-lai, *Report on Adjusting the Major Targets of the 1959 National Economic Plan and Further Developing the Campaign for Increasing Production and Practising Economy*, Peking: Foreign Languages Press, 1959, p. 17.)

In addition to reassessing the impact of natural conditions, they apparently changed primarily their estimates of the effectiveness of improvements in traditional agricultural technology rather than of advances in ideological adaptation. Of the original 1958 claims, they reduced merely the gross value of agricultural production (and consequently the gross value of agricultural subsistence consumption). For 1959, they decreased the planned gross value of agricultural production very much, but they lowered as well the planned gross value of industrial production and of basic investment. The latter adjustments seem to have occurred both for the reason that industrial raw materials of agricultural origin were now expected to come forth in smaller quantities and because less consumer goods production could be expected to provide less material incentive for productive efforts generally. Simultaneous revisions in social organization suggest this interpretation too:

"Since the people's commune movement was a large-scale mass movement and the commune was something entirely new, it is impossible that they should be perfect at the very start and that no defects or difficulties at all should be met with. Such phenomena as overcentralization of some administrative powers, equalitarianism in distribution and extravagance did appear in some degree during the initial period of the people's commune movement because both cadres and masses lacked experience. But these defects were rapidly discovered and rectified by the Central Committee of the Communist Party." (Chou En-lai, *ibid.*, pp. 9-10.)

In other words, the Chinese Communists curbed extreme advances in socialist proletarianization and reduced or eliminated various elements of Communistic "distribution according to need." But they did not return to the less "advanced" forms of organization of the FFYP period at this time. And while they carried out these reforms with regard to rural communes, they also prepared the ground for a similar mass movement to form urban communes.

The claims for 1959, which should be viewed with as much reservation as the revised 1958 data, seemed to justify this interpretation of previous errors and the consequent scope of correctiveness measures. Indeed, the asserted achievements were so substantial that the Chinese Communists saw themselves once again in the familiar situation of having aimed for too little rather than for too much. Industrial production, retail sales, and basic investment all approximated the original 1959 targets, and agricultural production considerably exceeded the revised 1959 target. With the exception of retail sales which fell far short of the goal, the SFYP targets had been surpassed as well. Thus, there appeared to be ample cause for optimism:

"The fulfillment of the Second Five-Year Plan ahead of time indicates that the socialist construction of China has entered into a new era and greater tasks are facing the people. On the basis of the continuous leap forward, they are striving to catch up or surpass Britain within ten years in the output of major industrial products and to fulfill the National Programme for Agricultural Development (1956-1967) far ahead of time. At present, the people of China are full of confidence. With profound faith in the teachings of Mao Tse-tung, the Party's general line, the big leap forward and people's communes, they are marching forward courageously to build our country into a great socialist land possessing modern industry, modern agriculture, and modern science and culture." (People's China in Pictures. *The Second Five-Year Plan Fulfilled in Two Years*, Peking: Foreign Languages Press, 1960.)

This optimism is reflected in the 1960 plan. Soon thereafter, the picture changed abruptly.

In conclusion, we may appraise Chinese Communist planning as related to the *great leap forward* and the rural *people's communes* in two respects. We have found that the directions of change which they initiated in 1958, were plausible in the light of their preceding experiences, that the magnitudes of change for which they called, were meaningful in terms of their great expectations, and that the corrective measures which they instituted after they had discovered that they were mistaken, appeared to be adequate in view of subsequent performance claims. Thus, we can hardly fail to say that in terms of their frame of reference they acted rationally in view of their information. But we must also note that the Chinese Communists had to plan under conditions of uncertainty which made it possible for them either to commit errors on the basis of given information or to avoid errors by testing the information. We have not questioned the adequacy of their procedure of assessing the effectiveness of improvements in agricultural methods, but we may find it hard to believe that one could proceed intelligently and yet err so drastically. Moreover, we have taken the revised data and all subsequent pronouncements at face value, but it is possible that the policy makers continued to deceive themselves. In both instances, we may suspect irrational behavior and may attribute subsequent difficulties to it. Yet we may also cite unfavorable natural conditions as well as the deterioration of Sino-Soviet relations as alternative or complementary explanations. And we should ask: Why would the Chinese Communists who by all indications had behaved so rationally until then, risk so much on the strength of uncertain information? We have yet to find the answer.

Appendix II

BASIC RESOURCES FOR SOCIAL SCIENCE RESEARCH ON COMMUNIST CHINA

SUPPLEMENTAL MEMORANDUM BY LEO A. ORLEANS, LIBRARY OF CONGRESS, FILED WITH THE COMMITTEE FOR INCLUSION IN THE RECORD

Serious studies of Communist China almost invariably start out by lamenting the data gaps and pointing to the analytical limitations that naturally stem from inadequate information. On the basis of these statements most readers usually assume that if the mainland were not controlled by the Communists the student of China would have at his disposal all the data necessary for research and analysis, supplemented, of course, by vital on the spot observations. Unfortunately, this assumption ignores two very basic and very important facts about the sources and resources for the study of Communist China.

First, there is a lack of adequate social science information not only for the Communist period but for the period preceding the Communist takeover in 1949 as well. Although China has rich historical data, detailed descriptions of people and culture, essays on religion and the arts, and literary works that cover all facets of life in ancient China, there is little reliable quantitative or qualitative information for the first half of this century that could serve as a starting point for assessing many of the social, economic and political developments under the Chinese Communists.

Second, the data problem, in most instances, is just as great for the Chinese as it is for persons looking at China from the outside. Admittedly, if required, a Chinese official in Peking is in a much better position to follow and interpret the political machinations that result in various policy shifts or to keep track of the daily ups and downs of, say, the Cultural Revolution. But when an American analyst wishes to study some aspect of the Chinese economy, consider questions relating to China's population or manpower, look into any area of research that requires hard facts and figures, or even predict the possible attitudes of the peasantry to some new policy wrinkle, he faces many of the same data gaps which hinder the Chinese scholar or bureaucrat. Certainly the latter has more insight and, in some cases, information that is not available to the outsider, but neither has all the statistics or all the backup materials necessary to make meaningful analyses or evaluations. It must be pointed out, however, that because the Chinese experience in social sciences has been relatively recent and very inadequate, what a Western student may lack in terms of data vis-a-vis his Chinese counterpart, to some extent, may be compensated through greater experience in theory, in methods of handling inadequate and gap-ridden data, and greater overall sophistication.

VOLUME AND VALIDITY OF DATA

The rate at which information emanates from Communist China and the significance and validity of the content of information depend, to a large extent, on the political atmosphere of a specific period; i.e. to what extent "politics are in command." Briefly, students of contemporary China generally agree on several distinct phases. Although these phases usually refer to statistical data, a definite correlation exists between the accuracy of the statistics and the validity and significance of accompanying textual information. In other words, the more legitimate the statistics, the more perceptive the text.

The first phase covers the years 1949-52 and may be described as one of retrenchment and consolidation. The new Communist regime was more concerned with organizing its systems of administration and control than with the collection and publication of meaningful information about the conditions in the country. Much of the data used undoubtedly were inherited from the old regime

while the results of some of the surveys which were conducted were, in their own words, "neither adequate in coverage nor accurate."

The State Statistical Bureau was not established until the latter part of 1952, and from 1953 to 1957—the period of the First Five-Year Plan—a gradual improvement was noted in both the quality and quantity of statistics and other materials which made the task of following the developments on the mainland somewhat more fruitful. Without question the best data on Communist China were available during the three years between 1955 and 1957. Through the concerted efforts by the State Statistical Bureau, the statistical system began to produce data that were, for the most part, more reasonable and acceptable. In addition, this period includes 1957 the year when the hundred flowers bloomed and the hundred schools of thought contended. In inviting the people to criticize the regime, Mao Tse-tung opened Pandora's box, and both he and the world were surprised by the critical outburst which, during the short six weeks, exposed so many of the country's intimate problems.

The effect of the Great Leap Forward in 1958 on the validity of published data from the mainland is notorious. The movement which was to transform Communist China overnight into a modern industrial nation by exhorting maximum effort from all segments of the population collapsed with predictable force, dragging down with it the whole statistical system. Statistics became the "weapon of the class struggle" and, by decree, not a "mere display of objective facts." The deterioration in statistics resulted in the contamination of the whole media of information so that almost everything which was published during 1958 and the first part of 1959 had to be scrutinized carefully and usually adjusted for statistical and political bias.

In 1959, the regime tried to recoup the errors of the previous year. In the area of statistics, the Government admitted overestimating production goals, initiated a campaign to improve the accuracy of figures, and, at the same time, once again centralized the control of statistics under the more responsible vertical authority of the State Statistical Bureau. The efforts to improve statistical reporting were not very successful, however. The Great Leap disruption was too great to reverse rapidly, especially since the non-statistical coverage in the mainland publications continued to express the Great Leap philosophy of exaggeration and swagger.

The economic crisis that followed the Great Leap drastically affected the information media of Communist China. The number of titles of books and journals that were published was reduced tremendously—perhaps decreasing from some 30,000 in the late 1950's to about 5,000 in 1961. As reported by the Chinese, it was due to a shortage of paper and the general need to concentrate the limited resources in areas of higher priority. However, very typically, the regime also was unwilling to report anything that would reveal the intensity of the internal problems China was trying to overcome during these post-Leap years. As conditions began to improve, the number of monographic titles increased and publication of suspended periodicals was resumed. Thus, as before, the easier atmosphere from 1963 through 1965 resulted in temporary relaxation in the substance of published materials only to see another reversal with the gradual approach of Mao's Cultural Revolution, and the introduction of the wall poster as a basic (if often unreliable) information source.

SOME CHARACTERISTICS OF THE DATA

Despite these periodic fluctuations in the content and presentation of information in Communist Chinese sources, some broad generalizations hold no matter what the current political line may be.

Because politics are usually in command, fragmentary information often must be extracted from discussions which are permeated with political gibberish. In other words, articles which seemingly contain nothing of value may, upon careful reading, include very significant statements and even some relevant figures. Conversely, in many instances, promising titles will be void of substance.

Discussions referring to the country as a whole and published in sources of national significance, usually contain more propaganda and more generalities and are, therefore, less valuable. This is due, in part, to more severe restrictions placed upon critical writings at the national level. At this level also, more specific analyses are impossible simply because in so many instances the necessary data for the country as a whole are not available.

Much more can be gleaned from local publications or from microcosm examples which appear in the national press. There seems to be much less reservation in discussing almost any problem provided it is limited to a small unit. There is, of course, a danger of generalizing for the country as a whole from problems or procedures described for one factory, one agricultural team, one school, and so forth. Data for these units are much more likely to be available, however, and on the basis of past experience such generalizations appear to be more valid for China than perhaps elsewhere.

In addition to the absence of factual data, there is a notable lack of serious analysis. It is true that as political controls relax, the nature of discussion takes on a more academic character, but even then it is unusual to come across an article that will present facts, problems, alternatives, logical analysis, and conclusions. In part, the blame can be placed on the system, which discourages depth analysis of the social science area and exposes the author to severe attack, if not immediately, then possible in years to come. A shortage of well-trained and experienced individuals contributes to the lack of analytical writing. There is also a general tendency among the Chinese to shy away from analytical speculation.

The Chinese Communists seldom fabricate data just to deceive the unsuspecting foreigner. If conditions are unfavorable—as, for example, in the early 1960's—they will simply not publish statistical data or other information which would reflect adversely on the regime. When data are published, they are intended for the Chinese themselves, some of whom must utilize this same information in the formulation of national plans.

AVAILABILITY AND PROCUREMENT OF SOURCES

In a sense, the problem of what the Chinese publish and how they express themselves is strictly academic. From the point of view of those studying the Chinese scene from the outside, the important fact is how much of the published materials become available to them. Unfortunately, it is extremely difficult to estimate the proportion of Chinese-language materials published on the mainland that find their way outside of China. During the middle and late 1950's, it could have been as high as 20 to 25 percent for monographs and 40 to 50 percent for periodical titles. In the fall of 1959 the Communists placed an unofficial ban on the export of scores of scholarly journals and other publications—many of which ceased publication during the ensuing few years anyway. By 1962, the ban was relaxed to permit a gradual increase in the flow of mainland publications.

The proportion of sources which leave the country is not necessarily a very meaningful index, however, since included in the publication statistics are thousands of children's books, song books, modern literature, picture stories, and other publications that have little interest to anyone outside Communist China. A large number of technical books are translations from Western language publications and are available in the original abroad. Some of the listed titles represent only new editions of old publications. Many of the significant articles appearing in newspaper and periodical literature are reprinted in several sources. Thus, in determining the proportion of mainland Chinese sources available abroad, it is more realistic, from the point of view of the researcher, to subtract from the base figure the less consequential publications that are not in demand, in order to compare the "actual take" against the "desirable take." Such an adjustment would, of course, present a much more favorable data picture.

What about the channels through which source materials from the mainland are acquired? Two very direct methods may come as a surprise to many persons. One method is to subscribe to periodicals which are mailed directly from Peking. The other is to visit or to write to one of the two bookstores in the United States (New York and San Francisco) which are outlets for Communist Chinese publications. It is true that the selections available through these channels are rather limited. The bulk of the material is published in English (usually translations) by the Foreign Languages Press in Peking and has a propaganda content that is anything but subtle. Most of the publications can be divided into politically cumbersome (international relations, international communism, political documents, etc.) or the insignificant (sports, hobbies, literature, arts, etc.). Not everything obtainable through the Foreign Languages Press can be ignored, however. Some of the monographs represent important

basic sources, while an experienced reader often can find valuable information by wading through the propaganda journals.

Exchange agreements between some of the large American universities and abstracting services, and the National Library of Peking are an important source for Chinese publications. For the most part the agreements are limited to professional journals and scientific and technical material which the Chinese are anxious to obtain so that the nature of the "take" is much more specialized and, in that sense, more valuable.

The bulk of the Chinese-language publications which find their way into the United States, however, are purchased by universities and by government purchasing agents from various independent book dealers.

Hong Kong is by far the most important location for the procurement of mainland publications. In addition to the large over-the-counter business, there is a thriving black market in Communist publications and it is generally understood that for an appropriate price the booksellers will make an effort to procure (not always successfully) almost any unclassified publication originating on the mainland. These may be limited editions of books, specialized periodicals or simply local newspapers which are banned from export by the regime, but which contain important and often unique information.

The Japanese government and a few of the universities sponsor considerable research on Communist China, but presumably most of the publications available in these institutions are also purchased on the open market, either in one of the Tokyo book stores that specialize in Chinese materials or in Hong Kong. It is believed that some of the Japanese left-wing organizations (e.g., China Research Institute) receive materials that are not otherwise available. Unfortunately, they are not anxious to share their sources. Scholars and other Japanese visitors to the mainland occasionally bring back sources that are not generally available, but, as a rule, the selections in Hong Kong are richer. A possible exception is in the field of commerce and industry. Japanese businessmen, anxious to expand their trade with China, sometimes obtain otherwise unavailable data on industrial facilities and production.

One would normally expect Taiwan to be a gold mine for information on Communist China. After all, who would have better channels for procurement of mainland publications than the Kuomintang. The problem is that it is difficult to evaluate the holdings on Taiwan since virtually all the work on Communist China is conducted in classified government agencies such as the Bureau of Intelligence of the Ministry of National Defense, the Bureau of Investigation and similar organizations. As a result, both the original sources and the final reports are classified and unavailable, especially since Taiwan is not too eager to cooperate with the student of contemporary China.

Aside from Hong Kong, Japan, and Taiwan the two other countries that are frequently thought of as a possible "middleman for Chinese publications are India and the Soviet Union. Actually there are very few resources in India for the study of Communist China, especially since the Indian government imposed strict restrictions following the 1962 Chinese attack with regard to the importation of all Communist Chinese publications.

The major libraries in the Soviet Union (Moscow and Leningrad) contain extensive collections of Communist Chinese publications, but, for the most part, relatively few unusual sources. The collections covering the period prior to the Sino-Soviet schism in 1960 are, of course, much more complete. Although the Russians have been able to obtain some sources since 1960 that are not available elsewhere (e.g., local newspapers), it is difficult to imagine that their present procurement channels are much superior to those located in Hong Kong. It must be assumed, however, that within their classified sector, the Soviets probably have some unique and significant sources. The materials available in the Communist countries of East Europe are not as extensive as those in the Soviet Union, but are usually more accessible to outside scholars.

In summary, it can be said with considerable degree of confidence that the resources on Communist China available in the United States—both in the academic centers and the unclassified government sector—are superior to any collections outside the mainland itself.

TRANSLATIONS AND OTHER BASIC SOURCES IN ENGLISH

Since the number of individuals in the United States with adequate knowledge of the Chinese language is relatively small, and since so much of the work is done by researchers who rely on English-language material, some mention should be made of sources which provide translations of official Communist publications.

The United States Consulate in Hong Kong supports a translation unit which regularly produces three important publications. The *Survey of China Mainland Press* is published daily and contains in full or in summary form all the important articles from *Jen-min Jih-Pao* (People's Daily), the main government press releases of the New China News Agency, and selected translations from a variety of other national newspapers. As the title indicates, *Selections from China Mainland Magazines* (formerly *Extracts from China Mainland Magazines*) carries full translations of selected articles from available journals and is published about once a week. *Current Background* is published on an ad hoc basis, each issue concentrating on one topic and presenting full translations or extracts from a variety of sources. A chronology of principal developments is presented periodically. All three publications are indexed and cross referenced.

Just as valuable in providing the student of Communist China with translated materials is the United States Joint Publications Research Service (JPRS) which was established in 1957. It is an office of the federal government and is coordinated through the Clearinghouse for Federal Scientific and Technical Information (formerly Office of Technical Services), Department of Commerce. Although designed to provide government agencies with the necessary translations, JPRS also makes available most of its reports by subscription to research libraries and by sale to individuals.

In the field of social science, JPRS publishes several series of translations covering political, economic, and sociological material, as well as the *Communist China Digest* which reviews editorials from the *People's Daily* and summarizes, extracts, or translates, in full, articles on industry, agriculture, education, transportation, minorities, etc. On a contractual basis, the service translates and publishes monographs of some length. A most serious deficiency of this agency's valuable reports is a lack of a cumulative index. Although a Foundation-sponsored bibliography of JPRS reports on China was published in 1961, it is now sorely out of date and several approaches are being considered for the compilation of an up-to-date bibliography.

In the fields of science and technology JPRS published *Translations on Communist China: Science and Technology* and a series called *Communist Chinese Scientific Abstracts*. Hundreds of short summaries are presented in periodic issues on topics in such fields as earth sciences, bio-medical sciences, engineering and equipment, physics and mathematics. Although these materials are cataloged and subject-indexed in *Technical Translations*, there is another frustration. The short abstracts are little more than "teasers," and yet it is extremely difficult to obtain the original article when one has special interest in its content.

Another important source of materials in English is the *Daily Report* (Far East) which is published by the Foreign Broadcast Information Service (FBIS) and which monitors material from foreign broadcasts, news agency transmissions, and newspapers. Each item is clearly marked as a complete rendering of the text, an excerpt, or a summary.

The Union Research Institute in Hong Kong also engages in translating various Chinese material into English. The twice weekly translation service usually concentrates on a particular subject and often includes sources which are not generally available elsewhere. The Institute maintains extensive clipping files broken down into fine categories and a select library of often unique books and pamphlets from Communist China. On the basis of these resources the Institute has been producing a number of analytical reports which are closely related to translations in that they are almost entirely based on well-documented mainland sources, many of them quoted at some length.

Finally, although there are a number of periodicals that are devoted entirely to Communist China, it may be appropriate to list at least three of these secondary sources which fall into the "almost indispensable" category for the study of contemporary China. Published in London, *The China Quarterly* is the single most important professional journal devoted to the study of Communist China. The other two sources are of the interpretive newsletter variety and are published in Hong Kong. One is the highly regarded weekly, *China News Analysis*, and the second is the USIA supported bi-weekly, *Current Scene*. Both devote an issue to a specific subject, carefully document their material, and use numerous quotations from Communist sources as illustrations.

CONCLUSIONS

Considering the volume of published materials which in one way or another are received from Communist China, why does one hear so often the comment

that "we know nothing about Communist China." The most likely reason is that we feel frustrated at not being able to understand the whys and wherefores of many of the developments on the mainland and we are not able to predict what is likely to come about next. Although the inadequacy of data is real, these frustrations are due also to the unpredictable nature of the leadership and the difficulty of rationalizing many of its actions. Given all the data in the world, it would have been almost impossible to anticipate "the hundred flowers," the Great Leap, the invasion of India, the Cultural Revolution, or many of the lesser policies, plans, procedures, and strategies.

Because China is a nuclear power we often expect it to have data which are comparable to those of other advanced nations. This is unrealistic. When one thinks of China as an underdeveloped country—which it still is—and compares the available information with that for some of the other less developed nations of Asia, Africa and Latin America, expectations begin to match reality. This does not mean that Communist China makes public everything she has—not by a long shot. It does mean, however, that the unpublished data are not nearly as significant as one might expect. Adequate data have not been available for pre-Communist China and the present regime is struggling with the same data deficiencies which are discouraging Western analysts. If the above premises are accepted, the conclusion becomes fairly evident. The sources on Communist China that are available in the United States are quite representative, quite adequate, but still most frustrating.

Appendix III

ACCURACY OF INFORMATION AND STATISTICS

CORRESPONDENCE AND COMMENTS RECEIVED SUBSEQUENT TO HEARINGS

(Letter from Chairman Proxmire to Secretary of State:)

APRIL 12, 1967.

HON. DEAN RUSK,
Secretary of State,
Washington, D.C.

MY DEAR MR. SECRETARY: At hearings which the Joint Economic Committee has been holding with respect to the economic development of Mainland China, a question has come up on which we would like to have your comments. Two of the statements submitted, one by Professor Ta-Chung Liu of Cornell University and another by Professor Kang Chao of the University of Wisconsin, raise serious questions as to the validity of statistics upon which United States-Chinese policy are founded. With this letter are copies of the two statements.

I realize that it is difficult to get accurate information about China, but I am especially concerned when the experts feel that the best data available are "inconsistent," "implausible," or "personal guesses" repeated until they acquire an aura of dependability. As one of the witnesses pointed out, either an over-estimate or particularly an under-estimate of the economic strength of Communist China could have a profound and most unfortunate effect upon determination of United States policy in Asia and toward China, itself.

Sincerely,

WILLIAM PROXMIRE, *Chairman.*

(Letter from State Department in reply:)

MAY 2, 1967.

HON. WILLIAM PROXMIRE,
Chairman, Joint Economic Committee,
Congress of the United States, Washington, D.C.

DEAR MR. CHAIRMAN: The Secretary has asked me to reply to your letter of April 12 concerning the testimony of Professors Ta-chung Liu and Kang Chao before your committee. We have examined their criticisms of data contained in papers submitted to your committee which were published in February 1967 entitled "An Economic Profile of Mainland China."

There is, of course, much that we do not know about China, and we are continually revising our estimates as new information comes in. However, the criticisms in the testimony do not seem warranted, particularly Professor Liu's fears that the U.S. government is over-estimating China's industrial expansion during 1958-60 and its agricultural expansion in recent years, and Professor Kang Chao's suspicion that the U.S. government is under-estimating China's recent industrial expansion by ignoring Peking's public statements.

We are enclosing a comment on these criticisms prepared by the author of one of the papers submitted to your committee.

Sincerely yours,

WILLIAM B. MACOMBER, JR.,
Assistant Secretary for Congressional Relations.

COMMENT ON REMARKS BY T. C. LIU AND KANG CHAO

(By Edwin F. Jones)

The paucity of reliable information from China in recent years, together with the great economic changes of the past decade, seriously complicates the task of analyzing China's economy. One can resort to models which project the data

of the 1950s into the present without resort to current information. Such estimates seem more accurate than they really are, and gain an aura of dependability from repetition. Again, fragmentary information can be pieced together to speculate on the economic patterns it implies, which comes close to "personal guesses."

The above criticisms have been levelled at various estimates contained in papers published in the committee's report, "An Economic Outline of Mainland China." Fortunately, another charge has been made, namely that of inconsistency among the estimates. In view of the limited information available, it would be alarming if this were not so, for it demonstrates within the analysis of China that "fearless sifting and winnowing by which alone the truth may be found."

Criticizing my data, T. C. Liu complains that the U.S. government agencies, which should be charged with responsibility "for the systematic compilation of (presumably a single set of) economic data on the Chinese Mainland," are in fact issuing inconsistent estimates. He is right about the varied estimates, but he is wrong in demanding uniformity. The variation arises from the use of different formulas or models to explain and derive the data, and the art of "China-watching" has not yet reached that state of certainty where we can dispense with alternative approaches.

The grain output estimates that T. C. Liu supports are complied with the use of files which have recorded the soils and cropping practices in the various farm districts of China and which permit an assessment of the influence of crop weather and whatever cropping changes may be disclosed in the meager information available on farm output. This formula provides a district by district account of farm output, and is important to maintain. But it is open to suspicion that it may be primarily recording past performance and current crop weather and be missing new secular trends in farm output resulting from changes in irrigation and fertilizer supply, simply from the sparse current local information.

Dawson's estimates are based on a more theoretical approach. He calculates the possible optimum effect of the new production inputs of irrigation and fertilizer on the 1957 production base, and then makes deductions to account for inefficient application of the new inputs and for offsetting impairments to farm resources. His calculations show that the new production inputs, under optimum use and without offsets, could have produced 215 million tons of grain in 1966, but he estimates actual output at roughly 10 percent less than this figure.

My choice of Dawson's estimate rests on the recognition of a strong tendency towards a stable relationship between a population and its food supply. Particularly for societies on the edge of subsistence, the per capita caloric intake cannot drop by as much as five percent without evident social reactions to redress the balance. Farm output patterns will shift, and governments will seek means to distribute the food supply more equitably and to brace against the political discontent of the disadvantaged. Such signs have been absent in China since 1964, and it must be concluded that the per capita caloric intake during 1964-66 has been very close to that of 1957.

There is an argument for allowing the grain supply to lag behind the growth in population on the grounds that non-grain foods are now providing a greater share of the calories in the diet. The range in Dawson's 1965 grain output estimate was associated with uncertainty over this possibility. However, grain is the cheapest source of calories, and to the extent that grain has been displaced by other foods—primarily hogs, soybeans, and oilseeds—farm output has risen, not fallen. As T. C. Liu noted, I used the higher end of Dawson's grain output range, which was also the lower end of the implied increase in farm output.

By using Dawson's grain output estimates and a population projection which shows a slightly smaller increase than the slowest growing of John Aird's population models, one can trace a reasonable trend in the diet level. Admittedly, one cannot pin down the per capita daily caloric intake with any great precision. But one can be confident that it was in 1965 in a range of 2,000-2,100 calories as implied by Dawson's estimate rather than 1,800-1,900 calories (or 1,700-1,800 calories at the higher population estimates) as implied by the estimates T. C. Liu wants to use. There is no country in the world, including famine-struck India, which has a diet as low as the latter range. These figures include some 50 calories daily from grain imports.

With respect to my indices of industrial output, as T. C. Liu notes, they differ from those of Michael Field. But the difference is not great. My intention was

to show a rough order of magnitude of the peaks and troughs of Chinese industrial output, which was the reason for selecting the output rate for the first half of 1960 when industrial retrenchment had not yet begun, rather than that for the whole year.

In analyzing the industrial expansion during the "Great Leap" period, one can assert, like Alexander Eckstein, that it was imbalanced and thus not comparable to the smaller but better balanced industrial growth of recent years. But one cannot assert, as T. C. Liu seems to, that it did not occur. Contrary to T. C. Liu's statement, the present estimates discount Peking's industrial claims to a greater extent than its agricultural claims. Moreover, the investment and expansion of this period centered on steel, electric power, and rail transport where it was relatively easy to verify new capacities without reliance on Peking's claims.

Kang Chao questions whether the industrial recovery of recent years has not been under-estimated from a reluctance to trust the accuracy of Peking's recent industrial claims, fragmentary as they are. He suggests that Peking's statistical organization has been revamped and is providing reliable data, and that Peking is probably not exaggerating the claims it publishes. He cites three industries—chemical fertilizer, electric power, and cotton textiles—where Peking seems to claim a greater growth than is shown in the various estimates.

With respect to chemical fertilizer output, we are dealing with heterogenous products. While there is a convention to report output in terms of ammonium sulphate or superphosphate equivalents to obtain uniformity, Peking does not seem to be following it. Because of production limitations, Peking is using production processes and producing fertilizers not found in other countries, raising a question of how they should be rated. Finally, Peking's data is a morass of inconsistencies.

Peking has reported annual increases in chemical fertilizer output of 39 percent in 1963, 50 percent in 1964, and 70 percent in 1965. It has also stated that the 1965 increase was over 3 million tons. With the other data it has reported, one can reconstruct a possible output schedule for 1964 and 1965, as follows:

[In thousands of metric tons]

	1964	1965
Nitrogenous fertilizer.....	2,560	3,000
From large and medium plants.....	2,304	2,628
From small plants.....	256	372
Phosphate, other.....	2,140	5,000
From large plants.....	900	1,000
From small and medium plants.....	1,240	4,000
Total.....	4,700	8,000

But if this is an accurate reconstruction of Peking's production claims, there is little inclination by the experts to accept it as standard fertilizer equivalent. The shortage of sulfuric acid in China has precluded significant expansion of such standard fertilizers as ammonium sulphate (which accounted for 77 percent of output in 1957 and only 22 percent in 1964) and superphosphate. The expansion in the large nitrogenous plants has been primarily in ammonium bicarbonate with an N content of 17.65 percent (vs. 21 percent for ammonium sulphate), and a usable N content of less because it is an unstable compound. There is a suspicion that much of the output of small and medium plants is nothing more than ground phosphate rock.

The experts believe that much of the recent claimed expansion in the fertilizer industry will prove ephemeral because the products are not suitable. Indeed, the output expansion has begun to level off in 1966, and emigrants have suggested dissatisfaction by Peking, and a possible change of mind, on its fertilizer program. Fertilizer imports (which rose in terms of ammonium sulphate from 2 million tons in 1964 and 2.5 million tons in 1965 to 3.5 million tons in 1966 and 5.4 million tons purchased in 1967) may reflect this change in attitude.

The experts estimate China's fertilizer output in terms of standard fertilizer at about 4.5 million tons in 1965, 5.0 million tons in 1966, and 6.0 million tons in

1967. Their estimates may prove to be low, but they have been made, not through ignoring Peking's claims, but through intensive study of them.

With respect to the cotton textile industry, Kang Chao is on stronger ground, for Peking's data is more straight-forward and increasingly reinforcing itself. Assuming that the "Great Leap" claims have been abandoned and that Peking regards 1957 as the previous year of peak output and yields, Peking's cotton production claims are not impossible. Emigrant information indicates that cotton output reached a low point in 1962 with an output of 850,000 tons on less than 3.5 million hectares. Peking's claim of a 20 percent increase in acreage and output in 1963, of a 37 percent increase in output and 11 percent increase in acreage in 1964, and successive record outputs and yields in 1965 and 1966 would indicate approximately the following trends:

Peking's cotton output claims

	Output	Acreage	Yield
	<i>Thousand metric tons</i>	<i>Million hectares</i>	<i>Kilograms per hectare</i>
1957	1,640	5.8	284
1962	850	3.5	243
1963	1,020	4.2	243
1964	1,410	4.7	300
1965	1,650	5.4	306
1966	1,700	5.5	309

The main difficulty in crediting this account is the claim of a 23 percent increase in yields in 1964 despite accounts of seed deterioration in 1962 and 1963 and a shift in the center of cotton production from the north China plain to central China.

However, the crash expansion of the cotton textile industry in 1965 after the 1964 cotton harvest lends credence to the 1964 cotton production claim. The cotton textile industry, which was expanded to 10-11 million spindles during the "Great Leap," was rationalized in the post-1960 period.

Emigrant information indicates that in 1962 half the mills were closed, involving perhaps 4 million spindles; the work force was reduced from 1,000,000 to 500,000; and operating spindles were reduced from 10 million to 5.4 million. Some of the closed mills were known to have turned to other activity, such as furniture manufacture and electronics, suggesting that the machinery was removed and scrapped. The expansion program of 1965 suggests that most of the shut-down spindleage was scrapped.

The expansion program added 1.4 million spindles to the existing 6-7 million spindles in 1965, and it continued into 1966 on a considerably reduced scale. Cotton yarn production in the first eight months of 1966 was claimed to have increased 18 percent over the same period in 1965. Since this increase parallels the indicated increase in spindleage, it suggests that the industry has been in full operation since the 1964 harvest was brought in.

A major obstacle to accepting this view is the ration information. The six major types of cloth supplied to the rural areas in 1965 was not reported at 5.4 billion meters as stated by Kang Chao, but at 5.4 billion *ch'ih* (one-third of a meter) or 1.8 billion meters. If this amount comprised the bulk of the supply of cloth to the rural areas, it would be difficult to argue, after accounting for exports and urban consumption, much higher supply levels than those given by Field. However, rural rations were increased significantly in both 1966 and 1967, and I would be inclined to argue that the initial production increases were allocated to unmet public and collective needs and to fill out retail inventories, and did not become evident on the market until 1966. I would thus support higher estimates than those given by Field.

However, apart from looking at the individual industries, one should also consider Peking's total industrial claims. Emigrant information indicates that the gross value of industrial output rose 4 percent in 1963, while Peking publicly claimed a 15 percent increase in 1964 and an overfulfillment of the 1965 target of 11 percent. Placing the 1965 increase at 14 percent, the 1962-65 increase comes to 36 percent. Field's estimated 1962-65 increase in China's industrial output was 35 percent, and while my estimate was given in broad ranges, it brackets

Peking's claim. I think the above discussion indicates that Peking's claims are not ignored (and are not uncritically accepted either) and that the summary calculations, since they parallel Peking's own claims, do not understate Peking's industrial growth.

EXCERPT OF A LETTER FROM PROFESSOR ALEXANDER ECKSTEIN TO CHAIRMAN
PROXIMITY DATED APRIL 20, 1967

May I underline a point which has come up tangentially in our panel discussions on the last day of the China hearings. This relates to the issue of the per capita consumption in 1933 as compared to 1957 or 1966. Such comparisons are immensely complicated by data problems, particularly as they relate to food crop production in China. Most particularly, I am troubled by the grain production figures that all of us—inside and outside the government—have been using for the period 1960 to 1966. As you know, this is a period for which the Chinese Communists have ceased publishing any statistics. This void has been filled by our agricultural attachés in Hongkong who have been very competent men indeed. They have tried to piece together whatever evidence could be marshalled in order to reconstruct these estimates.

The agricultural production figures estimated in Hongkong show a decline in food crop output in 1965 and 1966, as compared to 1957. Even for 1964—presumably the best post-crisis harvest year—they show the same level of production as for 1957. Yet, in the meantime chemical fertilizer applications have increased from 1.8 million tons in 1957 to 9.5 million tons in 1966. Therefore, on this account alone one would expect some perceptible rise in food crop production between 1957 and 1966.

Looking at the problem from the opposite side, the food crop production figures estimated in Hongkong seem equally implausible. What I am referring to is the repeated eyewitness and refugee reports, concerning the food situation in China in the last two or three years. All of these reports combined project an image of a reasonably comfortable food situation with no indications of food stringency. However, if food crop production in 1965-1966 was only 175 to 180 million tons as compared to 185 million in 1957, one would expect a significant decline in per capita consumption of foodstuffs, given the continued growth in population between 1957 and 1966; this should be the case, even if one allows for the net import of grain from abroad.

Now, China's actual food position is not a matter of just academic interest. On the contrary, it necessarily affects every assessment of China's economic prospects and every policy analysis. It also affects very much our judgments concerning any moves the U.S. might make in the direction of relaxation of tensions. Needless to say, it also profoundly affects assessments of China's military capabilities and an estimate of inducements and motivations for expansion. For all of these reasons combined it seems to me that it would be very important to undertake a careful, searching, and *thoroughgoing reassessment* of the agricultural production figures which are now being used for policy purposes within the government. It may turn out that such a reassessment will confirm the validity of the figures now being used, in which case everybody can use them with a greater degree of confidence. On the other hand it might turn out, that some of the estimates are based on assumptions which can not be fully validated or are based on methods which could be improved.

I thought it important to call this problem to your attention, leaving it to your judgment as to how such a reassessment might best be undertaken. May I just express the opinion that, if it is done, it has to be done, at least in part, *by people within the government, who have access to all of the classified information*. At the same time, it ought to be structured in such a way that independent experts from a wide variety of fields can subject the government's methods and findings to a thoroughgoing re-examination.

Appendix IV

COMPARISONS OF ECONOMIC PERFORMANCE OF LESS DEVELOPED COUNTRIES*

TABLE 1a.—Estimated average annual growth rates of less developed countries

Region	1965 region weight	Percent change in total gross national product								Percent change in GNP per capita,						Current rate of popula- tion growth	
		1950- 55	1955- 60	1960- 66	Change from preceding year					1957-58 average to 1965-66 average	1950- 55	1955- 60	1960- 66	Change from pre- ceding year			1957-58 average to 1965-66 average
					1962	1963	1964	1965	1966					1965	1966		
SUMMARY BY REGION																	
Total ¹	100.0	5.0	4.4	4.8	4.2	4.8	6.3	3.7	4.9	4.7	2.8	2.1	2.3	1.2	2.4	2.3	2.5
Latin America.....	32.0	5.1	4.9	4.5	4.1	2.4	6.6	5.2 ²	4.1	4.6	2.3	2.0	1.6	2.2	1.1	1.7	2.9
Near East.....	13.0		5.6	6.4	4.5	8.2	6.6	5.9	5.4	6.2		3.3	3.9	3.4	2.9	3.7	2.4
South Asia.....	22.6	3.6	4.2	3.8	2.8	6.3	6.9	-2.4	5.5	4.2	1.5	2.1	1.4	-4.8	3.1	1.8	2.5
East Asia:																	
Including Indonesia.....	12.6		3.8	4.9	3.0	4.6	5.4	6.8	4.8	4.6		1.3	2.3	4.2	2.2	2.0	2.7
Excluding Indonesia.....	8.9		5.0	6.3	4.9	7.8	6.6	7.3	6.2	6.2		2.2	3.4	4.4	3.3	3.3	3.0
Africa.....	10.5			3.4	5.6	3.4	3.9	4.0	2.1	3.7			1.1	1.6	-.3	1.4	2.4
Other ²	9.3			8.0	7.0	7.0	6.9	7.3	9.0	6.0			6.4	5.7	7.4	4.4	1.6

¹ These estimated growth rates for the less developed countries in total and by region are based on the trend data for the countries listed on the following pages.

² Largely Spain and Puerto Rico.

*Source: Agency for International Development, Office of Program Coordination, Statistics and Reports Division, "Gross National Product, Growth Rates and Trend Data by Region and Country," March 31, 1967.

TABLE 1b.—Latin America: Estimated average annual growth rates

Region and country	Percent change in total gross national product									Percent change in GNP per capita						Current rate of population growth		
	1950-55	1955-60	1960-66	Change from preceding year					1961-66	1957-58 average to 1965-66 average	1950-55	1955-60	1960-66	Change from preceding year			1961-66	1957-58 average to 1965-66 average
				1962	1963	1964	1965	1966						1965	1966			
Costa Rica.....	7.6	4.7	4.9	6.5	5.7	3.4	7.0	6.5	5.8	4.7	3.9	1.0	1.1	3.1	2.8	2.0	0.8	3.6
El Salvador.....	4.5	4.0	6.4	13.2	3.7	7.8	4.1	5.7	6.8	5.6	1.7	.9	3.2	0.7	2.2	3.6	2.5	3.2
Guatemala.....	2.3	5.2	6.5	2.5	12.6	6.6	7.4	6.4	7.1	5.7	-1.0	1.9	3.2	3.7	3.0	3.8	2.4	3.3
Honduras.....	5.3	6.3	3.8	4.2	2.5	3.1	6.8	6.2	4.5	3.9	---	2.2	.7	3.6	3.0	1.4	.8	3.1
Nicaragua.....	8.3	2.3	7.8	10.5	7.8	8.0	9.1	5.8	8.2	5.9	5.4	-.6	4.6	5.0	2.7	5.0	2.8	3.0
Central American economic community.....	4.6	4.5	6.0	6.7	7.5	6.1	6.8	6.1	6.6	5.3	1.5	1.3	2.7	3.1	3.0	3.3	2.0	3.3
Argentina.....	3.0	3.1	2.6	-1.7	-3.5	8.0	7.9	-1.0	1.8	2.7	.9	1.3	1.0	6.3	-2.5	.2	1.1	1.6
Bolivia.....	---	---	5.0	5.6	6.1	5.2	5.5	5.5	5.6	4.2	---	---	2.7	3.1	3.0	3.3	1.9	2.4
Brazil.....	5.7	5.9	4.2	5.4	1.6	3.1	4.7	3.6	3.7	5.1	2.7	2.8	1.2	1.8	.4	.7	2.1	3.0
Chile.....	3.0	4.2	4.5	6.1	1.4	4.0	5.8	5.9	4.6	3.9	.5	1.6	2.1	3.2	3.3	2.2	1.4	2.4
Colombia.....	5.5	4.0	4.5	4.6	2.9	6.1	3.3	6.0	4.6	4.7	2.6	1.1	1.6	.3	2.8	1.6	1.8	3.0
Dominican Republic.....	6.7	5.5	1.7	13.8	5.2	6.5	-10.9	3.1	3.2	2.1	3.1	1.9	-1.9	-14.2	-.4	-.4	-1.5	3.6
Ecuador.....	5.3	4.6	4.3	5.0	4.7	7.2	3.4	4.2	4.9	4.5	2.4	1.4	1.0	1.0	.9	1.6	1.3	3.4
Mexico.....	6.2	6.1	6.1	4.8	6.3	10.0	5.4	6.9	6.7	5.9	3.1	2.8	2.7	1.8	3.3	3.2	2.5	3.5
Panama.....	4.0	5.8	8.0	8.7	8.4	5.2	8.1	7.0	7.4	7.2	1.1	2.9	4.8	4.5	3.7	4.1	4.1	3.2
Paraguay.....	2.9	2.4	4.6	5.6	2.3	3.5	6.5	4.1	4.4	3.7	.6	2.1	1.8	3.8	1.4	1.7	1.2	2.6
Peru.....	6.0	4.3	6.5	9.3	3.8	7.8	4.3	6.0	6.2	6.3	4.0	1.6	3.4	.8	3.0	3.1	3.3	3.1
Uruguay.....	---	0	.4	-2.2	-1.0	1.2	1.0	.8	-1	.1	---	---	---	-2	-7	-1.5	-1.3	1.4
Venezuela.....	9.0	7.2	5.0	5.8	5.0	8.6	4.9	5.0	5.8	5.2	5.0	3.2	1.6	1.4	1.5	2.4	1.7	3.4
18 Latin American Republics, total.....	5.1	4.9	4.5	4.1	2.4	6.6	5.2	4.1	4.4	4.6	2.3	2.0	1.6	2.2	1.1	1.5	1.7	2.9
Jamaica.....	---	---	4.8	3.3	3.8	8.3	4.7	5.0	5.0	---	---	---	---	2.8	2.0	2.3	2.8	2.6
Trinidad and Tobago.....	---	---	6.0	12.8	2.5	3.7	6.4	5.5	6.1	---	---	---	---	3.0	3.5	2.5	3.1	3.0

TABLE 1d.—South Asia: Estimated average annual growth rates

Region and country	Percent change in total gross national product									Percent change in GNP per capita					Current rate of population growth	
	1950-55	1955-60	1960-66	Change from preceding year					1957-58 average to 1965-66 average	1950-55	1955-60	1960-66	Change from preceding year			1957-58 average to 1965-66 average
				1962	1963	1964	1965	1966					1965	1966		
Ceylon.....			3.0	3.5	2.1	4.1	2.0	3.5			0.4	-0.5	0.7		2.9	
India.....	3.9	4.4	3.5	2.6	5.9	7.4	-4.1	5.8	4.0	2.1	2.3	1.1	-6.4	3.3	1.7	2.4
Pakistan.....	1.7	3.6	5.5	3.7	8.7	5.1	4.8	4.8	5.2	-6	1.3	2.9	2.2	2.0	2.6	2.6
South Asia, total.....	3.6	4.2	3.8	2.8	6.3	6.9	-2.4	5.5	4.2	1.5	2.1	1.4	-4.8	3.1	1.8	2.5

TABLE 1e.—East Asia: Estimated average annual growth rates

Region and country	Percent change in total gross national product									Percent change in GNP per capita					Current rate of population growth	
	1950-55	1955-60	1960-66	Change from preceding year					1957-58 average to 1965-66 average	1950-55	1955-60	1960-66	Change from preceding year			1957-58 average to 1965-66 average
				1962	1963	1964	1965	1966					1965	1966		
Burma.....	7.0	5.7	2.0	4.4	8.0	-2.7	4.2	-2.0	3.7	5.5	3.9	-0.1	2.1	-4.0	1.7	2.1
China (Taiwan).....			9.7	7.2	9.8	13.4	12.4	7.5	9.1			0.8	9.4	4.5	6.1	2.8
Korea.....		4.6	7.5	4.1	9.3	8.9	8.1	10.0	6.3		1.8	4.7	5.3	7.3	3.5	2.8
Malaysia.....			6.1	6.5	6.3	6.4	8.0	5.5				3.1	4.9	2.3		3.0
Philippines.....	6.9	4.5	4.8	3.5	5.3	4.1	5.4	5.0	4.7	3.8	1.5	1.4	1.9	1.6	1.4	3.4
Thailand.....			7.2	5.4	9.9	9.0	6.5	8.0	7.5			4.1	3.3	4.8	4.5	3.1
East Asia LDC's, total:																
Including Indonesia.....		3.8	4.9	3.0	4.6	5.4	6.8	4.8	4.6		1.3	2.3	4.2	2.2	2.0	2.7
Excluding Indonesia.....		5.0	6.3	4.9	7.8	6.6	7.3	6.2	6.2		2.2	3.4	4.4	3.3	3.3	3.0
Japan.....		9.8	9.3	7.7	6.3	13.3	3.9	7.8	9.9		8.9	8.3	2.7	6.8	8.9	1.0

TABLE 1f.—Africa: Estimated average annual growth rates

Region and country	Percent change in total gross national product							Percent change in GNP per capita					Current rate of population growth			
	1950-55	1955-60	1960-66	Change from preceding year					1957-58 average to 1965-66 average	1950-55	1955-60	1960-66		Change from preceding year		1957-58 average to 1965-66 average
				1962	1963	1964	1965	1966						1965	1966	
Ethiopia.....	-----	-----	1 3.5	2.9	3.8	3.8	3.5	3.5	-----	-----	-----	2.1	2.1	2.1	-----	1.4
Ghana.....	-----	-----	1.8	5.4	2.6	2.8	.2	-3.2	-----	-----	-----	-9	2.5	-5.9	-----	2.7
Kenya.....	-----	-----	4.5	8.7	3.9	6.3	2.4	6.4	3.8	-----	-----	1.6	-5	3.4	0.9	3.0
Morocco.....	-----	0.2	2.3	11.3	6.2	1.1	1.3	-2.0	2.3	-----	-2.6	-5	-1.4	-4.9	-5	3.1
Nigeria.....	-----	-----	5.0	5.6	4.0	5.5	6.7	5.4	4.8	-----	-----	2.9	4.5	3.2	2.8	2.1
Rhodesia.....	-----	5.8	.5	-1	.8	2.9	5.7	-8.0	2.4	-----	2.5	-2.7	2.7	-10.8	-8	3.2
Sudan.....	-----	-----	3.6	12.6	.7	1.5	2.1	4.8	4.3	-----	-----	.8	-6	1.9	1.5	2.6
Tanganyika.....	-----	-----	4.2	7.3	3.1	9.1	3.2	7.0	-----	-----	-----	2.3	1.3	5.0	-----	1.9
Tunisia.....	-----	-----	4.5	1.7	2.5	8.0	6.1	1.9	-----	-----	-----	2.4	3.6	-5	-----	2.5
Uganda.....	-----	-----	3.5	1.8	8.7	5.3	3.9	3.0	3.4	-----	-----	1.0	1.4	.5	.9	2.5
Zambia.....	-----	9.9	6.5	-2.5	3.2	10.2	25.5	3.0	7.6	-----	-----	3.6	21.8	.1	4.7	2.9
Africa LDC's, total.....	-----	-----	3.4	5.6	3.4	3.9	4.0	2.1	3.7	-----	-----	1.1	1.6	-3	1.4	2.4

1 Annual growth, 1961-66.

TABLE 2a.—Latin America: Per capita gross national product in constant 1965 prices

[In dollar equivalents]

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Costa Rica.....	303	299	328	352	362	364	361	372	377	376	381	368	378	385	383	395	406
El Salvador.....	204	210	221	221	220	223	226	230	226	223	233	235	258	259	271	273	279
Guatemala.....	251	247	244	243	240	239	252	258	260	263	262	263	261	285	294	305	314
Honduras.....						199	200	215	212	216	221	214	216	215	215	223	229
Nicaragua.....	225	233	264	263	279	289	282	297	286	284	281	288	300	324	338	355	365
Central American economic community, total.....	231	234	243	246	247	248	253	261	260	261	264	263	272	283	291	300	309
Argentina.....	591	598	550	578	589	617	616	638	670	620	658	691	668	635	675	718	700
Bolivia.....									127	123	127	128	132	137	141	145	149
Brazil.....	194	198	203	203	213	221	218	226	234	243	252	262	269	265	265	270	271
Chile.....	401	409	424	437	426	411	401	437	443	428	445	451	467	462	469	485	501
Colombia.....	224	225	233	240	250	253	255	252	251	262	266	270	274	274	283	284	292
Dominican Republic.....	232	245	264	257	262	269	289	294	301	292	295	269	296	300	309	265	264
Ecuador.....	177	180	189	190	200	198	197	202	201	204	212	208	212	214	222	222	224
Mexico.....	304	317	320	313	335	353	363	379	387	386	403	403	409	420	447	455	470
Panama.....	323	312	320	330	332	341	347	373	366	379	393	421	443	465	474	495	513
Paraguay.....	194	188	190	188	190	199	192	200	206	201	201	207	212	211	213	221	224
Peru.....	236	256	259	260	279	286	292	288	290	292	310	325	345	347	364	367	378
Uruguay.....						647	650	647	615	590	602	611	589	575	574	573	569
Venezuela.....	555	602	625	646	683	704	716	759	793	835	819	799	817	829	870	882	895
18 Latin American Republics, total.....	292	301	300	305	316	326	328	339	348	347	359	366	370	369	382	390	394
Jamaica.....										410	425	436	446	455	479	489	500
Trinidad and Tobago.....											557	570	623	619	624	646	662

TABLE 2b.—*Near East: Per capita gross national product in constant 1965 prices*

[In dollar equivalents]

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Cyprus.....									550	559	548	596	621	650	595	702	720
Greece.....	267	288	285	323	332	355	376	407	413	427	440	492	511	556	608	650	708
Iraq.....						169	183	189	190	186	200	220	227	214	221	233	237
Israel.....	591	638	638	610	716	786	821	842	879	959	1,001	1,064	1,129	1,215	1,281	1,325	1,308
Jordan.....						124	114	152	163	170	176	206	206	211	242	244	240
Turkey.....	181	202	213	231	204	214	222	230	236	238	239	229	241	249	254	261	276

TABLE 2c.—*South Asia: Per capita gross national product in constant 1965 prices*

[In dollar equivalents]

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Ceylon.....										141	142	143	144	144	145	145	146
India ¹	78	80	81	85	87	87	90	88	92	92	97	99	98	102	107	101	104
Pakistan ²	81	81	79	81	80	79	81	80	80	81	83	86	87	93	95	97	99

¹ Fiscal year beginning Apr. 1.² Fiscal year beginning July 1.

TABLE 2d.—*East Asia: Per capita gross national product in constant 1965 prices*

[In dollar equivalents]

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Burma ¹	44	48	52	53	54	57	57	63	59	66	68	68	69	73	70	71	68
China (Taiwan).....									144	153	157	163	171	183	203	221	231
Korea.....				72	75	77	76	80	82	84	84	85	86	92	97	102	110
Malaysia.....											261	263	272	280	290	305	312
Philippines.....	106	119	125	131	134	140	143	145	146	150	150	154	154	157	158	161	163
Thailand.....								90	88	95	102	103	105	112	119	123	128
Japan.....			313	330	346	377	404	447	459	502	574	657	699	745	839	863	922

¹ Fiscal year ending Sept. 30.TABLE 2c.—*Africa: Per capita gross national product in constant 1965 prices*

[In dollar equivalents]

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
Ethiopia.....												53	54	56	57	58	59
Ghana.....										271	283	284	292	292	292	285	269
Kenya.....								87	85	84	85	82	87	88	91	90	93
Morocco.....		212	215	225	228	218	212	190	206	291	192	179	184	201	298	196	180
Nigeria ¹									94	96	99	100	103	105	109	114	117
Rhodesia.....					213	223	238	245	241	246	250	248	240	234	234	240	214
Sudan ²							89	96	92	93	101	99	108	106	104	104	106
Tanganyika.....											65	61	64	65	70	70	74
Tunisia.....											173	182	181	182	193	200	199
Uganda.....								82	81	83	83	79	79	82	86	87	88
Zambia.....						133	142	158	159	179	185	183	174	174	186	227	227

¹ Fiscal year beginning Apr. 1.² Fiscal year ending June 30.

Appendix V

ILLICIT DRUG TRAFFIC AS A POTENTIAL SOURCE OF FOREIGN
EXCHANGE EARNINGS FOR MAINLAND CHINA*

(The following letter was sent by Chairman Proxmire to the Secretary of the Treasury:)

APRIL 12, 1967.

Hon. HENRY H. FOWLER,
Secretary of the Treasury,
Washington, D.C.

MY DEAR MR. SECRETARY: At hearings which the Joint Economic Committee has been conducting on the economy of Mainland China, it was reported to us that, in spite of serious weaknesses in the available statistical information, there is unanimous agreement among experts that the Chinese Communists have been able to build up and maintain at least \$300 million (valued in U.S. dollars) in foreign exchange reserves. We were informed that this figure was probably low and that the amount might run as high as twice that figure.

The question was raised at the hearings as to the possibilities that Communist China had been able to add significantly to its foreign exchange earnings through illicit drug traffic via Hong Kong or otherwise.

I wonder if we could have a statement from the Treasury Department for inclusion in our record (1) indicating what your Department feels may be the facts with respect to the foreign exchange reserves of Mainland China, and (2) any comments which the Department or the Bureau of Narcotics may have on the extent to which illegal drug traffic may be contributed or continue to contribute to its foreign exchange earnings.

Sincerely,

WILLIAM PROXMIRE, *Chairman.*

(The reply received from the Secretary of the Treasury follows:)

THE SECRETARY OF THE TREASURY,
Washington, D.C., May 11, 1967.

Hon. WILLIAM PROXMIRE,
Chairman, Joint Economic Committee,
Congress of the United States, Washington, D.C.

DEAR MR. CHAIRMAN: The data brought out on Mainland China in the hearings of the Joint Economic Committee were most interesting, and I wish in response to your letter of April 12 I could add something substantial to the information which you have already collected respecting foreign exchange reserves.

Unfortunately such information is not exchanged on an official basis, and what little we do have should be viewed as subject to a wide margin of error. I have no basis for suggesting that some of the estimates which have been made are not the best possible under the circumstances.

Your letter also asks this Department to comment on the extent to which trade in illicit narcotics might be contributing to the foreign exchange earnings of Mainland China. At present the Far East is not thought to be a major source of the illicit narcotics being smuggled into the United States. The drug chiefly implicated in smuggling from abroad is heroin. The Bureau of Narcotics has estimated that some 80 percent of the heroin reaching the United States is manufactured in France from opium diverted from legitimate cultivation in Turkey. Approximately 15 percent is thought to originate in Mexico. The remaining 5 percent might be attributable to sources in the Far East, but here it must be recognized that Mainland China, specifically the Yunnan Province, is only one of several active opium growing areas. This crop is also cultivated in India, Thailand, Laos, and Burma. The small quantity of opium which may be coming out of Mainland China and entering the United States in the form of heroin does not represent any significant sum in United States dollars.

There is, of course, considerable local consumption of opium produced in the Far East. Hong Kong and Singapore, for example, have serious addiction problems. It is not reliably known whether the high rate of addiction in these areas generates foreign currency earnings in Mainland China.

Sincerely yours,

HENRY H. FOWLER.

*See colloquy, pp. 145, 146.