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THE POLITICAL ECONOMY OF THE SOVIET UNION

JOINT HEARINGS

BEFORE THE

SUBCOMMITTEE ON ECONOMIC GOALS AND INTERGOVERNMENTAL POLICY

OF THE

JOINT ECONOMIC COMMITTEE

CONGRESS OF THE UNITED STATES

AND THE

SUBCOMMITTEE ON EUROPE AND THE MIDDLE EAST

OF THE

COMMITTEE ON FOREIGN AFFAIRS

HOUSE OF REPRESENTATIVES

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THE POLITICAL ECONOMY OF THE SOVIET UNION

TUESDAY, JULY 26, 1983

CONGRESS OF THE UNITED STATES, SUBCOMMITTEE ON ECONOMIC GOALS AND INTERGOVERNMENTAL POLICY OF THE JOINT ECONOMIC COMMITTEE, AND HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON EUROPE AND THE MIDDLE EAST OF THE COMMITTEE ON FOREIGN AFFAIRS,
Washington, D.C.

The subcommittees met, pursuant to notice, at 10:50 a.m., in room 2200, Rayburn House Office Building, Hon. Lee H. Hamilton (chairman of the subcommittees) presiding.

Present: Representatives Hamilton and Winn.

Also present: Richard F. Kaufman, assistant director-general counsel.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, CHAIRMAN

Representative HAMILTON. The subcommittees will come to order.

The need to constantly improve our understanding of the Soviet Union for making intelligent U.S. policy in a number of areas is obviously great. Most of the debates and hearings in Congress with respect to the Soviet Union understandably focus on the arms race and arms negotiations. However, it is important that we correctly assess not only Soviet military capabilities, but also Soviet economic strengths and weaknesses, internal developments such as demographic trends, and the full range of major domestic issues confronting the Soviet leadership.

The hearing this morning is the first in a planned series of hearings intended to inquire into domestic, economic, social, and political conditions and policies in the Soviet Union. One of our objectives is to learn what the consensus is among American specialists about the Soviet economy and whether spokesmen for the administration fall within the consensus. In future hearings, we will concentrate on other issues.

I should observe that it is no easy matter to understand what is going on in the Soviet Union. Soviet official secrecy extends to many areas of the economy as well as the military. Our ability to view Soviet society is obstructed by problems such as incomplete and inadequate government statistics, the inaccessibility of government officials and processes, and the absence of a free press. Nevertheless, Moscow has, over the years, permitted somewhat greater observation and study by outsiders of the Soviet Union, and Western specialists have acquired a considerable body of knowledge and insights.

The House Foreign Affairs Committee and the Joint Economic Committee have held many hearings and published numerous studies about the U.S.S.R. The present hearings are being conducted under the dual auspices of the two committees so that we can consider both political and economic factors. The hearings are entitled "The Political Economy of the Soviet Union" to indicate that our interests cut across the spectrum.

This morning we have a distinguished panel of experts, two of whom will present formal testimony, and two of whom will serve as commentators. This arrangement is something of an innovation in the usual format which we hope will be a useful and efficient way to enrich the record of the proceedings.

Our two principal witnesses are Robert Campbell and Marshall Goldman. Mr. Campbell is chairman of the department of economics at Indiana University and, at present, a visiting scholar at the Kennan Institute for Advanced Russian Studies of the Woodrow Wilson International Center for Scholars in Washington, D.C. Mr. Goldman is a professor of economics at Wellesley College and associate director of the Harvard University Russian Research Center.

Following the oral presentations of the two witnesses and a question and answer period, our two commentators, Herbert Levine and Gertrude Schroeder, will comment about the testimony and the discussion. Mr. Levine is a professor of economics at the University of Pennsylvania and serves as chairman of the National Council on Soviet and East European Research. Mrs. Schroeder is a professor of economics at the University of Virginia and serves as a research consultant to the Central Intelligence Agency.

All four panelists are well known experts who have produced numerous books and articles dealing with Soviet economic issues.

Gentlemen, your statements will be entered into the record in full, Mr. Campbell and Mr. Goldman, and you may proceed with your testimony which I believe will summarize your larger statements. We look forward to your testimony and we are delighted to have you with us this morning.

STATEMENT OF ROBERT W. CAMPBELL, CHAIRMAN, DEPARTMENT OF ECONOMICS, INDIANA UNIVERSITY, AND VISITING SCHOLAR, KENNAN INSTITUTE FOR ADVANCED RUSSIAN STUDIES, WOODROW WILSON INTERNATIONAL CENTER

Mr. CAMPBELL. Well, it is a great pleasure to be here. I welcome the opportunity to discuss with the committee some of the issues about Soviet behavior and the underlying economic conditions that will appear in the 1980's.

I would like to summarize my prepared statement rather than go through it in full so as to allow more time for questions.

I believe there are two sorts of questions that puzzle us all. One is what the economic situation will be in the 1980's; the second is, what actions the Soviet leaders will take in response to the sort of economic conditions that take place?

The first of these is probably easier than the second. In fact, there is quite a consensus among Soviet experts as to what the economic prospects for the Soviet Union are in the 1980's and I would like

to focus my first remarks on that issue and then come back to the question of what policies and actions we might expect the Soviet leadership to take.

THE ECONOMIC SITUATION IN THE 1980'S

It is clear that the 1980's is going to be a period of slow growth for the Soviet economy in relation to past performance of that economy. I think most of the forecasts, although there is a certain range in what people have put on paper, show a sort of midpoint of something like 2 percent per year growth for GNP during the decade of the 1980's.

That is low in relation to the growth rates of the recent past. Although there has been a secular decline in Soviet growth rates during the whole period since the Second World War, 2 percent is below what happened in the 1970's, which was something more like 3.5 to 4 percent per year.

The causes for this slowdown are not difficult to understand. Economic growth occurs as a result of increases in inputs, primarily labor and capital, supplemental by some improvement in something called vaguely productivity.

In the 1980's, the labor force is going to grow very slowly in the Soviet Union compared to the past. To summarize this in a simple comparison, during the 10th 5-year plan, during the 1970's, the Soviet Union added something over 17 million persons to the labor force. During the decade of the 1980's, the total additions will be certainly no more than about 5 million persons.

Moreover, the quality of these increments to the labor force are discouraging from the point of view of economic growth. It is a little difficult to figure out precisely the regional disposition of these increments, what their age structure will be, and so on, but the underlying demographics is such that almost all of these people have to be in the peripheral southern areas—central Asia, the Transcaucasias—nearly all of these 5 million people are going to come in those areas.

Now, unfortunately, those are not the areas where growth—unfortunately, these people tend not to know Russian. They are unskilled laborers and they are in the wrong places in relation to where the new jobs will appear, primarily already in the established industrial areas and in the new areas of Siberia.

Similarly, the capital stock is going to grow much more slowly than in the past. In the past, it has grown at something like 7 or 8 percent a year. Depending on the assumptions you make about what happens to investment during the 1980's, it will be considerably lower than that. Pessimistic estimates would make it about 4 percent per year, 4 to 5 percent per year.

The reasons for this are again easy enough to understand. There is going to be a lot of obsolescence, the need for replacement. There is a slowdown in investment itself in the growth of investment which in turn reacts on the growth of the capital stock which is what determines productive capacity.

The third element in this growth recipe, productivity, has again undergone a considerable decline in the years since the Second World War and, in fact, in the last half of the 1970's it appears to have been

negative. In other words, outputs grew more rapidly than inputs. Productivity growth was actually negative.

Now if you make various kinds of arithmetic calculations on the basis of what you think the labor force growth will be, the capital stock growth will be, and what might happen to productivity, you can come out with an estimate of GNP growth.

My assumption is that productivity will not turn around, that it will continue to more or less stagnate, in which case you get the result I indicated before of GNP growth of about 2 percent per year.

Now I would like to emphasize that that does not represent economic collapse. People talk about the Soviet economy being in trouble. Well, it is not an economy falling apart. It is not depression. It is not even stagnation. I remind you that in the United States in our recent history, 1979 through 1982, it took us 4 years to add 2 percent to the total GNP output of the economy, and there is no reason in looking back at our own experience why a society cannot live very well and manage its problems with a sustained growth of 2 percent per year.

Nevertheless, this represents quite a change in relation to previous Soviet experience and it represents a considerable problem in relation to needs and expectations for use of that output which, for a lot of reasons, ought to grow at old rates.

The output of the economy goes to military purposes, to consumption purposes, and to investment. Those are the major end uses for GNP and the regime comes out of a period of recent experience with expectations or needs that mean those uses should continue to grow.

The military has for a long time enjoyed a growth in the allocation devoted to its needs of something like 4 percent per year, all during the Brezhnev-Kosygin regime. Well, the military expects this to continue to happen. They say:

> We have important needs. We need the resources. This is what you have done for us in the past. The needs are not any less and we need to have allocations to grow at that rate.

Consumption has grown at quite respectable rates during the Brezhnev-Kosygin period. An increase in consumption was a goal that that regime took seriously and was able to do something about. The popular expectation is that that needs to continue. Soviet citizens live better than they did, but they still realize they do not live on anything like the level of Western Europeans or even of Eastern Europeans, not to speak of the Americans, and in some way they have a sort of expectation that this regime should continue to provide increments in their levels of living.

Now how do I get inside the mind of a Soviet citizen to understand that? I am not sure that I can. In some ways, I am sort of relying on the evaluations the leadership itself makes of that. Certainly Brezhnev was very articulate in saying over and over again that the popular expectation is that there will be improvements in life, that this is a political fact that our party must live with, and that we must continue to commit the resources to permit this to happen.

Investment, too, is a use of GNP that is going to be very difficult to stem, to cut down in any way. Investment is a key to growth in the Soviet scheme of things. Moreover, in the 1980's, a number of things are going to happen which mean that to do any given thing a larger

amount of investment is required than before. By this, I mean capital to output ratios are going to rise in many industrial sectors.

One of the things I have been concerned with is energy, and this is a dramatic example. New increments to the Soviet energy supply have to come from remote fields. They have to be transported at great expense. They are going to consist primarily of gas from northwest Siberia. And, again, as kind of a summary indicator of the impact of this, the total investment of the energy sector in the current 5-year plan is going to take something like 47 percent of all investment in industry, compared to something like 28 percent in previous 5-year plans.

So this is a very dramatic shift in capital intensity for one sector. Similar things are happening in others.

Infrastructure is going to require a lot of capital investment because of geographic changes, because the railroads have been neglected for a long time, because of the food program, the industrialization of agriculture is going to require movement of population to the countryside with the accompanying needs for housing, transportation, and so on.

Well, it sounds like a very dreary sort of picture. How do you make all these needs fit into those diminished prospects?

The compromise that has been worked out so far, the compromise that was embodied in the 11th 5-year plan, was to permit continued growth in military and in consumption but to try to hold investment at more or less the levels that existed in 1980. In other words, investment was to continue with large allocations, but that allocation was not to grow during the 5-year plan period.

Now anyway, that is a very unsatisfactory resolution, and that is an old man's short period, short horizon solution, which I think is probably not very satisfactory in the long run. And, indeed, I think there is a lot of evidence already emerging that in the Soviet economy today investment bottlenecks are one of the causes for production problems in a number of key industries which are finding that they cannot achieve the increases planned for them.

CHOICES FACING ANDROPOV REGIME

Well, what this means is that the new regime, the new Andropov regime, has to think of economics as being very high on its agenda of political problems, of action issues. And so there is a broad range of questions here as to what the implications are. How will this inherited economic situation constrain the current regime? How will it influence the choices they make? What sort of options do they have in trying to deal with it?

Well, let me begin by saying that so far we do not have much in the way of clues. At the beginning the Andropov government made a number of fairly dramatic and quick moves, but nothing much has happened after this very short flurry at the beginning. So we are still sort of in a situation of guessing what his alternatives are and what the possibilities are, but without, as yet, any very clear indication of a policy consensus or an action program that has emerged and is now going to be carried out.

But what I would like to finish with, then, is a brief review of what some of the choices are or what some of the possibilities are for reacting to this situation.

Some people see in the current situation a desperate need, a sort of commanding and inescapable need for economic reform and a guess that that is what the response of the regime will be.

PRODUCTIVITY

As I indicated earlier, the most dismal part of the picture is the productivity situation. Productivity is a sort of catchall indicator that covers a lot of things. Low productivity growth is the result of poor innovative behavior, of lackadaisical work by the labor force, of perverse behavior by management, of bad planning, bad decisions made in Moscow and so on.

In other words, in many ways, it is systemic. It reflects a number of behavioral features of the existing Soviet system and a lot of people say that if you want any fundamental attack on this growth problem you have to get at productivity; to get at productivity you have to somehow reform the whole economic system.

REFORM

Well, here I think there may be a certain amount of disagreement among economists who work on these matters, but I consider the prospects for any kind of fundamental economic reform within the next 5 or 6 years as quite unlikely. There are just too many obstacles in the way.

I think economists, planners, a number of people in the Soviet Union realize the importance of this, have in mind things that could be done to improve the system, but that is a long way from getting action taken on it. So I am not sure that Andropov, himself, understands the need for fundamental reform. Many people have spoken of him as a pragmatist, a person with a good sense of reality and so on, but on the few occasions when he has spoken to one matter or another about the economy in the recent months, he has certainly not sounded to me like a man willing to experiment or undertake any novel or any really bold new initiative.

Now there is a second problem, of course, that even if he himself understood it, it is very difficult to build a coalition and a consensus for radical change. It is not a completely new political leadership. The top leader is full of all kinds of holdovers and it is very difficult for one person, even if he has a new idea, to turn the whole apparatus around.

Finally, even if the leadership reached a consensus and had a plan that was fully determined to undertake a vigorous program of reform, that system has been in place so long that there are vested interests that will work very hard to frustrate it, and this we know happens in reform periods in Soviet-type economies. It happened over and over again in every Eastern European economy. To the extent that reforms have been tried in the Soviet Union, they, too, have often been scuttled in implementation by those whose positions of power, security, jobs and so on would be damaged by a reform and a more rational economic system.

Short of economic reform, however, I think there is some room for maneuver in a number of areas. I think there are a few things that could be done short of changing basic institutions in the system that would improve its performance and give the leadership a little bit more in the way of resources as a basis for maneuver.

One of these is to work on the labor incentive problem. The Soviet economy has gotten itself into a situation where I believe worker incentives have been very badly eroded. This is true both in terms of the weight system itself. The money incomes are not sufficiently differentiated in key to effort, but that defect is reinforced by a very poorly functioning consumer goods market.

Consumer goods are priced very badly. Some of the most important ones are terribly subsidized and underpriced. As a consequence, there are lines, shortages and so on. The distribution system works very poorly. Quality is bad. And so workers, even if they are tempted to earn more money by working harder, find that that money is very difficult to turn into things that really give them welfare and satisfaction that would really offer an incentive.

Now I think it is possible to do things in those areas without radically reforming the system. After all, the consumer goods market and the labor goods market are essentially markets in the Soviet system. They do not represent planned, centralized distributions from Moscow.

The real problem is that too many administrative interferences have been injected into those essentially market links, and those could be withdrawn without necessarily getting at some of the more fundamental institutions of central planning like fiscal allocations, the setting of targets at the top, and things like that.

Again, this is an area that Andropov has said a few things about and this is one of the sort of touchstones of what he might think or what his ideological position might be. He does not look to me to be very venturesome in that respect.

But I think a great deal could be done there to improve labor incentives and work discipline. Those kinds of economic measures are crucial to back up any sort of exhortation and disciplinary administrative measures that Andropov might take.

AGRICULTURE

I think it may be possible to improve performance of agriculture with some changes that would affect only that one sector without necessarily trying to change everything else in the economy. Agriculture is a very poorly performing system. It takes a large amount of resources. It takes an extraordinary share of the total investment pie. It involves huge subsidies out of the state budget. The resource commitments get in the way of many of the other things the regime would like to do.

Now this is in a way a measure of the regime's belief that it must do something about the food problem in order to deal with the consumption problem, in order to somehow maintain the support of the population. It is in one way a measure of their own belief in the importance of keeping the consumption component growing.

The difficulty is that they have treated agriculture mostly by trying to pour resources into it without doing much in the way of changing

the planning and control arrangements in agriculture. Agriculture is far too centralized. The investments respond to priorities chosen by people in Moscow rather than in response to things that the producers want. A lot of the expensive imports of feeds, the investment, the tractors, the income that has been handed over to peasants and so on go in ways that just do not offer the same incentive they would if that sector were allowed some more decentralized control over its own operations.

Again, I think it is politically feasible to make some change there because you are attacking only one part of the potential political opposition and, moreover, if the Hungarian experience that is so often invoked as being important in Andropov's thinking has any relevance, it is primarily in agriculture. That is the part of the Hungarian experience that has been the most successful.

MILITARY SPENDING

The final area for maneuver that they have—and this is the last point I would like to make—is that one choice they could make would be to reallocate some resources away from the military expenditure. It is between military and investment that competition is sharpest. The resources that go into armaments, the resources that go into investment goods, come out of essentially—if you dig back a ways into the economy, they come out of the same parts of the economy. I am not saying the tractors come out of the arms factories or missiles could come out of the factories that could alternatively produce civilian machinery, but if you go back a couple of stages, there is a lot of direct competition between the two end uses.

You see, in a way, what the regime has already done is to try to offer some sort of renegotiation of its commitments to each of these end uses. In effect, when they cut investment, kept it flat, they told these people you are getting plenty of investment; you just need to use it better; go ahead and do so. That is what Andropov has been telling the civilian population: we are doing a lot for you; what you need now is to somehow respond to these increments of consumption goods.

I do not see any reason why the same sort of renegotiation could not be made in relation to the military people. After all, the allocation to the military end use is very large, even if it did not grow for 10 years, if it stagnated at the present level for 10 years, Soviet military power would still be very impressively larger at the end of this period than it is now. It is not as though this is somehow going to undercut Soviet military power. It is only going to sort of involve a stretchout in the rate at which it grows.

Again, this might be politically difficult to do and it is something we might want to talk about further later, but the one thing that I would point to as perhaps making this feasible and a very relevant sort of alternative at the present time is that I believe the military people themselves are very worried about the performance of the civilian economy and see its poor performance as a threat to their own ultimate objectives.

There was a very interesting article a few months ago by Yvstinov's deputy for procurement in which he was talking about the relationship between military needs and the civilian economy, and this man, whose

institutional role you would expect to lead him to call for more for the military, was in effect saying that not at all, but saying that more resources and better performance have to go into the civilian parts of the economy.

Well, I would like to conclude here. And there are many aspects of this very complex issue that we have not even touched on at all and we can come back to those later.

[The prepared statement of Mr. Campbell follows:]

PREPARED STATEMENT OF ROBERT W. CAMPBELL

I am pleased to have been invited to discuss with this Subcommittee the economic situation and prospects of the U.S.S.R. It is widely understood that the eighties will be a time of economic stringency for the Soviet Union, and of heightened conflict over the allocation of resources. Many hypotheses have been advanced as to how this will affect Soviet behavior. Some believe the effects will be to weaken severely Soviet capabilities in its competition with the United States, making the Soviet Union vulnerable to economic pressure and more flexible in arms control negotiations. Others believe that this pressure will finally lead to serious reform of the economic system that will in turn revitalize economic performance. Still others see a trend in the opposite direction, toward a sense of siege in the thinking of the Soviet leadership to which they will react by increasing military expenditure, countering popular disaffection by increasing repressiveness at home and heightening international tensions to justify these measures. The situation is sufficiently complex that not everybody sees the same future, and though I would not pretend to offer definite predictions on any of these matters, I am pleased to have the opportunity to discuss them with you. I would like to add that I have recently participated in an extensive review of the prospects for Soviet society in the eighties as part of a project sponsored by the Center for Strategic Studies of Georgetown University. (The findings of that project have been published as Robert F. Bynes, (ed.) "After Brezhnev: Sources of Soviet Conduct in the 1980's." Indiana University Press, 1983.) In preparing this statement, I have drawn heavily on the chapter on the economy which I contributed to that project, which contains a great deal more detail.

It will be useful to start with a brief review of recent trends and the current economic situation. The central problem for the Soviet leaders is a conflict between a set of expectations and resource demands growing at old rates, at a time when the wherewithal to meet these needs is growing at a slower pace than in the past.

The output of the economy is devoted to three major uses—consumption, investment, and defense. Strong pressures call for allocations to each of these uses to continue to expand at rates characteristic of the recent past. It is important that consumption continue to increase at the substantial rates achieved during the Kosygin-Brezhnev regime to meet popular expectations, and to offer incentives for worker effort. The Polish illustration of the potential for popular discontent has made a powerful impression on the Soviet leaders. It is probably no exaggeration to say that the legitimacy of the regime depends on continuation of significant improvement in consumption levels, and I believe this is an assessment to which the Soviet leaders themselves would subscribe. That was certainly evident in Brezhnev's statements to the 26th Party Congress, and I see no reason why the current leaders should see the situation differently.

As for defense, the post-Khrushchev Soviet leadership felt a strong commitment to increasing Soviet military power, and backed up that commitment over the last two decades with a rapid expansion of resources allocated to the military end use. Soviet strategic doctrine, the political weight of the military establishment, the leadership's view of the nature of the East-West competition, all make it difficult to slow down the growth of the portion of GNP that goes each year to support and expand military power. On the production side a great deal of inertia characterizes the process by which R and D programs produce new weapons systems, which then grow into procurement and production commitments. On the demand side, the process of allocating resources to the military is sufficiently insulated from the regular channels of economic decisionmaking in the USSR that other interests find it difficult to advance competing claims.

Investment, too, is difficult to stint. Investment has always been the key to growth in Soviet economic strategy, and it is difficult to overcome old expectations and behaviors tied to this belief. Moreover, a number of changes now taking place increase the amount of capital required to perform any given task. Locational and technological shifts mean that more capital investment is being required per unit of capacity than in the past. As an example, energy output could be expanded until recently at a low capital cost per capacity to produce an additional unit of output, but with depletion of the cheapest and best located energy sources, especially oil in the European USSR, capital cost per additional unit of output is rising alarmingly. Increases in energy output now come almost exclusively in the form of gas from Northwest Siberia, where very large investments are required for both production and transportation. As a summary indicator of the burden of this change, the share of all industrial investment taken by the energy sector is rising from about 28 per cent in the early seventies to about 47 per cent in the 11th Five Year Plan. There are novel needs for investment in infrastructure, which does not lead directly to increases in output shifts to the East, as the railroads run into bottlenecks, and as new agricultural areas are developed. There is an unprecedented need for replacement investment as changes in scarcity relationships make it necessary to scrap existing assets embodying technology that wastes labor and energy. Replacement of obsolete equipment has traditionally played a minor role in Soviet investment policy.

On the supply side of the economic crunch, numerous factors will combine to keep GNP growth at levels below those to which the Soviet system has been accustomed. The Soviet GNP growth rate has declined steadily in the years since the Second World War. It was 6 to 7 per cent in the 1950's and 5 per cent in the 1960's, it declined to 4 per cent and then 3 per cent in the 1970's. In the 1980's, however, a number of adverse trends are likely to keep the rate of economic growth below even that most recent performance—in this decade growth is unlikely to average more than 2 per cent per year.

The causes of this slowdown can best be understood in the framework of a simple model of the growth process. Economic growth in any country occurs as a result of increases in the resource inputs to production—primarily labor and the services of capital—supplemented by an increase in the productivity of these resources. Soviet development experience has been distinctive in that the relative contribution of input increases has generally been larger and the contribution of productivity growth smaller than in the growth pattern of most other economies. Soviet productivity growth has tended downward since World War I, but has taken a real nosedive recently. According to the CIA's calculations, since the early seventies productivity change has been negative, with output per unit of combined inputs declining at a rate of .8 per cent per year. Growth forecasts depend heavily on whether one expects productivity change to continue this dismal performance or to recover. We will return below to the question of what would have to be done to improve productivity growth.

Both capital and labor inputs will grow at an unusually low rate in the eighties. Labor supply growth will decelerate sharply. The civilian work force increased at a rate of about 2.3 per cent per year in the 1960's and 1.4 per cent per year in the 1960's, but in the eighties it will increase at only about .4 per cent per year. Over the decade of the 1970's some 17.3 million persons were added to the labor force, but the number to be added in the eighties can hardly be more than a few million. This is the result of demographic processes over which Soviet policymakers have little control, and a participation rate already near its feasible maximum. Several trends lead inevitably to a decline in capital growth. As the rate of growth of total output slows, amounts available for investment also grow at a slower rate unless the share of GNP going to investment increases. In the early stages of growth, depreciation is relatively small compared to new additions, but once the stock is as large as it now is in the USSR, depreciation (the loss of production potential of the stock already in place) increases in relation to the gross additions, so that net increments are squeezed further. This, too, slows growth in the productive capacity represented by the stock.

The 11th Five Year Plan documents (covering 1981–1985) spoke insistently of the imperative of increasing productivity as a solution to the resource crunch, but no measures were taken to deal with the problem, and the contradiction between needs and wherewithal was resolved in large measure by sacrificing investment. In the current quinquennium, it appears, consumption is planned to grow at about the growth rate of the economy as a whole, military allocations at about the old rate, while investment is made to bear the brunt of the adjustment, being held flat at essentially the 1980 level.

From a long term perspective, that is a rather unsatisfactory compromise, but it is easy to understand as the product of an aging leadership group under an ailing leader.

One would expect the economic situation to be high on the Andropov agenda of action items. As suggested above there are important constraints on what even a determined policy shakeup can achieve. There is little the Russians can do about capital or labor growth. The focus of attention must be productivity improvements, to "put the economy on the path of intensive growth," to use a favorite Soviet phrase. That is not a revolution that can be accomplished in a few months, but one would expect some vigorous measures, attacking the worst problems first, taking action on the immediately obvious even if some problems seem too complex to deal with.

To assess what they might do to tackle the productivity problem, we must first say a little more about its character. I find it useful to divide it into two different components. The first occurs at the level of planning and management, involving the interactive behavior between central decisionmakers—those in such institutions as the Gosplan and the ministries—and enterprise-level managers, whose actions are crucial in turning plans into reality. The second is at the plant level, and involves the behavior of the work force.

The problem in planning and management is that there is excessive centralization of power, responsibility, and decisionmaking. There is a fundamental conflict between the central authorities and enterprise management, who in the end are the only ones who can follow through to implement productivity-raising actions. There is a vicious circle in which managers are overdirected, given too little freedom and responsibility and as a result are extremely reluctant to exert initiative or act in an enterprising fashion. Managers have little incentive to innovate, to take risks, to economize. They find it to their advantage to put more effort into defending themselves against the demands of higher-level authorities than in trying to produce better and cheaper. It is in their interest to understate the potential of the resources under their control, to plead inability to shoulder more complicated assignments, and to validate this stance by turning in as poor a performance as they can get away with.

The problem with the behavior of the work force is that incentives for working hard and productively have been badly eroded. In allocating labor among occupations, regions, and industries, and in distributing consumption goods as rewards, the Soviet system leans more heavily on market forces than on planning. But in recent years, administrative interference in the labor market and the consumer goods market has increasingly violated the conditions needed for the market approach to do its job effectively. The link between effort and personal gain has been attenuated by inadequate differentiation in the wage structure, and by thoroughly irrational pricing in the consumer goods markets where money earnings are turned into real income. The Soviet authorities seem to have lost control of the monetary situation, permitting the accumulation of a large overhang of liquidity in the hands of the population. This undercuts incentives, creates conditions in which the second economy can flourish, and encourages corruption of economic, political and ideological discipline. Food, especially, has been scandalously underpriced, so that even as the output of higher quality goods such as meat grows, there are always shortages, and goods are distributed on the basis of who has the time and patience to stand in line, rather than by who has the income. Distribution of some important commodities has been shunted to a considerable extent out of normal market channels to workplace channels. Earlier practices such as the construction of housing by cooperatives, permitting individuals with higher money earnings to turn them into goods and services that are most desired and hence have the biggest incentive effects, have been put back.

As Andropov casts about for a place to begin, he must surely see the first aspect of the productivity problem as less amenable to correction than the second. It is probably impossible to change the deeply ingrained pattern of perverse, unenterprising, behavior of planners and managers without fundamental systemic changes. Management would have to be "unleashed" from control by the Center in numerous dimensions—pricing, output choices, decisions about the mix of inputs and the suppliers from whom to obtain them. Fundamentally, the environment has to be altered to reorient management to seek success through catering to the customers it serves, and taking a demanding stance toward its suppliers, rather than by manipulating its central planning bosses. The present leaders are indisposed to contemplate this kind of reform. Some observers emphasize the prospect that a new generation of leaders moving into positions at the

top and middle levels are well educated, unburdened with the prejudices of the past and willing to take a pragmatic approach to problems. I am less impressed by that possibility, and believe that even if these people exist, they constitute too small a group to overcome the opposition of those who do not want change. Even if the leaders were finally persuaded to institute basic reforms by the economists, among whom a vocal group understand very well that this kind of fundamental change is indispensable, such a program would face effective sabotage from a host of vested interests whose positions it would threaten. The kind of reform needed to change this behavior would upset too many habits, would threaten jobs, power positions, and investments that depend on the continuation of wasteful policies and the perpetuation of past errors. Moreover, it seems likely that even a vigorous program at reform pursued by a united and determined leadership would take a long time to show significant results. That prospect, too, makes the leaders cautious. I am dubious that fundamental refom will be undertaken in the current decade.

Short of fundamental reforms, though, less radical changes that do not attack the fundamental institutions of the system or rouse the whole range of potential opponents of reform could be undertaken in selected areas.

First, it ought to be possible to do something about worker incentives by policy changes that did not touch such institutions as central planning and allocation of outputs, administered pricing, and so on. Since labor and consumer goods allocation already rely on market methods rather than on centrally planned and controlled decisions, the task is to remove the administrative interferences in those processes rather than to totally change the system. There needs to be better control over credit (and perhaps monetary reform) to restore the value of money, more wage differentiation, better pricing of consumer goods to reflect cost and demand even if prices remain administered rather than market determined. Some changes would be needed in the management system in the consumer goods sector ot make producers more flexible in responding to consumer desires for variety and quality, and in all sectors to enhance the interest of managers in cost reduction, including economizing on labor. The problem of incentives and discipline of the labor force has been a favorite theme in all Andropov's references to the economy, but it is not at all clear whether he sees this mostly as a matter of jawboning and more administrative interference, or understands that exhortations to improve worker discipline must be backed up by economic levers.

Agriculture is a second area where policy and limited institutional changes could surely make it possible to get more for less. Stalin's successors reversed his quarter-century-long policy of starving agriculture of resources, and this policy was maintained under Brezhnev as indispensable to produce more and better food for raising living standards. Huge investments were made in agriculture—over a long period of time something like 27 percent of all investment has gone to that sector compared to only a few percent in the United States. In addition agricultural producers were offered ever higher prices to tempt them to increase output. The regime imported expensive inputs to solve the fertilizer problem, and to sustain livestock herds when domestic feed output could not suffice. These policies did result in agricultural output growth but at very high costs. Agricultural policy represents probably the closest Soviet analogue to our own disappointments in trying to solve complex problems by throwing money at them. This huge infusion of resources would probably have paid off much better if it had been accompanied by policy changes giving local people more influence in deciding how to use them. I believe that a new approach under a new leadership could reduce the degree of administrative interference in agriculture, perhaps by increasing privatization, without having to reform the rest of the economy. That could well increase output from the resources already channeled into this sector. Most importantly, it ought to make possible some saving on investment. It also might be possible to improve food supply by relying more on imports rather than on domestic output increases.

The third possible area for maneuver is in reallocation of resources between military and investment. Investment bottlenecks have played a role in the stagnation or decline of output in important sectors (such as steel) that have characterized the last several years. The investment-military competition is direct and sharp, since hardware for military procurement and equipment for investment draw to a considerable extent on the same kind of resources. It is true that military production is somewhat walled off from civilian production in a way that has led some people to hold that resources freed by a reduction in military expenditure are not easily convertible to producing civilian in-

vestment goods. I believe that idea has been overemphasized. It seems to me implausible that the political leadership can avoid seeking some renegotiation of its resource commitments to the military establishment. We do not understand very well how the bargain between the political leadership and the military establishment is expressed or how it works. But despite the undoubted empathy the political leaders have for the values of military strength, they have a broader range of responsibilities to juggle than do the military, whose task is limited to military security, and whose resource aspirations in that connection are more or less unlimited. It is possible even while maintaining high priority for the military establishment to ask it to reassess the missions to which it is committed, and the resource requirements needed to meet those missions. They can certainly suggest that the military reconsider how many new weapon systems are needed, how quickly they have to be put into production, and whether some programs cannot be stretched out. Inasmuch as military force potential is largely a function of stocks, Soviet military power can continue to grow at an impressive rate, even with a considerable slowdown in the growth of military spending. How much relief is possible here is unclear, especially since some such a renegotiation may already have taken place. The meeting of the political leaders with the military leadership in the last months of Brezhnev's regime no doubt revolved around such issues. Apparently there is evidence suggesting that procurement growth already slackened in the last couple of years—dropping from the 4–5 percent rates of the sixties and early seventies to about 2 percent in 1976–1981. (Washington Post March 4, 1983.) Moreover, they will not let themselves fall behind if they see the United States making significant gains in an arms race and threatening what they see as an existing condition of parity. Andropov was emphatic on that point in his speech at the June, 1983, Plenum of the Central Committee, and similar forceful statements have been made by other leaders on recent occasions.

In canvassing possible ways to ease the crunch, one might ask whether an expansion of trade and technology transfer offers a way out, and what the prospects are for international economic relations in general. In my view the Soviet leaders must continue the policy of significant involvement in the world market, importing grain and equipment embodying advanced technology, for the contribution it makes to economic growth. Equipment must come from the advanced capitalist countries, but the grain can come from a much broader range of suppliers. Most investigators have concluded that technology transfer has conferred a significant benefit on the Soviet economy, and despite the doubts expressed about the effectiveness of the U.S. grain embargo as a way of imposing an economic burden on the USSR, that is because grain has been obtained elsewhere, not because the Soviet Union can do without grain imports. The level of Soviet trade, and especially hard currency trade, is strongly dependent on finding things that can be sold in the world market, and during the last two decades the most important such commodities have been energy and raw materials. Oil alone currently accounts for about two-thirds of all hard currency earned by Soviet exports. I believe that the Soviet Union will be able to continue to export energy, but there is a reasonable possibility that the level of energy exports in terms of energy content may decline somewhat from current levels. In combination with adverse relative price movements. It will be difficult to maintain hard currency earnings at the present level, let alone increase them to finance expanded purchases of grain and machinery.

In thinking about possible policies to ameliorate economic stringency and in assessing the implications for Soviet policy, we must consider Eastern Europe as well as the USSR itself. The essence of the Eastern European problem is simple. The area benefited for a number of years in the 1970's from a great expansion of trade with the west, and especially from a net inflow of real resources financed by western loans. The amount and timing of this flow varied from country to country, but has been significant for the area as a whole, and has been especially suubstantial for some countries, of which Poland is the most important. Most Eastern European countries have also enjoyed a considerable subsidy in the form of lower-than-world-market prices for goods imported from the Soviet Union, notably energy. With the collapse of the Polish economy, the inflow of western resources has sharply declined or ceased for all the countries in the area, though their situation is so tough that a shift to net outflow to repay the debt is unlikely. And the pricing formula for Comecon trade that benefitted Eastern Europe when world energy prices were rising turns against them when prices are stable or falling. Compared to the previous decade, Eastern Europe will experience a period

of austerity in the eighties as bad as or worse than the USSR, with accompanying pressures for change. We can expect the East European leaders to be telling Moscow that to stay in power, they must liberalize their economic and political systems or must have economic help to cope with popular disaffection as consumption levels fall. The Soviet leaders will certainly be concerned to maintain control in Eastern Europe, but I doubt that they will be able to afford much in the way of economic aid. The Russians have not given us much to go on in guessing how they will react to the East European problem. Andropov devoted a substantial section of his speech at the June, 1983, Plenum of the Central Committee to this problem without offering any clear vision of what line would be taken.

Against this background of alternatives, what actions are the leaders in fact taking? Most observers have been puzzled by the absence of strong measures in any of the suggested areas. Andropov made a quick start in attacking corruption and instituting some disciplinary measures. During his symbolic visit to a factory, he seemed to be saying that the problem had to be attacked not only on the level of exhortation, but also in terms of policy changes. But this early flurry of activity was relatively short-lived and as far as can be seen little has been done to follow up. We do not know to what extent this is due to his health, or to the opposition of factions within the elite. Soviet spokesmen have been saying privately to visitors that significant economic policy changes are being prepared, but they keep revising their predictions as to timetable. The most recent rumors are than announcement of important changes should be expected at a Central Committee plenum in December. We won't have to wait long to test that prediction. The more interesting issue is whether in view of Andropov's apparent ill health he will be around long enough to build the power position and policy consensus necessary to impose a set of strong reform measures. It begins to look more and more than any such attempt may be a task for the "second succession."

A useful way to summarize is to describe the situation one foresees in 1990. In my view, at the end of the decade, something like the present regime will still be solidly in control. The USSR will be as much a military superpower as ever, with an economic base significantly larger than at present. Consumption will have grown but little, a sense of social malaise will be widespread, but popular discontent will have been kept in check by a tough repressive line. There may well have been one round of serious effort to introduce basic reform, but without much success in altering the fundamental deficiencies of the system. This will still be recognizably the classic centrally planned economy, weak in its ability to produce innovation, and deal with quality, still struggling to keep up with western technological advance in military as well as civilian areas. Its growth prospects will look at least as bad at the end of the decade as they do now. The tension between the demands placed on it and its actual performance will be greater than ever, but still contained.

Representative HAMILTON. Thank you very much, Mr. Campbell. Mr. Goldman.

STATEMENT OF MARSHALL I. GOLDMAN, PROFESSOR OF ECONOMICS, WELLESLEY COLLEGE, AND ASSOCIATE DIRECTOR, THE RUSSIAN RESEARCH CENTER, HARVARD UNIVERSITY

Mr. GOLDMAN. I think I am going to agree with a lot that Professor Campbell has said, but I will differ some, and that will come out in the course of what I am about to say.

I will concentrate first on the short-run changes and then talk about prospects for some of the long-run changes.

I would just add—and I do not think this is in my prepared statement—that while I am about to say some hard things about the Soviet economy, I do not think it is on the verge of collapse, and in terms of your hearings, I know that is one of the things that sometimes is discussed in Washington: If we only hold out, it will collapse.

I would say that is not the impression I have and I do not want that impression to follow from my comments which I say will be hard.

SHORT-RUN PROBLEMS

Let me first focus on the short-run problems. This is probably the cruelest thing I am going to say but let me say it in any case. Brezhnev should have died 10 years before he did, or at least he seemed to have left office earlier, because he left the economy in a terrible shape.

The rate of growth had indeed begun to fall but earlier, more important, the last 4 years of his political and economic life were very bad for the Soviet Union.

If you look at table 1 of my prepared statement, you can see some figures which seem to have escaped much attention. They show what was happening in the Soviet economy beginning in 1979. If you look below energy and look at some of the other major sectors, you see production has actually dropped. This is not the rate of growth. This is actual production.

Now we in the United States are used to that, but it is not supposed to happen in the Soviet Union. In fact, this is unprecedented. These are the totems if you will, of Soviet glory. Steel production—even a drop of 1 million tons or 2 million tons—had not fallen since World War II and all of this was unprecedented.

Now this began, as I say, in 1979 and I want to discuss a little bit why 1979. There was no unemployment as far as we can tell. There was a lot of disguised unemployment, but no overt unemployment. But otherwise, it took on much of the trappings of what we have come to associate with a recession. This negative rate of growth does not show up in the CIA's figures or the Soviet estimates, but nonetheless, it is there and it is something that has to be considered because it is clear in my mind that it had an enormous impact on what took place in the Soviet Union.

Well, how can it be explained? Professor Campbell explained some of the main factors; a kind of a slowing down of the number of people entering the labor force, capital problems, productivity problems, innovation problems, but there were some other things. One was the weather which led to an unprecedented 4 bad years of crops. The most they had had before was 2 bad years.

Rationing was therefore required in at least 12 cities that I can identify beginning in 1982 and that is also a shock. This was actual rationing; this is not to talk about de facto rationing where you just simply got in line and there were no goods.

Corruption increased, and this I attribute directly to Brezhnev's laxness, his inability to function under the general skepticism and scorn that was introduced.

The depletion of raw materials—and Professor Campbell referred to that a little bit in the discussion of energy. Eighty-six percent of the increment of capital investment in this current 5-year plan is going to have to go to energy, reflecting a shortage of capital that he talked about. The transportation sector was in decline.

There was a report that an ammonia plant in Siberia was closed down for 2 months in November and December 1981 simply because of the lack of railroad cars. Now again, we are used to having plants

close down in this country, usually because of lack of demand not because we cannot have enough railroad cars or for supply reasons.

Anyway, this was typical of what was happening. One Soviet official told me that they were lucky to get 3 hours of work out of an 8-hour day even if the worker wanted to work, simply because the transportation system was bad or the capital machinery would malfunction once they showed up for work.

There was a world recession. That also was a factor. It set off a drop in raw material prices which affected the kinds of returns the Russians could get for their raw materials. This was important since about 80 percent of what they export is in raw materials, not machinery.

Finally, the drop in morale, which was reflective of all these things, a combination of a lack of leadership, the bad weather, the rationing, the problems with consumption. It is true that production of material goods and nonfood goods increased, although there is some indication as shown in some of the papers presented in this collection that we are discussing today for the Joint Economic Committee that actual production of some consumer goods dropped. But clearly food production did drop and it had to be made up in large part by imports. The reflection of this is shown in the need to introduce rationing.

The general feeling was: They pretend to pay us; we pretend to work.

Clearly, it had to have some impact on what was happening.

ANDROPOV INITIATIVES

Well, what did Andropov do? Andropov was quite successful. He got the country moving again, to coin a phrase. He fired the corrupt. He fired the vulnerable, the ministers of domestic trade, transportation, of rural construction. He increased discipline. In addition, some things are bound to improve: The weather will get better, the world recession will end, and this will help bring more revenue for the Soviet Union.

Some people ask, "Can a man make a difference?" And I would say, in this case, Andropov has, at least in the short run that I am talking about. He has performed a minor miracle.

If you look at table 2 of my prepared statement, this is reflected, I think, dramatically. This table attempts to compare month-by-month production. The last January that Brezhnev was alive, which unfortunately for this comparison had five Sundays, shows what was happening. Production was dropping in all—in the same sample I have taken—but four industries. In other words, that is not the rate of growth falling. That is actual production.

Now comparing what happened in January 1983 over 1982, again with five Sundays in January 1982, you will see that every one of those industries is up. Now February, as far as I know, did not have five Sundays and you can see that there the difference washes out and it washes out as well in March. Andropov continues to show this increase, whereas in February 1982 there is a drop.

Well, he has got the country moving and these measures did work. But the question remains: Is it enough just to increase the production of steel? That is what Andropov did. My argument is that there is a structural problem which he has not begun to cope with yet. Indeed,

the enthusiasm begins to wear thin, and if you look at May 1983 figures, which I do not have here, you will see that the rate of growth in percentage terms has actually dropped off. Production is still increasing, but it is not the very large growth that was taking place earlier in the year. In other words, the Soviet people can take so much discipline and then they revert to old ways.

As I was told in January by some people, "Do not worry, in a few months all this enthusiasm will be gone and we will go back to the way we were."

What happens is that the measures that Andropov has taken so far—Professor Campbell referred to this briefly—have not addressed the internal rationality of the system. They have not addressed the problem of rigidity in central planning and the central plan at all, and they have not really addressed the grain problem or the agricultural problem.

The miracle of communism is that it has taken the world's largest grain exporter and converted it into the world's largest grain importer and nothing has been done so far to cope with that.

Can Andropov do all these things or is he merely a policeman in the Party Secretary's uniform? That is the question. And it seems to me that that is not an answer that the Russians have begun to address.

ECONOMIC CHANGE

The problem is, in my mind, that the Soviet economic model and the central planning model is addictive. Once you have it it is very hard to break away from it. The hope was at one point that they would be able to turn a switch and turn on this economic machine into producing consumer goods and bringing the good life to the people. Instead, every time anybody has tried to turn the switch, there is a fault, and the switch does not work, and the Soviets continue to produce heavy industrial products. It is very clear that all this misdirection that has been going on over the years is not easily changed.

The question we have to ask is why do the Soviets need 50 percent more steel than either we do in the United States or, if you want, the Japanese? It certainly does not go to automobiles. The Soviets produce 1.3 million automobiles and even in our bad years we are producing 6 to 8 million. What happens then to that extra 50 million tons of steel that they have? A good portion of it goes to the military industrial complex, but a good portion of it seems to disappear, like the grain that seems to disappear. The Russians produce more wheat than we do, but somehow or other it gets lost.

Basically the military industrial complex support one another. We worry about our military industrial complex. The one in the Soviet Union is much stronger, I would suggest, and they would resist this change.

Now it is true, as Professor Campbell mentioned, there are some generals and some officials who recognize that without a strong civilian economy you are not going to have a strong military economy, but that is in principle. It is a much more difficult kind of thing to implement in fact.

Furthermore, the bureaucratic resistance of the planners, of the industrial people, of the ministerial people, will prevent any kind of

change or certainly they will fight against any kind of change, as they did with the Lieberman type of reforms in the 1960's and, as Professor Campbell mentioned, they have done historically.

First of all, why are they opposed? Well, first of all, they are opposed because it means they will lose their jobs and nobody likes to lose his job. Second of all, it means that there will be unemployment generally in the society. They may have to close down that steel capacity and what are you going to do with those workers? What are you going to do with that capital and what does that say about the planners who implemented those plans before? You are going to have unemployment also of capital and of employees.

It is therefore much easier to maintain the status quo, particularly when in the first few months of Andropov's regime it looked like things were beginning to improve. Why rock the boat when you are going to embark on unknown and clearly very dangerous waters?

The conversion will be hard. It is not enough to push that switch, as I said, and say, OK, let this steel mill start producing sheet steel instead of heavy bar steel.

I have spoken with American material engineers who say that in the Soviet case it is much easier simply to abandon the steel mills they have and start from scratch, which is going to take more capital; just let the old mills die, because it is just too difficult to switch around.

More than that, the Soviets lack a tool, die and patternmaking industry. The tool, die and patternmaking industry it turns out in the United States is a very critical kind of thing for the appliances and automobiles we manufacture and the Soviets do not have any. And they do not have any because they are not used to changing models. It is ironic because, after all, the Soviets do have a planning system and you would think that all you needed was a planning system and then you would be able to see what you need and move toward it.

On the contrary, in the Soviet Union, it seems to mitigate against change. Industrial policy that everyone talks about today seems to be much harder to create in the Soviet Union than it is outside the country.

More than that, if you look at the kinds of changes that have taken place in the Soviet Union in the last several decades, you will find that those changes have been mainly brought about through the import of imported equipment—automobiles—the Fiat people helped to build the Togliatti automobile plant—the Kama River truck plant—Pullman-Swindell—ammonia—(Occidental Petroleum). It is the same kind of thing in all chemical industries. For that matter, even color television was a system that was introduced by Western companies.

The move to consumer goods, the move to the more popular kinds of goods, has had to come about not through internal resources but through imported resources in terms of the technology and also in terms of the capital. The Soviet system so far has been unable to produce those kinds of products.

HUNGARIAN-TYPE REFORMS

The problem of reforms, then, is summed up I think in part in what has happened when people ask, "Why not introduce the kinds of things that have gone on in Hungary?" If you ask a Soviet citizen or a Soviet

economist, "Why do you not introduce the Hungarian-type model," you invariably get three answers. One, the Soviet Union is too big, by which they mean geographically. The Hungarians can watch in Budapest what is happening on the border, but we have no idea what is going on in Vladivostok and on the Pacific coast.

Two, there are too many people. Hungary has 10 million people. They can keep their fingers on everyone. We have 267 million and how do we know what is going on, again, in different parts of the country?

Three, it is too heterogeneous. Hungary is basically all Hungarian, whereas we have the Uzbeks and we have the Estonians, and if you can trust the Georgians you are a better leader than Andropov is.

The problem is that once a Hungarian-type reform is set in motion in the Soviet Union after all these years, you would have the two main evils that have always been associated with capitalism—unemployment and inflation—and that is one of the reasons why the revolution was fought 65 years ago, and the answer is usually no, we cannot risk such a reform.

In other words, if you are going to switch, if you are going to break away from this central system, you usually have to find some alternative, and that alternative seems to be the market and prices. Why can you not take halfway measures? Well, the last time and all previous times when halfway measures were taken, they kept running into some confusion—resistance by the bureaucrats, resistance and collision with the yearly plans.

So either you have got to find a market and a pricing mechanism which will do that, or you are going to have to stick with the central planning model. There does not seem to be a halfway house.

The problem is that the pricing system and the market system have atrophied. Prices no longer are meaningful in the Soviet Union. I understand that the last time bread prices were changed was 1955. The last time meat prices were changed was 1962. Why do they not do it more frequently? Because it set off riots as it did in 1962.

One estimate in the collection of the Joint Economic Committee suggests that to bring about proper price changes you would have to have a 40-percent increase in all food prices in the Soviet Union. That clearly is politically intolerable.

THE FARM PROBLEM

The distortion has created a subsidy program in agriculture of $50 billion a year. That is clearly one area where the Russians lead us and it is absolutely unprecedented.

The Russians have a very popular movie in the country which shows that these problems cannot be solved piecemeal—and here I disagree with Professor Campbell. It shows a city slicker who goes back to the collective farm for his mother's funeral and is asked to stay on. "Help us, and we really need you here on the collective farm and they do not need you in the city." So he stays on. And in a year's time, indeed, he has a record harvest—local boy comes back and makes good and somehow or other he has managed to change the system around. They have a celebration at the harvest and the truck convoy has come to take away the harvest. They wave as the trucks move off in the distance. To his shock, our hero sees that the trucks are

bouncing around on the fields because there is no road system; 25 percent of Soviet farms lack a hard surface road system to the outside world. And everything is flying out into the air. He is horrified and he gets in his car and drives across the field and stops the convoy and tells the lead truck convoy, "Look what you are doing. We have brought the system around and it is producing food and you are letting it all blow to the wind." And the truck driver says, "Get out of my way." He says, "Your function is to grow food. Mine is to get the trucks there and it does not matter whether they are full or empty."

Where is he taking the trucks? He is taking the trucks to the grain storage elevators because they are 200 to 300 miles away from the farm. Why are they 200 or 300 miles away from the farm? Because the central planners have built these roads and highways and it is more important to them to build big but few projects than numerous small projects.

I know when I am on a farm in the Midwest because I see barns. You do not see barns and storage facilities in the Soviet Union. Why? Again, it is the central planning.

What is the point of the movie? The point is that if you solve one little problem you are going to immediately collide with a problem elsewhere.

The biggest problem of all is that 25 percent of the crop in the Soviet Union rots in the field. They produce more wheat than we do. I said that. But where does that extra wheat go? It simply rots. Why does it rot? Because even if the peasants want to work hard, there is no place for them to store it because there are not the barns and they can move it to the grain storage elevators but that is 200 or 300 miles away.

The pricing system, in addition, does not give them the incentive. The bread prices have not changed and the peasants have quickly learned that it is cheaper for them to feed bread to the animals than their own grain. Grain is subsidized. According to one of the estimates in the Joint Economic Committee collection, 4 percent of all the bread produced is fed to animals. More than that, the same thing happens to the meat. The meat is taken and sold at a high price and then fed to fur-bearing animals because, again, they get the high price for the fur-bearing animals.

All this time investment in agriculture constitutes about 27 percent of the total investment package and yet they still have that crop rot.

Well, some people have argued that is not such a bad thing. The Soviets should import grain because it is comparatively expensive for them to produce and pay for it with energy which is cheap for them to produce. What that argument fails to address is the fact that that investment in agriculture has already been made and the return is very low. The argument is made that it is too expensive to produce grain in the Soviet Union, so import. I would argue that you cannot accurately measure the cost of producing grain in the U.S.S.R. You do not know what the cost of production is in agriculture in part because the peasants lack the incentive and do not work hard therefore productivity is a hard thing to compare.

More than that, the argument that energy is cheap may hold for natural gas. It certainly does not hold for petroleum, as Professor Campbell mentioned. They are having difficulty finding new giant

fields and certainly the marginal costs of producing additional petroleum is enormous and, as I mentioned, already 86 percent of the increment in investment is going to energy and it is going to be very hard to put more in.

So it seems to me what they have to do is face the fact that they do have this agricultural problem and it is not enough to say, well, let us brush it aside, particularly given the fact, as I mentioned earlier, the Soviet Union, once was the world's largest exporter of grain.

Let me conclude. The task of conversion will be hard and challenging. They are going to need a strong leader to do this for all the political reasons that I mentioned—the challenges, the resistance, the distortions that are going to take place—because there is a big gap between where they are and where they should be, and there is nothing that can be done gradually like Hungary has been doing. There will be enormous opposition from the bureaucrats, from the military industrial complex for ideological reasons.

Is Andropov the man to do it? His mind and his tongue clearly are sharp, but his body is weak. Already we are beginning to speculate about who his sucessor is going to be. Well, if we are doing that, they certainly must be doing that in the Soviet Union as well.

Therefore, anybody who attempts to introduce changes is going to face the problem, "Why should I take the risk of being experimental in my factory when Andropov may not be around here to support me?

What the Soviet Union needs is an ambitious, imaginative, and strong leader. Ten years ago, Andropov may have been the man, but today he does not appear to be up to the challenge.

[The prepared statement of Mr. Goldman follows:]

PREPARED STATEMENT OF MARSHALL I. GOLDMAN

How the Soviet Union copes with its economic problems is obviously of concern to American policy makers. However, the record of Western Soviet specialists in predicting Soviet economic behavior leaves much to be desired. An example of a misleading forecast is the prediction by the CIA and a number of specialists that the Soviet Union and Eastern Europe would find it necessary to import 3.5 to 4.5 million barrels a day of petroleum by 1985.[1] Nevertheless while our record is less than perfect, this seldom seems to deter economists like myself from making yet additional predictions. I will discuss the Soviet Union's short-run economic problems and then examine the longer run structural difficulties and consider the prospects for systemic change under Andropov or his successors.

I. The Short-Run Problems

Even though Leonid Brezhnev should have relinquished power long before he died, it would be wrong to blame all the Soviet Union's short-run or long-run problems on Brezhnev. However under his weak guidance, economic conditions deteriorated further and faster than they might otherwise have. The seriousness of the short-run problems brought to a head some long-run structural problems that under more normal circumstances might have escaped notice.

As a look at Table 1 indicates, the year 1979 marks a serious turning point. The rate of growth of the Soviet economy had been declining for some time, but except in agriculture and a few unimportant industries such as railroad locomotive construction, production in the major industries continued to increase. However, beginning in 1979, production of several of the key products in Soviet industry actually dropped for the first time

TABLE 1

ANNUAL PRODUCTION INCREASE

	1975	1976	1977	1978	1979	1980	1981	1982
Electricity (bill. KWH)	63	73	39	52	37	57	30	31
Petroleum (mill. tons)	32	29	26	26	14	17	6	4
Gas (bil. m^3)	28	32	25	26	35	28	30	36
Coal (mill. tons)	16	11	10	2	-5	-2	-12	14
Steel (mill. tons)	5	4	2	3	-2	-2	1	-2
Metal-Cutting Machine Tools (1000 units)	6	1	5	0	-8	-14	-11	
Automobiles (1000 units)	82	28	41	32	2	13	-3	-17
Grain (mill. tons)	-55	84	-28	41	-58	10	-19	

since World War II. It was not that the drop in production was necessarily a large one. For example a two million metric ton decline in steel production from a peak of 151 million tons was not all that important as a percentage of total production. We would have been happy in the United States if the drop in our steel production had been so small. Yet given the fixation on steel production in the Soviet Union it was clearly a portentious event. There were similar declines in steel, coal, machine tools, automobiles, grain production. These are key industries - the totems which Soviet leaders have always pointed to as evidence of the Soviet Union's growing industrial strength.

The fact that so many key industries were affected simultaneously suggests that the economy as a whole was suffering from the same forces. The CIA notwithstanding, electricity generation as well as natural gas and petroleum production were among the few industries that did not undergo actual production declines. According to Soviet statistics and even CIA calculations, Soviet national income and GNP also did not drop in this period. Yet when such a simultaneous drop in production of so many key sectors of the economy occurs in the West, the economy begins to take on the characteristics if not the formal definition of a recession. There were no signs of unemployment in the Soviet Union, but such a deterioration in economic industries should have set off serious soul-searching in Gosplan and in the Politbureau.

In part this decline can be attributed to the fact that in the last four years of Brezhnev's life he was probably too infirmed to deal effectively with the Soviet Union's economic problems. Although the Politbureau was not immobilized, a system which is as highly centralized as the Soviet economy requires more than part-time leadership. Ineffective

leadership undoubtedly affected the nation's morale. It sometimes appeared as if there was no one in charge in a society which is accustomed to a forceful and all commanding presence. This lack of an effective stewardship gave rise to cynicism, corruption, and indiscipline. At the same time the flow of workers into the labor force had begun to diminish so that the leadership could no longer count on a continuing increase in the flow of new workers to compensate for low productivity.[2] The persistent shortage of consumer goods and an oversupply of disposable income only served to exacerbate the morale and labor problems. As some workers put it, "they pretend to pay us and we pretend to work".

Not all the economic problems were manmade. The weather was also an important factor in the economic downturn. The winter of 1978-79 was very cold. This had an impact on worker productivity and more important on agricultural output. As Table 1 indicates, the drop in grain output was particularly severe. By 1982, there was a decline in the per capita production of most basic food products.[3] The poor crop not only led to a tightening of food supplies and the introduction of rationing in some areas, all of which hurt morale, but it also meant a reduced flow of agricultural supplies for industrial production.

As in the West, recent years have also seen the growing depletion of some of the richest and most accessible sources of Soviet raw materials. This increased the cost of production and necessitated larger capital investment to sustain production. For example, the share of total investment in industry going to the oil industry rose from 10.4% in 1977 to 14.3% in 1980.[4] For that matter 85.6% of the increment of investment is now going for the increased production of energy.[5] Nor did it help when because of the world recession, the export prices of these raw materials

fell. Thus in 1982, it was necessary for the Soviets to export a larger volume in order to earn the hard currency needed. This was an additional strain on the economy.

Equally if not more important, Soviet planners have had great difficulty maintaining previous rates of capital investment and capital productivity.[6] The growing age of the capital stock will not ease the task of Soviet planners. As one study in the Joint Economic Committee Compendium reports, "On the average (Soviet) fixed assets have been retained several times as long as those in the major market economies."[7] Moreover the author goes on to point out that a very low percentage of the country's investment goes for the replacement of obsolescent assets. We have criticized ourselves because of the slow pace of capital renewal in the United States. Only 1/2 of our capital goes for replacement. In the Soviet Union however the rate of renewal is only 1/5th.[8]

While a decline in the rate of growth of capital investment is a relatively new phenomena, the Soviet Union's poor record of technological innovation is of a much older problem. We shall discuss it in more detail in the next section. The paradox is that Soviet scientists and military and space personnel seem to be capable of quite impressive work in many fields. However the spinoff from such products and processes into the civilian sector has been slight. A higher level of technological development could offset the falling rate of capital investment.

Because the transportation sector is very capital intensive, it shares many of the same problems that plague the capital sector as a whole.[9] To the extent the transportation sector is overtaxed and inadequately maintained and modernized, the economy will malfunction. Supplier schedules of necessity will be disrupted. For example, an ammonia factory

in Siberia was forced to close down in November and December 1981 because it could not find enough railroad boxcars to bring in its supplies and ship its products.[10] As one Soviet authority complained to me in January 1983, "Under Brezhnev we were lucky if we could get 3 hours work out of an 8 hour day. Even if the worker wanted to, he found that the supplies he needed had been held up because of the transportation problems. Then when the components finally arrived, he usually found that the machinery did not function because it had been undermaintained."

After a certain point it becomes difficult to ascertain what problem was responsible for what. Each one served to set off problems elsewhere in a downward cycle. In a word the economic problems bequeathed by Brezhnev to Yuri Andropov could no longer be ignored.

II. Andropov's Response

In retrospect, Andropov deserves enormous praise for the determined and resolute way he moved to get the country moving again. Some of the problems such as the bad weather will take care of itself. Similarly the world economy should ultimately strengthen as well as the prices for Soviet export products. But Andropov has not left everything to nature or the world economy. He moved quickly to improve discipline and morale. To set the tone, he fired several of Brezhnev's cronies, as well as many of the senior officials in some of the most vulnerable ministries, such as the Ministry of Light Industry, the Ministry of Domestic Trade, and the Ministry of the Railroads. It was presumed that ultimately such actions at the top would work their way through the system. To the extent that discipline improved, it would help alleviate some of the manmade

difficulties associated with the bottlenecks in transportation and even capital investment. Conceivably it would also mean less waste and theft throughout the economy.

Whether it was cause and effect or just coincidence, the fact is that Andropov did make a difference. How dramatic the transition was can be seen from a look at Table II. This compares production for January and February of 1981 and 1982 under Brezhnev, and 1983 under Andropov. In both January and February of 1982, production in several important industries was lower than it had been in the same period of 1981. In contrast production in both months of 1983 was up sharply. For example steel production fell 5% in January 1982 compared to January 1981, but rose in January 1983 by 5%. Some of the sharpness of the decline was due to the fact that January 1982 had five Sundays. Since January 1983 had only four Sundays, that also explains a bit of the improvement in 1983. However February 1982 did not have five Sundays. Moreover the same improvement is apparent in December 1982 compared to December 1981, and March 1983 compared to the year earlier. There is little doubt that the drive for discipline and a call for greater work effort did have an impact.

III. Structural Problems

While Andropov has apparently brought a halt to the deteoriation that set in during Brezhnev's last years, there is considerable uncertainy as to how long the enthusiasm for his new approach will last. In fact the results for May 1983 compared to May 1982 have already begun to show a slowdown from the pace set earlier in the year. Output in May 1983 in major industries such as petroleum, coal, steel, tractors, cement and

TABLE II

Industrial Production Changes for January & February, 1982 and 1983

Product	%Jan. 82 over Jan. 81	%Jan. 83 over Jan. 82	% Feb. 82 over Feb. 81	% Feb. 83 over Feb. 82
Electricity (bil.kw.hrs.)	103.0	103.0	102.6	103.4
Petroleum (incl. gas condens. mil. tons)	99.8	102.0	99.8	102.3
Natural Gas (bil.cu. mtrs.)	106.0	108.0	106.8	107.7
Coal (mil. tons)	97.0	100.2	100.5	100.8
Steel (mil. tons)	95.0	105.0	96.6	102.6
Fertilizer (mil. tons)	96.0	112.0	100.0	109.5
Metal-Cutting Tools (mil. rubles)	101.0	108.0	101.2	101.8
Watches (mils.)	98.0	107.0	101.8	100.0
Radios (1000s)	95.0	115.0	102.5	100.0
Television sets (1000s)	100.0	108.0	99.7	108.0
Paper (1000 tons)	94.0	110.0	92.1	106.6
Cement (mil. tons)	92.0	108.0	84.7	118.1
Meat (1000 tons)	92.0	105.0	96.2	100.0
Margarine (1000 tons)	98.0	111.0	102.6	110.2
Tractors (1000s)	98.0	104.0	101.3	100.7

paper, fell below the rate for the first five months of 1983 as a whole. This drop, even if temporary, suggests there are more fundamental issues which must be resolved. Is it enough for example just to increase steel production so that production is back up to 1981 or even the 1978 level, or are more fundamental structural reforms necessary? Certainly increasing discipline and even fear will help a little, but is it only a lack of discipline that explains why labor and capital productivity are so low? Furthermore, why is technological innovation so limited, why does the Soviet consumer seem so negected and why has the Soviet Union been transformed from the world's largest agricultural exporter into the world's largest agricultural importer? These shortcomings reflect serious structural problems that require something more than increased discipline to remedy. Given his background and given the traditional resistance to reform in the Soviet Union, is Andropov the man to conceive of and implement the radical departures that seem necessary or is he merely a policeman in a Party Secretary's uniform?

To some extent the structural problems that currently confront Andropov are an inevitable consequence of the development strategy adopted by Stalin in the late 1920's. In an effort to transform one of the most underdeveloped countries in Europe into one of the most powerful countries of the world, Stalin concluded that he should first concentrate on building up heavy industry. To do this he decided to divert resources from agriculture, construction for housing and living conditions in general. He assumed correctly that to induce such a transformation in such a short span of time, extraordinary measures would be necessary. He realized that such changes would come slowly if at all if the market system was to be retained. A system of central planning with yearly plans was substituted

instead. In this way Stalin and his successors could divert resources to high priority areas at a tempo much faster than would have otherwise been generated by the market processes.

Stalin's rationalization for the introduction of the planning system and for the diversion of resources from consumption into heavy industry was that in the long run this roundabout process would bring the Soviet people a higher standard of living than if the more traditional but more relaxed market process had been used. The expectation was that once heavy industry and the military sector had been established, Stalin or if need be his succesors would turn the switch and the economy would convert itself into being a producer of more consumer goods than any other country in the world. There would be an unparalleled outpouring of products for the consumer that would more than compensate for the earlier years of sacrifice and abstinance.

Unfortunately no one so far has been able to pull that switch. The central planners keep building up heavy industry and neglecting the consumer. In the process the system has become muscle bound. It seems unable to cope with all the structural deficiencies mentioned earlier. Instead of facilitating change, the central planning process actually seems to have rigidified the system. It seems to produce too many of the wrong things and produce them inefficiently, while producing too few and sometimes none of the right things. Thus the Soviet Union remains primarily an exporter of raw materials, much as it did prior to the Revolution. However the grain exports it used to sell have now become grain imports. It produces more machine tools than anyone else in the world but they are unsophisticated and virtually unsalable in hard currency markets. At one time it was feared that the Soviet Union would buy up

sophisticated world technology and use it to reequip Soviet industry so that it would become one of the world's leading producers of sophisticated machinery. The Soviet Union would then export this machinery at cutrate prices and thereby destroy the world trading system. This has not come to pass. The Soviets have demonstrated that they can innovate in space and in military technology, but somehow they still find it difficult to produce world-class products in the civilian sector. So far the only new export product that seems to have been in any way disruptive in recent years is ammonia.[11]

What went wrong and where do all the goods produced in the Soviet economy go? In large part heavy industry seems to produce for itself. Despite the fact that the Soviet Union produces 50% more steel than either we or the Japanese do, no one seems to know where all that steel goes. There is after all only a modest automobile industry. The Soviets only produced 1.3 million cars in 1982. As a communist economist put it, "I never again want to hear how many tons of steel we produced last year. It does me no good." There is a counterpart in agriculture where 20 to 25% of the harvest either rots in the field or in the distribution process and often never finds its way to the consumer.[12]

Too much of what is produced in industry finds its way to the military. In fact if the military were not there to absorb it, something comparable would have to be invented. This dependence on the military as a customer for such a large fraction of Soviet industrial output is one of the reasons why Soviet authorities tend to resist any sudden transition; they fear the adjustment problem that will result. The Soviet military industrial complex in many ways is even more powerful than the American industrial complex and because the military industrial authorities in the

Soviet Union have gone unchallenged for so long, they are probably even more resistant to change. The last time any significant effort was made to demobilize Soviet soldiers and divert economic resources to civilian usage was in 1960 under Khrushchev. He found to his discomfort however that steel producers no more than generals liked demobilization. His loss of support from these constituencies made it difficult for him in 1964 to mobilize political support as he had done previously when he had political problems.

This is not to say that the Soviet economy can continue to allocate such a large fraction of the GNP to the military sector forever.[13] Certainly it is fair to assume that all things being equal, Soviet leaders would like to increase their production of consumer goods in order to improve consumer well-being. At the same time those who argue in the United States that we should challenge the Soviet Union to a spending duel on military hardware are making a serious mistake. Since Soviet economic capabilities are about 2/3rds of our's, and since the Soviets probably spend 12 to 16% of their GNP for military programs, compared to our 6 to 7%, it is argued that the Russians will not be able to increase their spending much above what they spend at present. What those who make such arguments overlook is that the Soviet consumer probably has the narrowest waistline in the world. The Soviet population always seems to have another notch in its belt to tighten, particularly when it senses that it is being threatened. Thus it is hard to see how such a competition will bring the Soviet Union down. If anything, an increased military spending effort may be harder for the American population to bear.

While the Soviet political system is well suited for sustaining or even increasing military spending, it may not be so easy for it to do the

opposite, that is reduce spending. There have been very few Soviet leaders that have dared to challenge the symbiotic relationship between the military and economic sectors. Thus when and if Andropov musters the political courage to confront the military-industrial complex, he will then have to deal with some very difficult economic issues which have not been readily solved by his predecessors. To take a simple example, the steel mills being used to produce heavy plate steel for military purposes are not easily converted into steel mills producing sheet steel which is needed for automobile and appliance production. In fact material engineers argue that it is cheaper to build brand new steel mills than to try to transform existing Soviet plants.[14] Nor is manufacturing the proper steel the only obstacle. If the life of the Soviet consumer is to be improved, presumably Soviet industry will have to be able to offer an improved and continually updated series of appliances and automobile models. Before this can be done however, the Soviet Union will have to create a tool die industry. The absence of such an industry is one of the reasons the Soviets find it necessary to turn so frequently to foreign manufacturers when they want to update their products and production lines. According to production engineers, the tool die industry is one of the most difficult of all industries to create, especially in a rigid economic system, where change comes slowly.

Yet of all the challenges that Andropov or his successors must face, altering the central planning system will be the most difficult. But it is hard to see how the Soviet economy will ever become more responsive to consumer needs, more innovative and more concerned with quality and productivity without some type of transformation. Ultimately he must introduce more flexibility into the system and provide for more initiative

and incentive for both managers and workers. As a first step, Andropov has set up a high level commission to consider such planning reforms. However, just as there are those in the military-industrial complex with invested interests opposing change, so there are those in the central planning and production establishment who will do all they can to prevent any change in the status quo. Certainly that is how they have responded before, even when the changes proposed were minor.

The reason why Soviet enterprise managers and industrial ministries fear change is not unique to the Soviet system. Most officials fear the new, particularly when they have learned to function well under the old. The fear of the unknown is particularly strong in the Soviet Union, where as a result of a Darwinian - like selection process, those who have attempted to make far reaching changes in the Soviet economy were weeded out long ago.

Change is opposed not only because it brings the unknown, but also because some of the known that it brings tends to generate phenomena more common to the capitalist than to the Communist world. If they try to modernize and revamp Soviet industry one of the problems Soviet authorities will have to contend with is the closing down of outmoded or unprofitable factories. In capitalism such change is implemented through the process of bankruptcy. This is something Soviet officials find distasteful. Yet while bankruptcy may not be the most uplifting experience known to economists, it does serve to weed out the obsolete and the useless. Under the proper circumstances it may then help to prepare the way for modern and advanced industries. In Massachusetts for example, the textile industry died leaving mills and employees available for the new high tech industries. But bankruptcy does mean unemployment of humans and capital

and that after all is one of the less attractive aspects of capitalism. While the Soviets may not want to call it bankruptcy, they will nonetheless have to close down many existing factories if they are to modernize their industry. For that reason the process of reindustrialization may prove to be more difficult for the Soviet Union than for the some of the capitalist countries to deal with, although presumably this is exactly what economic planning should do best.

A well planned system should be able to phase out the old gradually while simultaneously phasing in the new. Given the poor results so far, most specialists agree however that this is an area where the Soviets have failed miserably.[15] Moreover an unusually large number of the recent major product changes that were made in the Soviet Union were made with the help of foreign technology. The help of Fiat at the Togliatti Car Plant, of Pullman-Swindell at the Kama River Truck Plant and of Occidental Petroleum in the making and shipping of ammonia are noteable examples but by no means the only ones.

While the Soviet Union has been making strenous efforts to close the technology gap that has existed for so long, it must be terribly frustrating for Soviet planners to discover that just as they seem to be reducing the gap in the technology of the 1950's and 1960's, a whole new high technology has recently been developed where they seem to be as far behind as ever. The USSR can never expect to be a true economic power until it learns how to facilitate the introduction and mastery of technological innovation.

IV. Why Is It Hard To Shift Gears?

Andropov or his successors may still pull off a miracle and make some far reaching changes in the economic system. But the odds are against him. I began to appreciate why after asking a series of Soviet citizens whether or not they thought the Hungarian model might be adopted in the Soviet Union.[16] As if they had been rehearsed, they all gave the identical answer. "No! First of all, Hungary is a small country and the Soviet Union is large," by which they meant one can keep tabs on what is happening in the Hungarian provinces from Budapest, but Moscow is too far from Vladivostok or Irkutsk to know what they might be doing out there if given any degree of decentralized authority.

"Second, Hungary has 10 million people, we have 269 million," by which they meant with decentralization, there would be too many people to control and thus there would be no telling how some of the more adventurous might pervert the socialist system."

"Finally, Hungary is a homogenous country while we are heterogenous," by which they meant how can one trust those Uzbeks, Georgians, Armenians and Estonians?

Why does such lack of control frighten Soviet authorities? Once set loose, a system of decentralized control with markets and freely formed prices could generate a level of unemployment which could be massive. A major fraction of the country's heavy industrial capacity might be closed down. Simultaneously to attract resources towards more rational uses, it would be necessary to allow prices to find their natural level which for the most part means higher levels. It is hard for us to know just how much prices must be raised because it is hard to measure the magnitude of the distortion. Imagine how far out of line American prices would be if the price of bread had been kept constant since 1955 and the price of meat kept

constant since 1962.[17] This helps to explain why the Soviet Union had to provide a subsidy to its peasants of approximately 50 billion dollars in 1980 and even then, the supplement did not cover all production costs.[18] Because of the distortions involved a large number of peasants came to realize that it was cheaper for them to buy bread in the state system and feed it to their livestock than utilize their own grain for that purpose. They can earn more by selling their grain to state procurement officers and using the proceeds to buy more than the equivalent amount of bread. As a result an estimated 4% of all the bread produced in the Soviet Union is diverted to feeding animals.[19] To eliminate such distortions, some Soviet economists have estimated that food prices would have to be increased as much as 40%.[20] Heretofore the political consequences of such a jump have deterred Soviet officials from taking any such step. Clearly a significant structural change in the Soviet economy would mean not only unemployment but also inflation.

In theory it should be simple to issue an edict instructing Soviet planners to revamp their planning priorities in order to reflect such shortages. However that is more easily conceptualized than carried out. In fact central planning is part of the problem. The planners tend to gravitate to projects which are more suited to the needs of the planners than to the purported beneficiaries. Take agriculture. One of the main reasons why 20 to 25% of the harvest rots in the fields is because the grain elevators and storage facilities are located by the planners an average of 300 miles away from the fields and because the highway system is so inadequate; about 25% of all kolkhozy in the Soviet Union lack a hard surface road to the outside world. It turns out that the planners would rather build fewer but larger grain elevators because the bigger they are

the cheaper and more impressive they are. Similarly in that same spirit of gigantamania, they would rather build big dams and drainage projects than numerous small roads. There is also the suspicion that if the peasants had better access to roads and storage facilities, they might utilize the grain for their own rather than the State's purposes.

Distortions of this sort are endemic in the Soviet Union and will not be handled easily. Nor will it do simply to order the planners to build more roads and storage facilites. That has been tried numerous times. About every 5 years or so there is another campaign in agriculture to solve one problem or another but there seldom seems to be any overall improvement.

Some have argued that many of these problems, particularly in agriculture, can be readily solved if the Soviets were to make better use of the comparative advantage their resource endowment gives them. These economists argue for example that the Soviet Union is badly located for growing agriculture products. It would be more sensible to divert investment in Soviet agriculture to production and subsequent export of natural gas and petroleum. Arguments of this sort are fraught with hazards. Those who reason this way must make some far reaching assumptions about the comparative costs involved when it is very difficult to know if the costs have been set properly. For example Soviet authorities underestimate or neglect entirely the geological, land, depletion and interest costs involved in producing petroleum and natural gas.[21] Moreover while such arguments may make sense with regard to natural gas, it is hard to understand how it can be argued that the Soviet Union should increase petroleum exports when the Soviets are having such a difficult time finding new giant fields to replace their existing fields. If it could be

calculated, the marginal cost of finding new petroleum would be very high. Finally there are those who argue that Soviet planners are already investing so much in increasing Soviet energy production that the drain has had a negative effect on the overall economy.[22]

At the same time it is hard to make meaningful calculations about comparative agricultural costs given the terrible price distortion in agriculture we have already described. It may indeed be the case that Soviet planners are irrational to keep pouring 27% of the country's total investment into agriculture. However the soundness or folly of this investment policy should not be allowed to divert attention from the fact that Soviet farmers and distribution officials have done such an incompetent job with what they have already invested. As I have tried to indicate, these shortcomings reflect more than location and poor weather. If Soviet peasants could be motivated to prevent 20 to 25% of their harvest from rotting, that would constitute a saving almost equivalent to what the Soviet Union must now import.

V. Conclusion

To correct distortions of the magnitude we have just described, a leader needs enormous foresight, self-confidence, political savvy and clout. The task is made all the more difficult because it has been postponed for so long. The longer they wait, the greater the distortion and resulting trauma, and the greater the tendency to postpone even further any meaningful action. It is an enormous temptation to do nothing or to take halfway measures. The trouble is that if the halfway measures are meaningful, these new measures begin to collide with the vested

interests of those who will do their best to maintain their existing empire and therefore derail the efforts to reform. Certainly this is what happened to the reforms and the reformers associated with Yevsei Lieberman in the mid-1960's.

The realization of what lies ahead can not be very comforting for Andropov. Under the best of circumstances the prospects would be frightening, but it must be even more daunting for a man 69 years old who periodically finds himself physically disabled. His mind and tongue may be as sharp as ever, but it seems unlikely that he has the stamina to push through any fundamental restructuring of the Soviet economy. Already Westerners have begun to speculate about Andropov's successors. The same thing must be happening in the Soviet Union. If they were not hesistant already, such speculation must give pause to those ordered to implement any far reaching structural change. "How long will Andropov be around to protect me if the reforms do not show immediate success?". What the Soviet Union needs now is an ambitious, vigorous, strong, imaginative, and politically sophisticated leader. Ten years ago Andropov may have been the man; he does not appear up to the challenge today.

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2. J.E.C. Part II, p. 265, 323.

3. Philip Hanson, "Recent Developments in Soviet Agriculture: A Statistical Note," Radio Liberty Research RFE-RL, RL 157/83, April 18, 1983, p. 1.

4. J.E.C. Part I, p. 167.

5. J.E.C. Part I, p. 432.

6. J.E.C. Part I, p. 139, 147, 170.

7. J.E.C. Part I, p. 170.

8. J.E.C. Part I, p. 170.

9. J.E.C. Part I, p. 216.

10. Sotsialisticheskaia industriia, October 4, 1982, p. 2.

11. J.E.C. Part I, p. 527.

12. J.E.C. Part II, p. 4; Sotsialisticheskaia industriia, April 9, 1982, p. 3.

13. J.E.C. Part I, p. 313, 336.

14. Nicholas Grant, Seminar at the Russian Research Center on the Impact of the Military Economy on the Civilian Economy of the Soviet Union, Harvard Faculty Club, May 23, 1983.

15. J.E.C. Part I, p. 169, 195; Joseph S. Berliner, The Innovation Decision in Soviet Industry, Cambridge MA, MIT Press, 1976.

16. J.E.C. Part II, p. 39.
17. J.E.C. Part II, p. 58.
18. J.E.C. Part II, p. 2.
19. J.E.C. Part II, p. 28.
20. J.E.C. Part II, p. 3.
21. J.E.C. Part I, p. 76.
22. J.E.C. Part I, p. 437.

ANDROPOV'S PRIORITIES

Representative HAMILTON. Thank you very much, gentlemen.

Let us begin on this economic growth problem. If you are in the Kremlin today, what priority do you give to these economic problems? Where do they stand on the agenda of the country today? They have got a lot of problems over there, not all of which are economic, and I am trying to get from you some idea of what—when Mr. Andropov comes into the office on a morning day after day, what is it that occupies his time?

Mr. GOLDMAN. Professor Campbell said I know more about it, but it is obvious that we do not know for sure what he does. But my sense is that the economy is something that is very close to Andropov and that, all things being equal, I think he feels more comfortable dealing with those kinds of problems frankly than the international problems.

He has done some interesting things. He has gone out and visited some factories—at least one factory we know about. He has spent a good deal of time talking about the need to get the country moving again. That clearly was reflected in the early things he did because, as Professor Campbell mentioned, he moved very sharply in the early stages, and there was a sense—I happened to be in Moscow in January talking to Soviet officials—there was a delight—somebody is finally in charge. This was before it became apparent that he was physically so weak.

I think he recognizes that unless he turns that situation around he is not going to be able to have the strong modern military body that he needs, and then he has serious morale problems.

There was a very interesting scene that took place 2 weeks before Brezhnev died at a meeting between the Politburo and the military staff. Brezhnev was trying to show that he was in charge and made some very almost embarrassing statements to them: "We are going to give you the resources; we are going to give you the best technicians."

So my sense is that the economy is very important to him and in terms of a time budget, I do not know. One way we can get a little better feel than we had before is from the Soviet press which now publishes what is purported to be the agenda of the meetings of the Politburo and the Central Committee. If you look at that—and you have to take it with a grain of salt—the kinds of issues they focus on are heavily weighted toward consumer goods, toward problems in production and industry and in agriculture. And if it is not what they actually do talk about, it is what they should talk about and the fact that the press chooses to publish it suggests to me how important it is in the scale of things.

Representative HAMILTON. Do you say this is top priority, the economy?

Mr. GOLDMAN. You know, we are outsiders watching, so I do not want to say it is No. 1, but if it is not No. 1, it is certainly tied for No. 1. It is something that is clearly on the top of his agenda. I do not want to be backed in the corner saying it is the top, but certainly it is one or two.

Mr. CAMPBELL. I agree with that. I have a somewhat different impression from reading those summaries of the Politburo meetings.

It seems to me they feature in there a lot of foreign policy issues that seem to me very minor in relation to these, but I think it is probably difficult to judge from those very short reports where their real attention is.

IMPLICATIONS OF SLOW GROWTH

Representative HAMILTON. Both of you said that you do not think the Soviet economy is on the verge of collapse and, Mr. Campbell, I think you indicated you expected a 2-percent growth per year through the 1980's.

What are the implications of that for the Soviet Union? Suppose you are right, that they do have a 2-percent growth for the next several years. What does that mean for the economy?

Mr. CAMPBELL. Well, I think it means very frustrated consumer expectations for one thing. I do not see how they can avoid having those slow down somewhat as they try to address the investment problem, as they fight in a slow way to win back some resources in their military and so on.

So the question naturally arises, then, of how is the population going to react to this as it goes on year after year after year?

I think it is true that many people who have been there report a sense of frustration, unhappiness, disappointment and so on. There was a Soviet group here and this fellow was saying to me afterwards, "You know, if you guys have ideas about what we should do with our economy, we would sure like to know them." This was an important person who personally is not damaged by the way the performance of the economy is going, but he shares what I think is a very widespread feeling that the economy is our No. 1 problem, and it is not doing what it ought to: our leaders do not know what to do about it; there is not much hope for us for a good performance and so on.

CONSUMER SECTOR

Representative HAMILTON. What is happening in the world of the consumer? Are there expectations being defeated constantly? Are they always disappointed? Are they finding it harder to cope with day-to-day existence in the Soviet Union, or do they see some improvement?

Mr. CAMPBELL. Well, I think there is sort of disparity between two kinds of evidence. I think the output of a number of things is increasing.

Representative HAMILTON. Consumer goods?

Mr. CAMPBELL. Yes; objectively, there is a larger amount of consumption available for the population. One of the big frustrations that many people have is because of this terrible pricing prejudice they have, there seems to be a shortage of everything and so people waste a lot of time standing in line or the people cannot buy what they want to. It interferes with the time they might spend working. It interferes with the satisfaction they get out of it and so on. A lot of the distribution of important high priority goods has been diverted away from the normal market channels and are distributed in the workplace now. Again, that introduces a kind of arbitrariness, etc.

Mr. GOLDMAN. May I add something there? As far as the 2-percent increase in growth in production, I think the problem is that it is the

wrong kind of products that are going to be produced. I think that is the difficulty that has an impact on the whole society.

One person put it to me this way. He never again wants to hear how many tons of steel were produced last year. He does not derive any benefit from that at all.

So what happens is that if this should continue this way—having to rely in large part on imports of food to provide that consumption that Professor Campbell was talking about—that is going to pose a problem.

Clearly, outside Moscow, food is in very short supply. The shortage of supply is much bigger outside the city than the Moscow-Leningrad areas. And you can tell that. Simply go to a railroad station in the Soviet Union and watch what people are carrying home. You see the most mundane kinds of things. People are bringing home things that simply are not there in the countryside and provinces and that causes frustration and that causes protest.

Representative HAMILTON. Let me stop you there.

Mr. GOLDMAN. Sure.

PROTESTS

Representative HAMILTON. It causes protests. Be more specific on that.

Mr. GOLDMAN. That is one of the things we do not pay much attention to in this country particularly in 1982 during the years of bad harvest. There were a series of demonstrations, strikes. They were not 20- or 30-day strikes, but there were 1- or 2-day strikes in the automobile plants, the elite, if you will, of the Soviet industrial workers, just as the automobile workers in this country are basically the elite of the industrial labor force. In Gorky, in Togliatti, we know there were demonstrations and work stoppages and in some cases there was actual violence and the police and the army had to be called on. In some cases, these strikes were exacerbated by food problems that spread into nationality problems. There were also demonstrations in some cases which began over language policy where the workers took over.

Representative HAMILTON. Do the Soviet policymakers respond to those kind of protests?

Mr. GOLDMAN. Yes.

Representative HAMILTON. How do they deal with it?

Mr. GOLDMAN. First of all, they try to bring in additional supplies of food. There is one article in fact in the Joint Economic Committee collection which talks about this in detail. Also I have larger descriptions of it in my book.

First of all, they try to bring in food to alleviate the immediate problem. Second of all, if it is a particular factory, they try to change the managers who are directly responsible for this. Third of all, they assume that any worker that tries anything like this and that they can identify the ringleader must be unbalanced, so they tend to put them in psychiatric hospitals.

But it does take place and it is usually cleaned up and then more goods are rushed in. We do not hear much about that, but it does go on and it is reflective of the sense of frustration.

You can push the Soviet workers so far and then you get this kind of response.

Representative HAMILTON. It pays to protest, is that right?

Mr. GOLDMAN. It certainly does, as long as you cannot be identified as the ringleader.

Representative HAMILTON. Is there among the Soviet leadership identifiable persons who advocate the consumer sector versus the military sector? Do we know that much about the way the government operates?

Mr. GOLDMAN. We used to say before that Kosygin seemed to represent industry and the economic managers and the more consumer side. I do not know if I can identify anyone right now—well, Dolgykh, who is a candidate member of the Politburo has been assigned energy and heavy industry and seems to be the economic manager in the group. But I do not know of anyone who is speaking out in the way that we used to think Kosygin did. But again, we are on the outside looking in and a lot of times it is very difficult to tell.

MILITARY AND INVESTMENT PRIORITIES

Representative HAMILTON. Mr. Campbell, you made some comments about how you thought there might be a good chance for the military sector to drop in priority versus the consumer sector in your statement.

Mr. CAMPBELL. I saw it more of a conflict between military and investment.

Representative HAMILTON. Military and investment, and you thought there might be a drop in the military sector vis-a-vis the investment sector?

Mr. CAMPBELL. Yes.

Representative HAMILTON. Do you have evidence of that or is that just—why do you say that?

Mr. CAMPBELL. Well, I do not have much evidence of it, no, but somehow I sense that it has to happen. See, the vital aspects of investment are so crucial, they invoke such spreading sorts of consequences, they engage people who have some political clout and so on, and those people are not powerless. They say, you know, you come to us with these sort of problems and you say why are we not performing better, and this is why and this is why and this is why, and something has to be done about it.

You know, the investment bottleneck leads to phenomena and behavior that the leaders cannot ignore and as far as I can see, that is the only way they can alleviate them.

Representative HAMILTON. Well. we have heard figures here about the steady buildup of the Soviet military establishment and that it has gone up—I am not sure of the figures—4 or 5 percent a year over a very extended period of time. Is that your impression? Is that what is happening? And if it is, then that sector in the economy at least in the recent past has grown substantially more than you expect the total economy to grow in the decade of the 1980's.

Mr. CAMPBELL. Right.

Representative HAMILTON. What is your comment about this Soviet buildup of the military side?

Mr. CAMPBELL. Well, I think it is true that it has grown. It has been a high priority sector, as a consequence of a lot of Khrushchevian moves. So much opposition was evoked and the present leadership made a kind of commitment and themselves were determined that they would henceforth not be in an inferior position when they interacted with the United States. And so that was true for a very long period of time.

I think there is some indication, at least in the newspaper stories anyway suggest that intelligent people think this rate of growth has slowed down somewhat in the last couple years.

Representative HAMILTON. The military?

Mr. CAMPBELL. The rate of growth of the allocation to military purposes.

THE ARMS RACE AND THE ECONOMY

Representative HAMILTON. There is a school of thought here in Washington that if we step up the arms race we will put such enormous economic strains on the Soviet Union that they will not be able to keep up with us and it will drive them to the point of collapse.

How do you react to that, either one of you or both of you?

Mr. GOLDMAN. Well, my sense is that that may cause more problems for the United States than it may cause for the Soviet Union. My sense is that the Soviet population has the narrowest waistlines of any people in the world. There always seems to be another notch in the belt so they can tighten that belt to cope with that, particularly if they think this pressure is being brought from the outside.

In fact, it may make it easier for them to endure the shortcomings in the economy as long as they know they are being pressured from the outside.

It is something I think that is fanciful and I do not think it will happen and I think that we are hurting ourselves more than we are hurting them.

Mr. CAMPBELL. Well, I think they are very sensitive to what we do in the United States and as we continue that military buildup they are going to make that a very high priority item.

Representative HAMILTON. Could we drive them to the point of collapse? That is the point. If we increased very substantially our arms effort, we can be reasonably sure, can we not, that they will try to match that? If they do try to match that, will that drive their economy to the point of collapse?

Mr. GOLDMAN. I do not think so. I think that they will try to match it and while I think it will be difficult for them, I think that the fact that they are doing it under provocation, from the United States, means that they would endure all these problems more willingly than they would otherwise.

I would like to relate an anecdote, but it is an anecdote that shook me. In December 1978, I was walking through the Russian countryside to go to a church that was a mile in the open field. I was the coldest I have ever been in my life. There was another Russian group that happened to arrive at the same time we did and I was kind of jogging across the field and came across this Russian group and they asked me where I was from and I said I was an American. A woman

asked me, "How do you like this cold?" I said I have never been so cold in my life. And the woman said to me, "Well, that will teach you if you ever tried to invade the Soviet Union."

The point is that this kind of sense causes them to do things that I think they would not otherwise tolerate.

ECONOMIC WARFARE

Representative HAMILTON. How do you react to the idea of waging economic warfare against the Soviet Union, whatever that might mean? Are there ways in which we can seriously damage the Soviet economy?

Mr. GOLDMAN. I think we can damage the Soviet economy by improving our own economy, by focusing economic warfare by just continuing our economic growth and solving our economic problems.

I taught in Moscow in 1977 and several of my students said, "How can you tolerate unemployment? We look to you and when you have these shortcomings it makes it easier for our government to tell us, well, do not be so upset; there are these problems outside."

Economic warfare, therefore, means to me that we have got to focus on our own and just leave them in their dust with their 2-percent rate of growth of things that people do not want and cannot use.

Mr. CAMPBELL. Well, I think in some ways they are very dependent on the outside, some of it through normal sort of international economic exchange, some of it through the sort of covert acquisition of things in the military and so on.

I think if they were totally cut off from contact with Western economies, this would put a lot of pressure on them.

I hesitate even to invoke the famous pipeline again, but the energy problem is going to be around and we are talking about a whole decade, and it is going to go on for a while, and some parts of the technological changes and technological improvements that have to be handled in order to cope with that energy problem is going to have to be gas and it is going to have to be from Siberia, so a lot more pipelines just for domestic needs. I think they are going to have a hard time doing it on their own.

I do not think they are going to solve their agricultural problem in an easy way and I think they are going to continue to need outside sources of agricultural produce, whether finished products or feedstuff for animals.

But whether we, the United States, can do that—we can set up a set of policies to really inflict very large amounts of damage on them that way—I think is problematical. I am not an economic warfare advocate myself.

Mr. GOLDMAN. May I just add one thing, Congressman? I agree with Bob that if we could cut them off completely, that would be fine; but I do not think that's realistic.

Our allies certainly are not going to—or our erstwhile allies are not going to tolerate that kind of thing. That trade is important to them and they just simply will not do it unless there is some major provocation.

DEPENDENCY ON WESTERN TECHNOLOGY

Representative HAMILTON. How dependent is their economy on Western technology? We have had a series of articles running in one of our newspapers, the Times here, about the priority task of the KGB is to get Western technology. How big a factor is that in the Soviet economy?

Mr. GOLDMAN. Well, I think it is a fascinating article and I think it does reflect their problems in coming up with innovations and, therefore, they have to rely on the West for that advanced technology. And if we can run fast enough, they are just going to have to try to catch up by importing. Even the conventional technology, like automobile plants, they had to import. They do need it.

The difficulty is if you look at the kinds of things the article in the New York Times was talking about, those things were not imported through legitimate channels. They were all done illegitimately, either outright theft or having fronts set up in Europe. That has nothing to do with legally authorized embargoes.

The Russians have just invented the digital watch a year ago. I mean that is how far behind they are when it comes to these things. And their economy simply does not lead to that. So they do need these kinds of imports. It is important to them, but the operations of the KGB and illegitimate front groups in Europe are a different kind of of issue than legitimate trade.

EXPORT CONTROLS

Representative HAMILTON. How do you view the whole question of U.S. export controls? Can we have a significant impact on the Soviet Union with tight U.S. export controls?

Mr. GOLDMAN. I do not think so. We could have and did in the 1950's when we were the sole source of most of the technology in the world, but that is no longer the case. If you begin to study this, you find that we are shooting ourselves in our feet, because what happens is we introduce these controls, which means, OK, we do not sell to the Soviet Union, and then we begin to assert extraterritoriality by saying the Italians cannot or the French and Germans cannot export things that use our licenses. So they begin to develop products which exclude the use of American licenses and patents because they do not know when some day we may decide we do not want to export to Bolivia.

Representative HAMILTON. Suppose you get a unified policy in the West in dealing with the Soviets and you get effective export controls. Is that a policy we ought to try to implement, tough export controls, unified in the West against Western goods going to the Soviet Union?

Mr. GOLDMAN. Well, I think we have to do that for very high technology, but the trouble is we keep lowering the scale of technology we seek to control and our allies think we are crazy and it causes more problems within the alliance than it does between the Soviet Union and the West.

Look what happened in the pipeline situation. Which country and which company did we ultimately put the most pressure on? It was

Italy. It was an Italian company that was using the American license. We fined them and we banned their exports of all goods from the United States and they suffered more than the Soviets did.

Representative HAMILTON. What I am trying to get at is, what kind of policy would you recommend in that circumstance? Obviously, it is to our interest in the West to ban high technology items, right?

Mr. GOLDMAN. Yes.

Representative HAMILTON. So our policy, then, ought to focus on denying access to high technology items.

Mr. GOLDMAN. Right. The problem is that when the Soviets do something we feel indignant about it and if we did not feel indignant we would not be the country we are, but then we begin to introduce these different kinds of controls and say, everything will be banned—high techology and no technology. It is not like a hockey game where we say, OK, there will be a penalty for 15 minutes or 3 minutes and then everything is over. Instead it goes on for an eternity and we do not know how to get rid of it.

What I would suggest is that we be much more realistic in how we react this way in terms of the timespan and in terms of what we want to cover and not attempt to ban everything, whether it is high technology or no technology.

Representative HAMILTON. And strive very hard to get agreement among the Western countries?

Mr. GOLDMAN. Create a sense of realism, not just a sense of pigheadedness.

Representative HAMILTON. Do you agree generally with that, Mr. Campbell?

Mr. CAMPBELL. Well, I would say the greatest mistake that was made in the 1970's was, at the same time trade was expanded which benefited both sides, the Russians had access to credit on excessively favorable terms. That is all. That is the one sort of element of subsidy or giving away something that I think was a great mistake of the 1970's.

So what my view of an international trade policy is one that controls those technologies that are important militarily, but that is going to be, in my view, a much shorter list than a lot of people would sit down and make up when they first thought about it.

And, second, trade on a standard sort of commercial basis.

Representative HAMILTON. No credit?

Mr. CAMPBELL. No credit.

MODERN INDUSTRIAL SOCIETY

Representative HAMILTON. You have talked about the number of problems in the Soviet system and I was thinking to myself here, is that system really incompatible with a modern industrial society or even a postindustrial society?

Mr. GOLDMAN. My sense is it is very much so. The biggest problem is innovation. All the other things that come out—productivity—all come back to this fact that they cannot stimulate the worker or the manager to take risks. It is a risk averse society when it comes to the economy.

It is interesting, if you go back—remember when Khrushchev came here in 1958 or 1959, he said the Soviet Union would overtake and surpass the United States and they would bury us economically.

Well, if you look at the production figures, you will see that they actually produce 50 percent more steel than we do, they produce more petroleum, they produce more machine tools, they produce more wheat. So if Khrushchev were to be reincarnated, he would say, "I am a winner. I did it."

But it is the wrong kind of technology. It is a technology which does only one kind of thing, and so in a sense the Soviets have closed that technology gap, but in the meantime, the Western World has opened up a brand new form of technology—high technology, even medium technology—and the Soviets just simply cannot seem to cope with that on their own. They either have to steal or borrow liberally—but that is not to say they have no innovations. There is a danger of going to the other extreme. They do do some interesting things. But basically, in terms of computers, in terms of medical technology, in terms of all these things, the Soviets are very far behind and the system simply cannot bring it out of it.

Representative HAMILTON. Now how widely recognized is that within the Soviet Union?

Mr. GOLDMAN. Well, for people who study the West and who are well informed, I think it is quite well recognized. The Soviets have stopped being so defensive, and this is partly because of Andropov. One Russian told me, "There is no more hallelujahing." I said, "What do you mean by that?" And he said, "Well, no more hallelujah this and halleluiah that. We are facing reality and we have got to cope with these problems." And the difficulty is that that solution is so enormous that it is hard to do, but I think there is an awareness of that. If nothing else, they can look at Japan.

Mr. CAMPBELL. I would agree that in many ways it is an economy that cannot cope with these very rapid changes, with the introduction of new technology, with the sort of scrapping of old things.

I have recently spent some time looking at the Soviet communication satellite program, a place where they started out very early with a great vision and they have just—in my view, without going into all the details—failed to get anything out of it, any of the potential that was in that for enhancing the communications system.

It is really ironic. The one thing they have done is to somehow blanket the country with the central—the first all union program produced in Moscow—television program. That is what you do with communication satellites in an era of computer networking, data transmission, and so on?

It just seems to me a terrible performance and I think when you begin to look at any given area, people find exactly the same conclusions.

FUNDAMENTAL REFORMS

Representative HAMILTON. So while there is wide recognition of the problem in the Soviet Union, their economic problems, the systemic failure of the system, it is also true, according to your testimony, both of you I think, that you really do not anticipate any major fundamental reforms being made?

Mr. GOLDMAN. I do not.

Representative HAMILTON. You have a new leader and all the rest, but they cannot do it?

Mr. GOLDMAN. Again, as I said, I think if Andropov had started 10 years earlier, he might have had a chance. He is strong. I think he has imagination. I think he is probably the brightest leader we have seen in many years, but I think now it may be too late and I do not know who else is there to undertake this traumatic task.

It is also interesting to note his coalition is one I think that probably could do it. It may indeed have done the thing that you asked before. Just like it took a Nixon to bring about recognition of China, so it may take an Andropov, who is supported by the military and the KGB, to bring about a reduction in the military side, but I am not sure Andropov is up to it now.

PRODUCTIVITY

Representative HAMILTON. Well, one of the things I was not clear on, Mr. Campbell, when you were talking about the reasons for the slow growth, one of the factors you identified was the drop in productivity. Why has productivity fallen in the Soviet Union? What are the factors?

Mr. CAMPBELL. Well, as I said, productivity is a catch-all. It includes all sorts of factors. I would say sort of central to all these is the noninnovative character of it. That is one feature.

A second very important part is the sort of unwillingness of people in a managerial system below the very center to take responsibility, to be innovative not just in the technical sense but in somehow exploring how things could be done better in an organizational sense, just in trying new ways of doing things, apart from introducing new machinery and new technology. And that is because of the overly centralized sort of system.

There is a kind of bargaining relationship between the people at the top who think they have the power and the people at the bottom who know they have the power. They are the ones who have to take the actions to make the improvements. And the people at center do not know how to make them take those actions. They can plead with them. They can put pressure on them and so on, but like any good bureaucrat, the thing to do is stand pat, and how is somebody going to say to do something different?

Representative HAMILTON. If you were going to look at the growth of productivity in the next 10 years in the Soviet Union, what would the curve look like?

Mr. CAMPBELL. As I say, this is one thing where I think there is some dispute among people who work on this, but I would say that productivity is going to bounce up and down a little bit, but basically stagnate at virtually a zero rate.

Representative HAMILTON. Do you agree with that?

Mr. GOLDMAN. I do, short of some major change. If you change the whole equation, but as things stand now, more of the same. I agree with Mr. Campbell.

Representative HAMILTON. Now the Soviets must be keenly aware of that lack of productivity growth. How do they analyze it?

Mr. GOLDMAN. Well, in the past, and it seems at the present, through exhortation, through coming up with big campaigns that really are

the status quo dressed in a different costume. That is what happened with the agricultural program.

Because the difficulty is, if you really want to address the problem, you have got to start with a radical structural change, and that is just too traumatic. The consequences of that are too great.

Representative HAMILTON. That is the point I wanted to ask. When they look at the question of lack of productivity, do they analyze it the way you are analyzing it, really systemic defects, or do they say we are not working hard enough, we have got problems with alcoholism or whatever? How do they analyze their own problem of lack of productivity?

Mr. GOLDMAN. Well, there are different economists looking at different things. Some I think do see all the way through. There is a very good economist, Aganbegian, who sees these things. Bogomolov also seems to see these things and keeps bringing up the experiments in Eastern Europe. Some economists recognize the problem, but some others simply say, all we need is harder work; we are being distracted by the foreigners. It is a very mixed kind of picture.

I think the difficulty is to try to convince the leadership that these fundamental changes are needed, given the fact that the consequences are so severe. In other words, I think Soviet economists do see it and they have to worry about it.

Mr. CAMPBELL. I think when it comes down to taking action, they think about it in much narrower terms than I do. Productivity, as I have been using it, is sort of a Western economist's notion of combined factor productivity, which is something which would really not mean anything to a lot of Soviet economists, certainly not Soviet planners or officials in general. They are more likely to think about it, as you suggested, in terms of here is somebody who did something wrong, or there is no discipline, or there is a bad incentive so people are doing the wrong thing. They think about it in more partial terms.

They might not worry about capital productivity but labor productivity. So, there is a problem with labor productivity. There is not enough labor to fill all these new jobs. So we have got to somehow cope. So what do they do? They introduce a ceiling for employment by ministry, by plant, and so on, and say that is going to take care of productivity. Your output goes up and we have set a ceiling on how many workers you can hire, so when you meet the output target labor productivity will be higher.

Well, that is the kind of administrative thing that somehow just did not work.

RECENT INDUSTRIAL PRODUCTION

Representative HAMILTON. I think you did say that industrial production has moved up in recent months. Is that because of Andropov's leadership, do you think? Is there clear identification of that as a cause?

Mr. GOLDMAN. In my mind, that is certainly an important reason for the cause. I think if Brezhnev had lived, production would have continued to drop except maybe for an improvement in the weather and agriculture, but certainly industrial production was just spiraling downward.

Representative HAMILTON. Are there some industries that are in a lot more trouble than others?

Mr. GOLDMAN. Well, steel, coal. Coal production went up a little bit, but that seems to be in great difficulty. Even automobile production dropped.

Representative HAMILTON. Are there some industries that have performed very well?

Mr. GOLDMAN. Yes; natural gas has probably been increasing at rates of 6, 7, and 8 percent a year and it continues to do that. It continued to do it even during the bad years, the last 4 years of Brezhnev's life.

Representative HAMILTON. We have two other experts with us and I would like to bring them forward if they would to make comments on your observations. What I would do is ask you if you would remain at the table and we will ask Mr. Levine and Mrs. Schroeder if they would come forward and take seats here at the table, and I think it might be appropriate if we just ask each one of you to give us your comments about what you have heard from Mr. Campbell and Mr. Goldman.

Mr. Levine, could you begin with your observations? You are a professor of economics at the University of Pennsylvania. Chairman of the National Council on Soviet and East European Research; and Mrs. Schroeder is at the University of Virginia, professor of economics. and research consultant to the CIA.

We are very pleased to have both of you with us and we look forward to your observations on the testimony this morning.

STATEMENT OF HERBERT LEVINE, PROFESSOR OF ECONOMICS, UNIVERSITY OF PENNSYLVANIA, AND CHAIRMAN, NATIONAL COUNCIL ON SOVIET AND EAST EUROPEAN RESEARCH

Mr. LEVINE. Thank you, Mr. Chairman.

I appreciate the opportunity to participate in these hearings. I feel that it is important for those of us who devote our energies to the study of the Soviet Union to be able to contribute to the policymaking process in the U.S. Government.

To begin, I want to make it clear that I speak here as an individual and for myself and not for the University of Pennsylvania, and not for the National Council on Soviet and East European Research, which is a government supported organization that funds advanced social science research on the Soviet Union and Eastern Europe.

I would like to organize my comments on the two papers and presentations and discussions that we have had very briefly as follows: some comments about the past, some comments about the prospects for the 1980's, and then, if I might, some comments on the questions that you have asked.

In all of what I would say, and I would think that this is true of most of the people in the profession studing the Soviet economy, there are not tremendous disagreements that I have with Professors Campbell and Goldman.

DETERIORATION SINCE 1975

However, in looking at the past, I would argue that we are looking at more than a trending downward. The period since 1975, from 1976 on, is really a different sort of period. There is a sharp deterioration in

the downward slide of rates of growth of output and rates of growth of productivity.

For example, if one looks at CIA data—and I am not sure why Professor Goldman said CIA data did not show a decrease in the rates of growth—if you look in particular at industry, since GNP is affected so much by agriculture and agriculture is affected so much by weather, if you look at industry and compare average annual rate of growth in the first half of the 1970's with the second half of the 1970's, according to CIA data, industrial output fell from a rate of growth of 6 percent a year down to a rate of growth of about 3.5 percent a year.

Labor productivity fell from 4.5 percent per year sharply down to 2 percent per year. That is not a trend. That is a sharp break downward. And the total factor of productivity that Bob was referring to, in industry, in the first half of the 1970's it is plus 1 percent, if you combine labor and capital in some appropriate way and combine the rate of growth of output to the rate of growth of input, output rose about 1 percent faster than the growth of input.

In the second half of the 1970's, output rose about 1 percent slower than the rate of growth of input. So there is a 1-percent negative rate of growth in factor productivity.

What is it in the second half of the 1970's which has caused this sharp deterioration? A lot of the trending things that both Professor Campbell and Professor Goldman have alluded to, plus, I would say, four categories of causal elements.

They are exogenous factors, a maturing economy, planning decisions that they took, and systemic factors. And remember, the aim is to explain why there is a difference in the second half of the 1970's, really extending it through 1981 and 1982.

In terms of the exogenous factors, the weather is particularly bad. Many people have talked about it. Another factor is Western recession. The recession begins in 1973 and 1974 and sort of continues to the end of the 1970's. Western demand for Soviet goods is weak. However, there are countervailing things in that regard that really were of great benefit to the Soviet Union. That is the increase in oil prices and in gold prices and the Soviet Union is an oil and gold exporter. Demography, the slowing down of the rate of growth of the working-age population begins toward the end of this period, so it is not a major factor, but it is appearing on the horizon.

The second factor is the maturing economy. By the middle of the 1970's, the Soviets really begin to get hit by that depletion of resources that both speakers have talked about. Also, the aging of the capital stock, but I would emphasize here, rather than what Bob has emphasized that it requires more and more replacement, is almost the opposite, that the Soviets do not replace obsolete equipment nearly to the extent that a market economy does. A lot could be said about this, but essentially, given the objective in the Soviet economy established for the system of increasing output and the absence of competition in the socialist economy, there is not the pressure from cost competition of other producers to get rid of obsolete equipment. So long as you can use the old stuff, you use it, despite all the exhortations of the leaders. This really has weakened their campaigns to modernize their capital equipment, to improve labor productivity, for modern capital and things of that nature. How you get those Soviet managers to really

throw away the aging capital stock is a serious problem and it has many manifestations, including a very significant part of Soviet investment each year goes to capital repair to keep that very old capital operating.

Third, strategic planning decisions. Well, here we have the whole range of decisions on how you use the end products of GNP, the military, investment, consumption type decisions. The Soviets, as we all have said, spend a great deal on the military. They even spend more on the military than we can measure. Dual design factories that produce civilian goods at very high cost is an aspect of this burden of defense that we do not measure too well.

But there also were significant decisions taken into the 1970's that hit in the end of the 1970. For example, the lowering of the growth of investment in transportation really hits them hard, especially railroad transportation.

A lot of it went into pipeline transportation. The railroads, as people have said, became a major bottleneck in the second half of the 1970's.

That remarkable decision that the Soviets take with the tenth 5-year plan beginning in 1976 to cut the rate of growth of investment is one of those decisions. A specialist on Soviet agriculture once said at a recent conference that he has spent a lifetime advising the Soviets how to organize their agriculture. They have done almost everything that he has advised them to do and it has not helped too much in getting rid of some of the problems that we all allude to in Soviet agriculture.

It is almost the same thing. So many of us have argued that the Soviet economy is too high pressure an economy, in Keynesian terms, effective demand is just too high for the capability to produce. You have a constant state of really inflationary pressures without inflation, so that you have shortages and the problems that go along with shortages. And here the Soviets finally appear to take some of that advice and lower that we would consider to be a source of demand pressure, the rate of growth of investment, and it would appear that this has intensified, at least in the short run—has intensified their problems, all those bottlenecks that Bob has referred to, rather than alleviating the problems. And the questions is, why?

I think that is a very serious question. Again, without enough time to really explore it in depth, I think one of the problems is that economists operate at different levels. One of the levels we operate at is an aggregate level of just measuring, what is the impact of capital, what is the impact of labor on the economy, and we do not frequently enough get under these issues. And one of the problems in the Soviet Union is that the management of their investment, the actual allocation of the investment in the economy, is just terrible, and they realize that it is terrible. They realize that to a great extent it is out of control.

And the major justification for cutting down the rate of growth of investment was to cut down the demand for investable funds, especially construction, which was unconstrained. In the terms of the Hungarian ecoonmist, Kornai, who has been talking about what he considers to be an endemic problem of socialism, there is unconstrained demand of economic decisionmakers for resources.

Well, it seems to me that this is what the Soviet leaders have been trying to get at, to limit that demand, to get some control over that demand, and that is a very important part of recent past policy and I think the policy that Andropov is going to stay with.

Finally, in this category, there is a lot of technology that is bought—I am talking about the legal purchase of technology—in the 1970's associated with the earlier period of détente. Some of that is very beneficial, but it would appear that toward the middle of the decade a lot of projects were building up and were not being completed. Often since they were very visible, politically import projects, like some of the big steel projects that were bought from the West Germans or bought from the French, that they actually moved the resources from ongoing activities to these new projects to try to get them on-line on time and they actually did not make it.

So in the short run, technology transfer may have actually been a negative feature.

Finally, systemic elements. If one is trying to explain why things deteriorate in the 1970's, then much of what we as professionals on the Soviet economy always talk about, the tremendous inefficiencies of the system, have always existed. They cannot explain why there has been a sharp deterioration in the late 1970's.

However, there are some changes. One of them is what has already been remarked about, labor discipline seems really to be eroding in this period. But even more, plan discipline is eroding. Soviets change plans during the middle of the year, but there is more and more evidence that plans have been changed after the completion of the year. Why would you change a plan after the completion of a year? You change it, when you are minister, in order to protect the managers of the firms under you. You get the impression—this obviously is all from Soviet literature—that what has been going on in those last tired years of Brezhnev is that the ministers are saying to their managers, "You play ball with me and I will protect you against this central government and we will go on growing slowly and staying alive and secure and avoiding risks."

Second, these innovational barriers that we all talk about, an essential problem in the Soviet economy, become more and more important as an economy matures.

PRODUCTIVITY

You asked in one of your questions why productivity has been decreasing in the Soviet Union. In all mature industrial economies there is a tendency for productivity to decrease. What prevents it in many market economies from decreasing is technical change.

So that this inability to generate their own innovation—I would agree with Professor Goldman—that I see a major element in this is the avoidance of risk in a bureaucracy. Bureaucracies do not handle risks very well, and this systemic problem becomes more and more important as an economy matures. The problem is intensified by what the Russians refer to as departmental barriers. That is, these ministries become sub-empires. The Ferrous Metals Ministry is interested in the production of ferrous metals, not so much in the need of some machine producing ministry for new types of metals for his machines. As long as he can produce ferrous metals, he is satisfied.

So much of new innovation is cross-sector, either because of the technology involved or because of invasion from one industry into another industry. In the Soviet Union, innovation by invasion just does not take place. You do not have an aluminum company deciding to go into the food-wrapping business because the food-wrapping business is fast asleep and still with wax paper and I have got something like aluminum foil that may make us a fortune. That does not happen in a bureaucratically organized economy like the Soviet Union.

We at the Wharton forecasters have just completed a large study of this deterioration in the growth of output and productivity, and what we argue is that all these factors fed into a fundamentally intensifying imbalance in the economy. This is something that Professor Schroeder in some of her recent work has emphasized.

There are lots of investment decisions that were just wrong in terms of the balances needed in the economy. In the study that we did of the ferrous metal industry, what you have is a production process where you have production of iron ore and coking coal to produce pig iron, to produce crude steel, and then to produce finished steel.

In the 1970's, with a lot of emphasis on improving the quality of steel, there was increased investment in that finishing stage, but they seemed to be asleep at the switch in not recognizing the depletion of those iron ore mines and those coking coal mines. So that they do not have enough throughput coming into the system.

These imbalances are intensified by a decision that the Brezhnev regime took to really push growth in the first half of the 1970's so that by the middle 1970's that is a very taut economy. Slack is at a minimum and that is when those bottlenecks really begin to hit.

PROSPECTS FOR THE 1980'S

OK. If that is in any way a brief but adequate picture of what has been happening, what about the prospects for the 1980's?

Well, a number of those exogenous factors will change. Weather, unless really there is a God who opposes Godless communism in this world, they are bound to get some change in the weather, and they seem to be getting it this year. The Western recession seems to be easing so demand will increase, but at the same time Western demand for their goods increases, energy prices have been sliding and gold prices tend to move with energy prices.

Also, demography, as already stated, is going to be a very bad situation for the Soviets in the 1980's. The actual data that Professor Campbell was citing is more for working-age population than it is directly for labor force, and the Soviets might be able to lean against a change from essentially a 1.5-percent rate of growth in the working-age population in the 1970's down to 0.3 or 0.4 percent rate of growth of the working-age population in the 1980's.

They can do something about having some of the pensioners work a little longer. In terms of their age, they retire sort of early, at a younger age than in the West but they perhaps wear out faster than we do.

Maturing economy, depletion of resources, nothing is going to change in that regard. That is a very tough situation. Aging of capital

stock. Will they begin to replace the obsolete capital? There is some glimmer of some improvement in that regard.

Strategic planning decisions, military expenditures. According to the newspaper reports, there is a reworking of some past data on military expenditures in the U.S. Government and it appears that military expenditures have not been growing through the second half of the 1970's at the 4- to 5-percent rate of growth that the CIA had been saying, but closer to 2 percent, and that procurement of hardware may actually be flat, according to these newspaper statements.

I would argue that the rate of growth in investment will not go back to the 7 percent of the 1960's and early 1970's, but will probably remain at the 3 percent of the current policy.

I think it is very important to them—they see it as very important to gain some control over that insatiable demand for construction. Technology transfer—a number of these projects that were started in the 1970's are going to come onboard by the middle of the 1980's and they may have some positive effect.

Systemic elements. As has already been discussed, there has been this sort of attack on indiscipline, both in regard to labor and in regard to management.

In answer to some of your questions, I would argue that it is very clear that the Soviet leaders know the problems of their economy. After all, what we know about their economy we get from Soviet literature, from Soviet economists that we talk to, and from Soviet people that we have occasion to talk too. This is not something that we know and they do not know.

How they perceive it, however, I think is different. And I think that Soviet leaders have much more confidence in their system than we as Western economists do, and it is not only the political reluctance to take on the tremendous risks of fundamental change, but it is the perception that although the system may not be perfect, that the problems that they have have just not been managed very well. And economies rarely solve problems in some existential way. They manage problems, as we try to do in our economy. And I would think that Soviet leaders are convinced that they can do things to manage their problems better than has been done in the last 5 to 7 years.

In terms of something more than just these discipline issues, I think one change that may be fundamental is an extension of an experiment the Soviets have already tried, and that is the increase of the ability of the managers to dismiss workers not for total work performance but for economic reasons.

If you improve technology and you do not need those workers, Soviet managers find it very difficult to dismiss workers. Why then change all your technology? If Andropov or some succeeding Soviet leader wishes to bite that bullet, that might have a tremendous effect on the performance of the Soviet economy. It ill-behooves a professor to argue against tenure in the job, but Soviet workers who have guaranteed employment in the job that they hold are very hard to move around in terms of organizational matters. There are a number of Soviet economists who argue that the guarantee of full employment in the system is not a guarantee that the job that you now have is your property, but that the system will find you other jobs, and Lord knows, there are many jobs around.

There is some evidence that they are going to do something about these ministerial barriers, a lot of talk about it. One of the things that Mr. Goldman talked about was the losses in agricultural products because you are moving from one organization after you produce the stuff to another organization when you are trucking the stuff. The Soviets have already started on what is referred to as the "RAPO" change, and that is a territorial agricultural industrial production organization where that organization is responsible for both the production and the transportation to market of these products.

In summary, then, in the short run, what we at Wharton are projecting is close to what Bob Campbell was saying of 2 percent, maybe a little higher than 2 percent per year in the short run in the 1980's.

However, we do call attention—we feel that it is important for American policymakers to realize—that there is some possibility of some upside movement in that rate of growth, maybe up to 3 percent per year in GNP.

In the long run, the Soviets are going to have to face these systemic deficiencies. In the short run, I do not think they are going to have to face them and I do not think they are going to face them.

In the long run, something has to be done about the process of technical change in an economy. It is the guts of growth in a mature industrial economy.

Finally, if the Soviet leaders recognize that the period of the 1980's, no matter what they do, is going to be a period of relatively slow growth, relative to the past for them, there are certain potential advantages of slow growth. It is easier to retire obsolete equipment. If a manager does not have enough through-put to use obsolete equipment and the new equipment, he is going to use the new equipment. When steel production went down in 1979, the steel production using modern methods—the oxygen method, electric furnace—that continued to rise. It was the open hearth steel that went down.

Second, in a period of slow growth, the Soviets might be able to concentrate more on getting a better balance in their capital stock. So that if the Soviets do accept this slower growth in the 1980's, the 1980's may be an interesting period in setting the groundwork for what East Europeans refer to as an intensive growth strategy as contrasted with an extensive, that is, with getting more of your growth from an increase in output per unit of inputs rather than just increasing the number of inputs. What is essential for that is really some degree of decentralization, and you do not get decentralization—at least not successfully—unless you have some slack in the economy to take up some of those fluctuations that occur in any system that has a significant amount of decentralization in it.

Representative HAMILTON. Thank you, sir.

Mrs. Schroeder.

STATEMENT OF GERTRUDE SCHROEDER, PROFESSOR OF ECONOMICS, UNIVERSITY OF VIRGINIA, AND RESEARCH CONSULTANT TO THE CIA

Mrs. SCHROEDER. First, let me say that I have firmly on my head my University of Virginia hat. These remarks are my views and may or may not represent those of the CIA, with which, as has been indicated, I have a consulting arrangement.

I find it somewhat difficult to know how to begin. I agree with so very much of what has been said by both the two main speakers and also by Mr. Levine. As a matter of fact, in the profession of economists who concentrate on the Soviet economy here and in the Soviet Union itself, there is a wide area of agreement on these matters.

SLOWDOWN IN GROWTH RATES

There is agreement as to what has happened. You don't have to use CIA numbers to get essentially the same general picture. You can look at Soviet published statistics. Thus, the Soviets agree that growth rates have slowed sharply in the 1970's, particularly in industry. Agricultural growth rates fluctuate greatly because of weather conditions, but even so, growth rates in that sector have been sagging lately.

Both Soviet and Western analysts agree that the slowdown has not been due very much to slower growth of capital and labor, though a little of that has occurred. Rather, as everybody agrees, something bad has been happening to productivity.

Western analysts in general agree, I think, that the prognosis for the 1980's is as has been indicated here—continued slow or even declining growth rates for GNP and industrial production. Slow growth is, it seems to me, inevitable.

Disagreement, at least in the West, comes about because some people want to argue that the present situation, or the situation that may come about in the next few years, presents the Soviet leadership with some kind of a "crisis." Indeed, in the letter that invited us to come to this hearing, this very question was raised, and I feel strongly motivated to talk about this. In fact, I have made these remarks elsewhere whenever I got a chance.

SOVIET UNION NOT IN A "CRISIS"

I wish to denounce the use of the word "crisis." The word has been thoroughly debased by overuse. As soon as that word comes into people's conversation, cool-headed detached thinking seems to come to a halt. Nobody takes the trouble to define precisely what he means by a crisis. I certainly do not think the Soviet Union is in a crisis, if by that, one means that things in the economy are so bad as to force some radical change in approach to the economy on the Soviet leadership. I think we should avoid such terms as "crisis," "economic basket case," and "economic collapse." The U.S.S.R. has an enormous economy that is still growing, albeit slowly. Production is not declining, so collapse is far, far away.

What might economic collapse look like? If you go back to Russian history of the early 1920's, Lenin did face what I would call a real crisis. Industrial production was not just growing slowly; it actually had declined rapidly and drastically. Agricultural production also had declined. There was a political and social crisis that threatened both societal and political stability.

There is nothing like that facing the Soviet Union at the present time, and none of our models is even forecasting such a situation in the 1980's. Do the Soviets perceive themselves as being in a crisis situation? I certainly would not think so. There is nothing in the speeches of the leadership or in the press that suggests that they think they are in such a situation.

They perceive, as the West perceives, that they have a lot of economic problems. Indeed, Mr. Andropov, when he made his first speech, said, "Comrades, here are all the things that are wrong with our economy"—a real litany of ills he set forth. But, "Comrades, I do not have ready recipes for the solution of these problems." I think this frankness is quite refreshing and expresses exactly what the situation is. They really don't know what to do about their present economic difficulties.

We here in the West can prescribe for them. I, myself, have prescribed for a long time just what they ought to do, but they have not paid any attention to me. They are busily engaged trying to find their own prescriptions—thus far without notable results.

The disagreement among Westerners to some extent—and fundamentally with Soviet economists and politicians—comes over what is necessary to reverse the economic slowdown and what measures will be needed to cope in a period of sustained slow growth, or possibly near stagnation.

SYSTEMIC PROBLEMS AND THE ISSUE OF REFORM

In the West, some people—I among them—believe that the fundamental problems of the Soviet economy are productivity problems and problems of satisfying an increasingly affluent population, that these problems are rooted in the very nature of the economic system—centrally planned socialism—and that those problems cannot be solved within this system.

That does not mean that they cannot live with the problems—but in my view they cannot solve them. To do so they have to enact fundamental economic reforms that change the nature of the system and therefore the economic behavior of managers and workers.

Some of the other speakers have indicated that perhaps partial reforming might help. I do not have much faith in such partial reforms. I have been observing the numerous partial measures that the Soviets have taken in the past about 18 years, and so far not much good has come from them. In fact, things seem to have gotten worse.

In particular I don't think that the manifest problems in the consumer sector can be solved by partial measures, as some have argued. Here I disagree to some extent with Mr. Campbell. The consumer sector really is not characterized by a market set of arrangements. The central planners have firmly in their hands one side of that market, namely, the decisions about what is to be produced in the consumer sector, how it is to be produced, and how in a broad sense it is to be distributed.

Those are really fundamental matters. In order to fix up the consumer sector you have got to attack that aspect, and that aspect is systemic in nature.

But there are policy measures that can be taken to alleviate some of the difficulties. Incidentally, in thinking about what the Soviets could do, it is very important to distinguish between systemic reform—at least as I would define systemic reform—and policy measures. There are certain things they could do, short of major reform, that would improve the functioning of the consumer sector. For example, they could do something about retail prices and rents, as has already been pointed out here. Other policy changes of that kind including more

investment in consumer goods industries, would help them to adjust to inevitable slow growth. I expect to see the Soviet leadership take some measures of this sort.

Indeed, I do not think we should underestimate the ability of the Soviet leadership to take steps to mitigate the worst of the manifestations of the fundamental problems that they face. I am not at all surprised that the U.S. Government has discovered, or thinks that it has discovered, that the growth of military spending has declined lately and now rises approximately like the rate of growth of GNP. I would guess that the Soviets will try very hard in this slow growth period ahead for them to be even-handed about the allocation of resources. Indeed, there is an old Russian proverb about how to distribute rewards. You give one earring to each sister. Thus, they might give about the same GNP shares to each major claimant so as to keep investment growing a little, keep per capita consumption moving forward, and continue giving the military a little bit more also. That is what I would do if I were Mr. Andropov and had his problems.

Where there is major disagreement between Soviets and Western analysts concerns the question of whether fundamental economic reform is needed, that is, systemic reform. I know of no politician or economist in the U.S.S.R.—and that includes Aganbegyan—who advocates reform as I would define reform; namely, changes in those fundamental arrangements of the system that have brought the economy to its present pass.

They include State property rights, central planning, central allocation of material resources through the supply system, administratively fixed prices, and incentives tied to fulfilling plans. Those are the fundamentals that are at the root of the present economic problems. Not only do I not see any Soviet spokesmen advocating those kinds of changes, but also I can see perfectly good reasons why they should not advocate them.

The obstacles to systemic reform are extremely grave in the Soviet economy and in all of the centrally planned economies as a matter of fact. The object lesson in the case of Hungary's 15-year bout with economic reforms is the extreme difficulties that are encountered when one tries to change the behavioral patterns of workers and managers in a centrally planned economy, in an attempt to solve its particular problems while trying not to create for yourself the problems of alternative, market-oriented systems. The Hungarians have not yet cracked that nut.

In the Soviet Union, as I said, nobody really wants fundamental reforms. The people do not seem to want fundamental change; they just want the present system to work better. They do not want to tear it up and start all over, nor does the leadership, and for sound political reasons. Needless to say, the bureaucracy certainly does not want to change the system, on which it thrives.

Ideology, which I do not think is yet dead in the Soviet Union, also mitigates against reform. If reforms did away with State ownership of the means of production and with central planning of production, what would be put in their place? Capitalism? Nobody is advocating that. Finally, any kind of major economic reform would be highly disruptive, at least at the outset.

In addition to such general obstacles to reform, there is another set of problems that are encountered in trying to change the behavior of the centrally planned economy. Again, Hungary demonstrates them vividly. They have to do with the inheritance or legacies from the old system that all reformers will have to cope with.

One of the fundamental inheritances is long-ingrained behavioral patterns, expectations, and preferances by both the workers and the managers. The Hungarian experience has shown how extremely difficult it is to alter the economic environment to such an extent that behavior patterns will be altered.

Second, there is the enormous existing capital stock. That capital stock is the wrong kind of capital stock from an efficiency point of view. It employs the wrong kinds of technology. It is located in the wrong places. In a word, there are all kinds of things amiss with the inherited capital stock.

But in order to benefit from changes in institutional arrangements—reforms—the existing capital stock must be radically restructured, a lengthy process. A similar consideration applies to the existing mix of skills and training of the labor force. These matters have to be addressed, if reforms are to pay off. Hungary shows this very well.

Moreover, the present product mix also is wrong, from the point of view of fostering efficient production and satisfying consumers. This faulty product mix, as a matter of fact, flows from the capital stock mix and the labor force mix that are in place, along with imposition of the preferences of planners.

These sorts of physical matters would mitigate any short-term payoff to any kind of economic reforms.

I would like, finally, to comment briefly on three specific points that have been made by the previous three speakers.

1976 DECISION

First, I would argue that the fundamental turndown in Soviet economic fortunes came not in 1979 but in 1976, when the Soviets took the strategic decision to attack their productivity problem by slowing the rate of growth of industrial production and of total investment in order to allow managers to concentrate on raising efficiency and improving the quality of their products.

That decision set all kinds of malfunctions in motion in the investment process. In addition to that, the Soviet planners evidently failed to perceive fully three long-standing, but critical imbalances that came to a head in this period. They concerned the supply of energy, the capacity of the railroads, and supplies of key raw material. These pervasive shortages and imbalances are the results of long-continued misguided investments, allocations, and decisions. The trouble is that the economy lacks a decent guide to choices because of the nature of its pricing system. It is like a ship without a compass. So investment choices have been guided very much by bureaucratic and political considerations. I think that we witness in this period a case of chickens finally having come home to roost. These legacies have finally caught up with the Soviet Union en masse, and it is going to be very difficult to turn the situation around.

Second, has Andropov made a difference? I do not think that his policies have as yet turned the industrial situation around. Marshall Goldman has presented some data purporting to show that he has done so. But if you continue those data to include the entire first 6-month period in 1983 relative to the corresponding month in 1982 and compair them with those for the first 6 months of 1980 versus 1979, you will find startling similarity. Industrial performance was very poor in 1979, and then there was some recovery in 1980. In my view, we are witnessing a similar situation now—a very poor year in 1982 and some recovery in 1983.

So as to the question of whether Andropov has yet mattered, I would say, let us wait and see.

What is in store for the Soviet Union in the way of action to cope with their economic troubles? Certainly, they are very much concerned about trying to fix the "economic mechanism," as they call it. Even before Andropov became Party Secretary, a commission had been appointed to study the East European experience and to come up with some recommendations. Andropov has endorsed this approach. A Party plenum is supposed to be held sometime soon on the subject of economic reform. The Soviet press is carrying vigorous, stepped up discussion about what to do, and people are putting forward all kinds of proposals.

My guess is that what is likely to come out of this is a new omnibus decree, very much like that in 1979—followed up by one in 1981, and another in 1982. Such a new decree likely will, in effect, attack all of the multitudinous things that are wrong by a further set of tinkerings with the existing administrative systems. In my judgment, this approach will prove futile, as it has in the past.

Finally, another clue we have to Andropov's likely policies concerns the question of what to do with the problem-ridden agricultural sector. Andropov inherited Brezhnev's mammoth food program and has said: "The food program is central to our plans." So at present that program is being carried out. Again, I am not sanguine about the likelihood of that particular very costly approach doing much good for agriculture. It is certainly not the Hungarian approach, which has met with considerable success there.

Thank you.

Representative HAMILTON. Thank you very much.

I have simply run out of time here and we are going to have to conclude the hearing.

Before we do so, I want to give any of you an opportunity to make any final observations that you think might be appropriate, if there are such observations.

Mr. GOLDMAN. I will try to be brief. Let me correct two things if I can.

One is I may have misspoke. It certainly was not in my paper. Professor Levine mentioned that I said incorrectly that the CIA had not shown a drop in growth. I meant to say the CIA did not show an absolute drop in production. That is what I should have made clear.

My general sense of what Mrs. Schroeder described—I do not want to get into a semantic argument, but it certainly could be described as

a crisis, and that is how I think I would choose to continue to describe it.

It does not mean that the system is on the verge of collapse. Indeed, I would argue that it is not. But it is certain they are having a great deal of difficulty trying to find their way out of all the dilemmas that you describe, and I continue to be very pessimistic about the future. I do think Andropov has made a difference, but it has been a very shortrun difference and I think the long run remains complicated.

Representative HAMILTON. Any other comments?

Mr. LEVINE. Just a brief comment with regard to the question you asked which is obviously a crucial question for the American Government, can Western economic denial hurt the Soviet economy?

I think most of the answers that you were getting were in regard to sanctions where you actually try to deprive the other fellow of economic supplies that he needs.

There is another issue closely related to that that is generally referred to as economic leverage, where the objective is to try to get the Soviet Union to adopt policies that we find a little more desirable.

I would be prepared to argue—and I think perhaps I am in a minority here—that a well-structured policy of economic leverage could have some effect.

First, what you want to do is organize it well. What you want to do is do it quietly and avoid a threat to Soviet sovereignty, and they are very sensitive to those issues; and, third, what you really want to do is to have threats and no sanctions.

Once you have a sanction, you blow it. I do not think there is any case on record—big country, small country—where a sanction actually accomplished what it wanted to.

However, when you have a threat, you have to have a credible threat. Every now and then a sanction may have some value. The grain embargo did not get Soviet troops out of Afghanistan, but the demonstrated willingness of an American President to stand up to the American farm community, which is not something that the Soviets may have expected, may have had some effect on the Soviet decision whether to go into Poland or not.

These are very tough issues to research and I think the differentiation between sanctions and leverages is an important one to make.

Representative HAMILTON. Well, let me express my appreciation to each of you for your remarkable testimony this morning. I am impressed, among other things, with the extent of agreement among you. I thought we would have a little more disagreement. We did not have quite enough to suit me actually, but it was very good testimony and we appreciate it. You have contributed to the understanding of our committees.

The subcommittees are adjourned.

[Whereupon, at 12:20 p.m., the subcommittees adjourned, subject to the call of the Chair.]

THE POLITICAL ECONOMY OF THE SOVIET UNION

THURSDAY, SEPTEMBER 29, 1983

CONGRESS OF THE UNITED STATES, SUBCOMMITTEE ON ECONOMIC GOALS AND INTERGOVERNMENTAL POLICY OF THE JOINT ECONOMIC COMMITTEE, AND HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON EUROPE AND THE MIDDLE EAST OF THE COMMITTEE ON FOREIGN AFFAIRS,

Washington, D.C.

The subcommittees met, pursuant to notice, at 10 a.m., in room 2200, Rayburn House Office Building, Hon. Lee H. Hamilton (chairman of the subcommittees) presiding.

Present: Representatives Hamilton, Scheuer, and Winn.

Also present: Charles H. Bradford, assistant director; and Richard F. Kaufman, assistant director-general counsel.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, PRESIDING

Representative HAMILTON. The meeting of the subcommittees will come to order.

This morning we resume hearings being conducted under the dual auspices of the Joint Economic Committee and the House Foreign Affairs Committee to examine the political economy of the Soviet Union. We use the term "political economy" to indicate that our interests bridge the subjects of economics and politics.

We began this series in July with a session that focused on the Soviet economy. In the present session, we will look at a range of demographic, health, and social problems, as well as the dilemmas confronting the Soviet leadership involving the interaction of Soviet domestic and foreign policy.

One of our objectives is to better understand the nature of internal difficulties. Another is to gain insight into the policy responses of the Soviet Government in light of the international situation.

Our witness today is a distinguished scholar in the field of Soviet studies, internationally recognized as among the foremost experts in his field. Mr. Murray Feshbach was for many years an official in the Foreign Demographic Analysis Division of the Bureau of the Census and is now senior research scholar at the Georgetown University Center for Population Research, and adjunct professor at the Harriman Institute for Advanced Study of the Soviet Union, Columbia University.

Mr. Bialer, who was scheduled to appear, was unable to make it. I understand he is in China and has not been able to return for this hearing. He submitted a written paper which I will have placed in the record.

[The written paper referred to follows:]

The Dilemmas of Soviet Foreign Policy Under Andropov

By Seweryn Bialer*

The nature and direction of the foreign policy which Yuri Andropov will conduct is a central question in the minds of Western government officials and academic specialists studying the Soviet Union. It is a natural question since, as Soviet history has shown, successions provide the milestones of Soviet development and of policy orientation. The inertia and drift of Soviet policies in the period before a succession are challenged, with the opportunities to change policy direction being maximized.

Witn regard to the present succession, this question is particularly pertinent, however, because Andropov's accession to power overlaps with a number of other domestic and international developments of major importance. Among these, there are five whose potential to influence Andropov's foreign policy are particularly great.

To begin with, the present succession is the first in Soviet history in which the Soviet Union finds itself in a situation of strategic parity with its main capitalist adversary, the United States, while having superiority in conventional and theater nuclear arms and immense, modernized strength on the Sino-Soviet border. It is now up to Andropov to decide how to employ the awesome military power which he has inherited, and how quickly and in what direction to develop it further. Until the recent attainment of such military strength, Soviet decisions about their military build-up were made almost automatically and instinctively. Now,

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however, a clear and conscious decision about the goals and limits of Soviet military growth has to be made, taking into account both defensive tasks and the ability to pursue expansionist goals. I believe that this issue will be placed on the top of the leadership agenda as the succession continues to unfold.

Secondly, Andropov faces immense domestic economic problems. Indeed, these problems are far more imposing than in the past. While past Soviet economic problems were to a large extent associated with rapid economic growth, they are now associated with near-stagnation of the economy. Further, while past economic problems could be alleviated in part by extensive mobilization of resources -- a task for which the Soviet political-economic system is well-suited -- this is no longer feasible, and intensive growth -- for which the Soviet system in its present form is not prepared and cannot be efficiently utilized -- is now necessary.

Thirdly, the Soviet Union is facing a crisis in its East European empire. This crisis is most vividly epitomized by the situation in Poland, where the recent official ending of three years of a "dual power" situation has solved nothing, leaving Poland still suspended between the danger of Soviet armed intervention and of civil war. In the 1980s, all the countries of Eastern Europe will face major economic difficulties and austerity programs. The potential that these difficulties will be translated into social instability and political unrest is quite high. Given this situation, it would be logical for the Soviets to step up their assistance to their East European clients. Yet the problems the Soviets themselves are facing is leading them in precisely the opposite

direction, to cutting subsidies and credits while seeking to increase the East European contribution to Soviet economic growth.

Fourth, the cornerstone of Soviet foreign policy under Brezhnev, Soviet-American detente, has collapsed ignominiously. U.S.-Soviet relations are moving in the direction of a new cold war. Soviet foreign policy is in a state of drift. Preservation of detente with Western Europe is, as the Soviet leaders are discovering, not a substitute for good relations with the U.S. There is uncertainty in Moscow whether, if Reagan is reelected, there will exist any possibility in the foreseeable future of restoring a semblance of detente with the United States without giving away too much in terms of Soviet armed power and global ambitions. For Andropov and his colleagues, then, the key task is to reintegrate Soviet foreign policy, providing it once again with a core concept and direction.

Finally, recent American military policy -- which may well change only to a limited degree even if Reagan does not recapture the presidency -- reversed the direction of the 1970s with regard to the Soviet-American military balance. Soviet party leaders and their military subordinates feel that a continued American military buildup will change the military balance to such a degree that Soviet security, and the security of its global power ambitions, will be placed in danger. The most likely Soviet response will be a buildup of its own forces. Thus a new cycle of arms development is very likely in the 1980s. Yet, because of the internal Soviet situation, such an arms spiral will be relatively much more costly to the Soviet Union (as it will also be to the United States) than was their unopposed military buildup in the 1970s. The question of

military expenditure in the 1980s goes to the heart of Soviet economic problems, and any of the alternatives available to the leadership can only prove painful to adopt.

Soviet foreign policy today is in a state which the Soviets would term a "peredyshka," involving retrenchment, relative passivity and peace offensives. The reasons are not difficult to fathom. The Soviets have abandoned any hope of doing business with Reagan, preferring to wait for a possible swing in the pendulum of American politics toward the center and hoping that Reagan himself will be replaced in 1984. They fear overextension of their own foreign policy resources, given the situation in Poland, the burden of subsidies to Eastern Europe and Cuba, their commitment in Afghanistan, and continuing investment in Africa. They prefer not to threaten a detente with Western Europe which continues to flourish, providing credit and trade benefits while fostering splits in NATO and possibly hindering the deployment of TNF in Europe. Finally, as in previous successions, the leadership's tendency is to avoid international confrontation and display caution in their imperial drive until political power in the Politburo has been consolidated.

As with all such cycles in past Soviet history, the "peredyshka" is only temporary and may be replaced, at some point within the next two or three years, by a new offensive policy. In doing so, however, the leadership will be confronted with a number of dilemmas which are much sharper in form than were those of Andropov's two predecessors, Khrushchev and Brezhnev. Indecision in response to those dilemmas -- which is quite possible -- would be tantamount to prolonging the drift of Soviet foreign policy, with, at most, periodic exploitations of targets of opportunity in the Third World

carrying only small rewards and low in risks and costs. To use Adam Ulam's vivid terminology, Soviet foreign policy today can be described as that of a "rentier" who clips coupons, is oriented to low risks and low costs, and prefers to exploit the troubles of others rather than make trouble on his own. Only by placing the dilemmas of Soviet international behavior on the leadership's agenda can the Soviet Union switch from being a "rentier" to a "speculator" whose risks are greater and costlier but who can get greater rewards.

There are four principal dilemmas in the context of the international situation in the 1980s involving the interaction of Soviet domestic and foreign policy. These can be identified as:

--the incongruity between the direction and resources of Soviet domestic and foreign policies;

--the incongruity between the central and secondary goals and directions of Soviet foreign policy;

--the indecisiveness in defining the goals and extent of Soviet expansionism in the Third World;

--the relationship of the legitimacy of the Soviet regime and of the party leadership in this regime to Soviet foreign and security policies.

The first dilemma is without doubt the most important and most difficult to resolve. Internally, the Soviet Union has entered a period of material and spiritual decline, as has its East European empire. Yet externally, the Soviet Union is still in an aggressive and dynamic period of expansionist aspiration and of potential international ascendancy. The Soviet situation in the last two decades of the 20th century can be characterized, then, as one of

internal and imperial decline of an extrenally expanding power still looking for its place "under the sun." Moreover, while fighting a losing bottle to revitalize its domestic system and the performance of that system, in the coming decade the Soviet Union certainly will be facing an international situation which will provide many strong temptations and opportunities to intervene and expand in the unstable Third World and, if the present trend continues, to gain greater influence over the policies of America's western allies.

The incongruity of these two trends poses major questions for the Soviet successor leadership, the resolution of which -- or their exclusion from the Soviet decision-making agenda -- will strongly influence the international situation in the 1980s. The Soviet Union represents an awesome military power, but its future growth, if a new arms spiral becomes a reality, will be infinitely more costly to the Soviet Union than it was in the 1970s. Growth of the military at a rate faster than in the last decade, or even at about the same rate, not only will lead to the stagnation or even decline of Soviet consumer spending, but also will cut the ratio of growth of Soviet investments which are crucial for the increase in labor productivity. In fact, the Soviet ratio of investment growth already has been almost halved to prevent the stagnation of consumer and military spending. For the first time in the post-Stalin years, then, the growth of Soviet military spending has become an insurmountable barrier to the growth of Soviet consumer spending and investment growth. In addition, the Soviet leadership in the economically difficult 1980s needs to decide between direct military spending -- which its aspirations as a

global power as well as the buildup of the American military demands -- and the need to invest in the military-industrial plant which provides the basis for future Soviet military growth.

Soviet ambitions on the international arena require a large commitment of resources which can be employed in support of a dynamic Soviet foreign policy. Today, more than ever before, the resources are predominantly of a military nature. Yet the employment of both military and civilian economic resources in support of a highly active Soviet foreign policy will deepen the internal and imperial crisis. Soviet expansionsim is not a solution to internal difficulties, as it had been for many previous empires, but rather is an added burden. (Incidentally, I believe that Soviet military involvement abroad does not serve to promote the popular legitimization of Soviet rule, but rather weakens it.)

All these problems essentially can be reduced to one primary decision: whether the Soviets should concentrate on the domestic problems and those of their empire while moderating radically their active foreign policies and international ambitions, or whether to continue a course of combining their efforts at restoring internal dynamism with the pursuit and expansion of their ambitions as a global power. Of course, such historically decisive choices never amount to a clear cut either/or proposition, but instead concern a change in stress, in intensity of commitment, in degree of preference. Yet it is exactly a change in degree -- sometimes dismissed as merely a marginal change -- which can produce the reversal of a trend and prepare the groundwork for new opportunities for compromise agreements between the Soviet Union and the West.

While the opportunities in the unstable world of the 1980s push the Soviet leadership toward the continuation of their pattern of international behavior of the late 1970s, then, Soviet domestic and imperial policies suggest to the Soviet leadership that they be prudent and limit their international commitments.

The second dilemma of Soviet foreign policy in the 1980s grew out of the Soviet experience with detente in the 1970s and early 1980s. This experience has three elements. First and most important, it showed the Soviet leadership very convincingly that detente is not "divisible"; a linkage between the various responsibilities of detente and the benefits it offers is entirely unavoidable given the domestic political realities of a populist democracy as it exists in the United States. We can endlessly reassert the basic truth that in the areas where Soviet-American relations are not a zero-sum game, and where the interests of the two sides overlap (such as in arms control), a Soviet-American accord should be reached regardless of conflict and confrontation in other aspects of that relationship. Such reassertions aside, however, the reality of the American political system, the division of powers, and the frequent shifting of public opinion precludes any serious agreements if the Soviets follow their own understanding of what detente means. A realistic American position with regard to the issues where compromise agreements are possible cannot be reconciled with unilateral Soviet military buildup and with direct and indirect Soviet military involvement in areas of Third World conflict. The Soviet military expansionist policies of the 1975-1979 period were the key contributors to the change in American policy in the last year of the Carter administration, and they brought Reagan -- and his hard line policies --

into power.

The Soviets have discovered that they cannot "have their cake and eat it too." They have learned that by pursuing marginal advantages in Africa, the Persian Gulf and the Middle East they damaged their central foreign policy relationship -- that with the United States. Regardless of whether President Reagan is reelected in 1984, the continuation of the pattern of Soviet behavior of 1976-1979 will preclude the restoration of even a semblance of detente with the United States.

At the same time, while detente with Western Europe partly survived the break with the United States, even here Soviet policies in Eastern Europe have weakened the West European commitment to detente. Further, as the INF issue and the conservative trends in West Germany and Great Britain have shown, the Soviet Union cannot count on a decisive weakening of the American-West European-Japanese relationship if they pursue aggressive military and foreign policies. The Soviets have also found that detente with Western Europe, while highly gratifying and economically profitable, is not a substitute for stabilizing relations with the United States. It is the United States, the Soviets have been reminded, which is the greatest military power and the only decisive obstacle to Soviet international ambition when we have shown the will and the commitment of resources necessary to oppose an aggressive Soviet foreign policy. Here again the Soviet leadership is facing a choice between sacrificing its central relationship in order to gain marginal and probably temporary advantages, or adjusting its military and foreign policies to the restoration of a balance in its relations with the United States.

The third dilemma of Soviet foreign policy concerns its drive for influence and power in the Third World. After Stalin's death, the Soviet leadership recognized that the world outside, and especially the non-Western world, is not only an area to be fearful of, but also a place of numerous and diverse opportunities. Thus began their courting of the Third World. As every great power learned over time, its ability to translate strength into status and influence in the Third World is not a simple task. At first, under Khrushchev and in the early years of Brezhnev, a Soviet Union inexperienced in such activity proved quite naive about what it could accomplish by its underwriting of any and all aspirations of Third World countries. Now, thirty years after Stalin's death, the results of Soviet efforts are not very impressive -- even though they should not be dismissed out of hand. Their major victories, as in Egypt and India, have proven temporary; the communist movements of Third World countries either rejected Soviet domination or were outflanked on the left; the expenditures of the Soviet Union and its East European client states were not a match for Western aid and trade, and did not seriously influence the politics of the recipient states or the shape of their socio-economic or political systems; and the term "Marxist-Leninist" as used by many of the newly created Third World states proved meaningless, in most cases simply serving as a cover for personal dictatorship and the personal greed of the leader in a totally fluid socio-economic and political situation. The so-called "non-capitalist path of development" in the Third World for which the Soviets were to act as instructor and protector essentially proved to be nothing more than a slogan. Third World instability -- which created temptations and opportunities for

Soviet actions -- have shown themselves to be a barrier to the creation and especially the continuity of Soviet influence. As the leading professional revolutionary leader of the Comintern described it in the late 1920s, "They come to us and cry revolution, revolution -- what they really want is to get weapons."

Well into Brezhnev's tenure, the Soviet leadership came at least partly to recognize the temporary nature of the "profits" from their "investments" in the Third World and the rising potential costs. Their conclusion, it seems, was to opt wherever possible for power rather than ephemeral influence. The Soviet Union did not abandon the efforts to achieve low cost influence over many Third World regimes. Yet it probably decided that long-lasting power over those regimes can be attained only through a highly visible and serious military and security presence of its forces or those of its client states. This explains the Soviet pattern of military intervention of 1976-1979. (Of course the fact that the Soviets have developed in the 1970s the capability of transmitting their own military power or that of their satellites far from their borders, and that because of achievement of strategic parity with the post-Vietnam and post-Watergate United States such activity carried low risks, was the major element leading the Soviets to opt for military solutions.) I believe that this pattern of acquiring power through Soviet military intervention will prove very temporary in the final analysis. Yet the danger that this pattern will be repeated in the 1980s is quite high. Here the third dilemma of Soviet foreign policy enters the picture in the 1980s. One can see this dilemma as containing three components: the dilemma of central vs. secondary

goals; the dilemma of Soviet foreign policy resources; and the dilemma of anti-colonialism vs. "hegemonism."

The first component already has been discussed. A few additional remarks are appropriate here. If in the 1970s the Soviet leadership could engage in foreign military adventures on an ad hoc basis without recognizing what effect this would have on the United States, today there can no longer be any doubt in the minds of the Soviet leaders and their advisers about the danger of repeating the pattern of 1975-1979. A decision to do so, then, will not only be premeditated and carefully considered, but will also signify a major reordering of priorities in Soviet foreign policy, an evaluation that relations with the United States cannot improve in the foreseeable future, and a willingness by the Soviet leadership to take much higher risks than in the late 1970s. The Soviet decision whether to intervene militarily when tempting opportunities arise will be excruciatingly difficult to make and of enormous significance for the state of Soviet-American relations.

The second component of the Soviet foreign policy dilemma concerns both the relative costs of interventionist policies, which will continue to rise parallel to growing Soviet economic difficulties, and the nature and composition of Soviet foreign policy resources in the 1980s. The growth of the relative burden on Soviet resources of an expansionist policy in the 1980s is clear from what was discussed above. The magnitude of these difficulties can be judged from the fact that already today, the Soviet Union is cutting its subsidies to Eastern Europe and Cuba, despite the danger that the difficult economic situation in Eastern Europe can be easily translated into social instability and political unrest.

In the years to come, the nature and composition of Soviet foreign policy resources will be even more skewed toward military resources than in the past. Because Soviet political, ideological, cultural, economic and technological resources are meager, the Soviet Union puts a premium on situations where Third World instabilities escalate into armed conflicts or civil wars so that Soviet arms and military interventions carry their weight. Yet the lack of any balance in Soviet foreign policy resources will undermine -- sooner rather than later -- the efficacy of Soviet help, and the extent and durability of control gained over Third World regimes. This is particularly true both when an authentic leftist revolution occurs in a Third World country and when a pseudo-revolution takes place in search of Soviet arms. (Cuba and Vietnam were in my opinion no exception to this rule, and represented situations of potential independence from Soviet tutelage unrealized due to American policies.)

The imbalance in Soviet foreign policy resources and the predominance of its military component, then, creates major difficulties for Soviet policy makers. Virtually the only alternative to military intervention is ineffectiveness in their foreign policy. While such ineffectiveness is of course unacceptable to the Soviets, military intervention will prove very dangerous in the 1980s.

The third component of the dilemma of Soviet foreign policy in the Third World can be identified as "anti-colonialism vs. 'anti-hegemonism'." This element will play an increasing role in the Third World's attitudes toward Soviet policies and aspirations. When the Soviet presence in the Third World was virtually nonexistent, it was very easy for the Soviets to act as a champion of anti-colonialism. Today, Third World states expect not only vocal

support from their Soviet friends, but primarily major economic aid with no strings attached, and also a willingness on the part of the Soviets to take political-military risks (e.g., in the Middle East during the Syrian-Israeli conflict in Lebanon) without the subordination of the recipient country to the status of a client state. The Soviet Union is seen by the Third World as an industrial power which carries the responsibility of responding actively, as the Western democracies also should, to demands for global re-distribution of national wealth. The rejection of this Third World claim on a share of the Soviet Union's own national wealth places the Soviets on an equal footing with the Western states. Further, the increased Soviet military presence (and that of its allies) in the Third World creates both an automatic enmity among some Third World countries (e.g., Somalia) and a feeling of unease at the political-military Soviet presence, which can only be reminiscent of their past colonial experience, complete with notions of white supremacy. Further, the Sino-Soviet conflict and the unimpeachable Chinese revolutionary credentials have led some Third World leaders to consider seriously the Chinese accusations that the Soviet Union is a "hegemonic" power striving to replace in different form the colonial dependency of the Third World's past.

If one accepts this portrait of the situation with regard to the Third World (as many of my Soviet colleagues do) than the Soviet decision makers have to resolve the counterposition of their attraction to Third World expansion against the dangers of such expansion, its uncertain long or intermediate-range results and its relatively growing costs to the Soviet Union. The decision facing the successor leadership in this regard will be very difficult

and at the same time central to the shape of international relations in the coming decades.

The fourth dilemma of Soviet foreign policy in the 1980s concerns its connection with the internal legitimization of Soviet power. The popular and elite legitimacy of the Soviet regime seems to be much stronger than many Western analysts assume. Yet without doubt the legitimization of the existing regime is a much greater problem in the Soviet Union than in the industrialized democracies or even some other traditional authoritarian regimes. One can conceptualize three major dimensions of legitimization -- those based on tradition, on legal rights, and on performance. Legitimacy based on acceptance of existing legal rights is obviously relatively weak in the Soviet Union. By contrast, in the post-Stalin period the Soviet system's legitimacy based on performance increased markedly. Yet the mainstay of Soviet popular legitimacy is provided not by Communist ideas and the Communist system but by the traditional Russian nationalism disguised as Soviet patriotism. (The Communist ideas and system still seem to play a major role in the legitimization of the Soviet regime within the elite.)

In Brezhnev's last years, and at present, the legitimization of Soviet power through performance has visibly declined, and it will in all probability decline even further in the harsh decade of the 1980s. A major question for the Soviet leadership is where reserves of legitimacy of their regime can be found. It is doubtful whether the Soviet military buildup itself constitutes such a reserve. The authority of the armed forces among the youth seems to have declined precipitously. The new middle class and the middle

generations of the working population are by now fully cognizant of the effects of the burden of military spending on their standard of living. For Soviet military growth to provide a needed reinforcement of the regime's legitimacy it has to have a recognizable purpose acceptable to the population.

Soviet foreign policy achievements could become a more important factor of legitimization in the 1980s than they were in the 1970s. Yet as mentioned above, the pursuit of Soviet expansion abroad will carry with it greater risks and will be much more costly, in relative terms, thus further weakening the regime's legitimacy based on domestic performance. There is little doubt that Soviet rule in Eastern Europe has the support of the elites and at least the Russian population, and performs a legitimizing role for the regime among the population and for the party among the elites. The security of the country, its defense against possible aggressors from both East and West, seems also to provide a legitimizing function for the Soviet regime.

It is doubtful, however, whether Soviet adventurism in distant lands is attractive to the Soviet population and even segments of the elite, and whether it evinces legitimizing support. Soviet leaders apparently do not think so, judging by the minimal media coverage given by the Soviets to their adventures in Angola, Ethopia and Afghanistan. There exists a widespread resentment among even the Russian population and within segments of the elite about the costs of those exotic enterprises, which can be compared to similar resentment about subsidies to Eastern Europe, Cuba and Vietnam. (Incidentally, in both cases the population exagerates

the size of Soviet expenditures.) One can only surmise that such a resentment is even greater among the Soviet non-Russian population and elite.

From the above picture of the Soviet situation, one arrives at the surprising and ironic conclusion that, at a time when Soviet domestic performance is declining and foreign expansion by military means is becoming risky and relatively very costly, the best way for the Soviets to strengthen the legitimacy of their regime leads to the restoration of the Cold War. A new Cold War fulfills all the requirements necessary for popular and elite support: from the Soviet vantage point it is a defensive enterprise; it appeals to Russian patriotism and justifies the sacrifices necessary for the growth of military expenditures; it establishes a siege mentality fostering an atmosphere conducive to the strengthening of the conservative themes of unity and law and order.

I am in no way suggesting that the current drift into a new Cold War was a deliberate policy of the Soviet leadership. Nor am I arguing that, given a cost-free choice between detente with the United States and a Cold War that the Soviet Union would pick the latter. (After all, detente also provides legitimacy for the Soviet regime.) Here, I would only like to suggest two key points. First, a Cold War situation -- despite all the risks and difficulties which it would create for the Soviet Union -- may at the same time play a legitimizing role for the Soviet regime, thus easing its political domestic difficulties. Secondly,with regard to the Soviet domestic situation in the 1980s and the political strength of the regime, the best situation from the Western vantage point would be

neither a return to the Cold War nor detente of the 1972 vintage, but rather a combination of some elements of detente (such as arms control) and of containment (such as stepping up the risks of Soviet expansionism), with confrontation as a policy course where the credibility of the West requires it.

The present retrenchment of Soviet foreign policy will not last forever. The West has to be prepared to face a new cycle of Soviet expansionism by military means in the future. The Soviet leadership's foreign policy choices are more than ever intertwined with their domestic and imperial situation, and are complex, difficult and troubling. Yet it seems that at this present important juncture the key question is not what Soviet policies will be, but what will be the policies of the United States and of the Western alliance. The evolving Western policies of the 1980s will be a decisive factor in the Soviet decisions about their own foreign policies.

Representative HAMILTON. Mr. Feshbach, we are delighted to have you here. You have a prepared statement which, of course, will be entered into the record in full, and after you have summarized that statement we will turn to some questions.

You may proceed, sir.

STATEMENT OF MURRAY FESHBACH, SENIOR RESEARCH SCHOLAR, CENTER FOR POPULATION RESEARCH, KENNEDY INSTITUTE OF ETHICS, GEORGETOWN UNIVERSITY, AND ADJUNCT PROFESSOR, HARRIMAN INSTITUTE FOR ADVANCED STUDY OF THE SOVIET UNION, COLUMBIA UNIVERSITY

Mr. FESHBACH. Mr. Chairman, thank you very much for the privilege of addressing this combined hearing of the House Foreign Affairs Committee and the Joint Economic Committee.

I have had the pleasure of contributing to the Joint Economic Committee publications on the Soviet economy for over 20 years and the utility of these activities, these compendia, is well known to me over this period as innumerable reference is made to them by myself and others in response to inquiries from various Members of Congress, their staffs, different Government agencies, university faculty, and students, and individuals throughout this country and overseas.

The value of these publications to members of NATO, as well as to individuals and organizations in countries outside this grouping cannot be overstated.

From the viewpoint of the subject matter about which I have been asked to address in your kind invitation, in addition to my written testimony, I would like to add the following in the time period allotted for oral testimony.

LEADERSHIP VIEWS OF DEMOGRAPHIC TRENDS

The transition in Soviet leadership thinking about population and related issues of manpower and health has been most marked in the last decade, especially since the results of the 1970 census of population became available. And the trends revealed therein, I believe, regarding differential fertility, mortality changes, Russian language ability of the population, of the minorities, migration, or, rather, the lack of outmigration among certain population groups, family composition, and so forth, have led to a vast expansion of attention to this matter.

Nowhere is it clearer than in Brezhnev's accountability report to the XXVI party congress in February/March 1981, and in a very recent article by a high-ranking political-military spokesman in the ideologues' journal cited in my written testimony.

To just repeat the last sentence of the three-paragraph quotation from this military officer is sufficient for the moment and to the point. Thus, I quote:

> This matter must be organized so that the consequences of the unsatisfactory demographic position in the country will be overcome, will be compensated for, and will not have an influence on the military might and capability of the Soviet armed forces.

Thus, Soviet policymakers are beginning to initiate legislation, to expand research, to propagandize the importance of family stability, to attempt to mitigate the impact of these trends, et cetera.

But from a labor force and potential military draft cohort point of view, it is too late for this century. Thus, the young males born last year, in 1982, are the potential draftees of the year 2000. We know the distribution by republic, if not by nationality. But the underlying patterns of nationality distribution are generally discernible and this must be part of what is referred to by Admiral Sorokin, the author of those three paragraphs I quoted, in his reference to the numbers and origins of future conscriptees.

HEALTH TRENDS

The background to the current and future population and health trends lie in sharp, overall declines in fertility among the Slavic and Baltic peoples. The turn-around in mortality trends in the last decade and a half due to growing alcoholism among men and women affecting their health, as well as the health of their children, and unprecedented open reference to negative trends, the leveling out, and even more increases in infectious diseases, was very surprising; this turn-around occurred after much success in reducing their incidence from very extraordinarily high levels when they first took over. Nonetheless, most of these disease rates and incidence remain at quantitatively and proportionately very high levels.

For example, diphtheria, which is close to being eradicated in this country, has increased between 1980 and 1981 by two-thirds in the Soviet Union—that is, from 340 cases to 560, respectively, up to a level not witnessed in the United States since the beginning of the 1960's. And evidence about disturbing trends in other chronic, infectious and noninfectious diseases underlie the stress which was made in the August 1982 decree given to preventive health care in that latest decree.

Health authorities in the Soviet Union are well aware of the health status of their population and have recently initiated not only legislation, noted already, but have also opened numerous specialized facilities in recent years.

First, however, it should be noted that it is only in the last few years that such cardiology, resuscitation, specialized maternal and child care facilities have been opened and, second, that most are concentrated in the Moscow area, and thus, not significantly improving access to advanced facilities throughout the vast country of 11 time zones where distances, of course, obviously, are much greater than in our country.

They have also recently authorized the formation of a research unit on medical demography to study the causes for increases in mortality and the demographic impact of these trends. While study and research does not solve their current problems, the base of knowledge for making such decisions will certainly be enhanced for future consideration.

REGIONAL DIFFERENTIALS

Regional and, thereby, ethnic, national differentials compound the leadership's problems in designing appropriate legislation which will conform to Lenin's edict about a uniform social policy, on the one hand, yet be differentiated in implementation and impact on the other.

Thus, the debate before the last party congress, referred to earlier in February–March 1981, about unified versus differentiated demographic policy was couched in quotations from different writings of Lenin. Compromise language was found which accommodated to both the uniformity and nondiscriminatory application, but the actual law was distinguished by differentiated timing of the pronatalist legislation.

However, in effect, it did demonstrate their concern about the burgeoning population in the southern republics; that is, the republics where there are large populations of Muslim origin—by being put into effect in these republics 2 years after the initial implementation in the north and the east of the Russian republic.

Nonetheless, any possible large-scale impact from this legislation will take a number of years to be effectuated and by that time, the additional births other than those which would have been born if the basic trends would have continued will influence the supply to the civilian labor force and to the military only sometime after the turn of the century.

LABOR FORCE

As noted in my written testimony, and as illustrated in the computer chart contained therein on entrants and departures from the labor force, this decade is a very stringent one for net additions to the Soviet labor force, being only about 550,000 per year in the 1980's, versus some 2 million or more in the last decade. Moreover, their regional distribution due to fertility trends in the past, combined with increases in male mortality, especially among the Slavic and Baltic males, has led to a net decrease in the Russian republic and the Ukraine beginning with this year and continuing for many years. The burden, therefore, on productivity gains, both capital and labor, is very high when seeking to maintain past growth rates.

The lack of large-scale migration of the population of Muslim origin from the south, and the way they would house them in the north in large numbers, is also a quandary, and exacerbates their problem.

So far, the leadership has not chosen to force movement but it is encouraging it through the educational system and some incentives to move to the so-called nonblack earth zone area; that is, the priority food program regional development scheme recently initiated.

While I do not believe they will succeed in the short run of supplying sufficient manpower for these labor deficit regions, in the long run, most of the problem may be attenuated.

Thus, in the meantime, there will be insufficient agricultural production to alleviate their food supply problems. The argument of Soviet-Muslim republic leaders themselves which uses the food program as the basis for increased investment in their republics if sufficient water also would be available would mean less outmigration of the indigenous peoples, preserving, thereby, the shortfall in labor supply in the regions producing two-thirds or more of the gross industrial product of the country; that is, in the Russian republic and the Ukraine.

Thus, the nexus of all population, manpower and health issues is confronting the Soviet leadership with major domestic problems which are not easily solvable, and which potentially could change the demographic structure of the country early in the next century.

Thank you.

[The prepared statement of Mr. Feshbach follows:]

PREPARED STATEMENT OF MURRAY FESHBACH

SOVIET POPULATION, LABOR FORCE, AND HEALTH[1]

Until fairly recently, the "soft" subject of population, labor and health issues relative to the Soviet Union, remained just that--soft, with few practitioners and even fewer listeners to their alleged import. I should add, that this inattention also pervaded much of western economics and policy analysis, coming into purview only through the back door of per capita GNP measures, the general unemployment, and so forth. Whether it be through legitimate concerns in the last decade or so of resources and population demands, population crisis advocates, or social costs of economic downturns in the west, there is no longer avoidance of the issue or denigration of its import; and to me, even more so for our analysis of the Soviet scene. I believe the Soviets to be at a qualitatively, as well as quantitatively new threshold because of human (as well as other economic) factor constraints, which will affect the Soviet leadership and its decision-making debates for the remainder of this century and beyond.

Reference to demographic issues varied from hardly any mention at all at the Communist Party Congress of 1971, when there was only a single reference to the need for forecasting of the population, to the Party Congress of 1976 which called for development of an "effective demographic policy" -- but without spelling out its dimensions, to the 1981 Party Congress when at least 4 paragraphs were specifically devoted to population issues, not including those on labor or health issues. Thus, the multiple dimensions of the population problem are "on the agenda" of the leadership.

And nowhere is this clearer than the change from brief mention to the very full and forthright statements in detail on the impact of demographic trends on the military. In the past, for example, General Ogarkov, the Chief

of Staff, had noted the continuing lack of fluency in the Russian language among some recruits. But this was an elliptical reference, with no elaboration. Lower-level officers and language specialists had noted problems for command, control and communications among nationality groups. (See for example, the section on military manpower in my article for the Joint Economic Committee in 1979.)[2] However, the article by (full) Admiral Aleksey Ivanovich Sorokin, the First Deputy Chief of the Main Political Administration of the Soviet Armed Forces, writing in the ideologists' journal, Voprosy filosofii (Questions of Philosophy), earlier this year, gives a full exposition of the deep concern at the highest political and military levels for its impact on the military, and thereby Soviet national security.[3] The Admiral at first provides the normal description of the positive side of the armed forces and its preparations for performing its assigned tasks to guard the country, the socialist camp, to aid those who request it, to defend peace throughout the world, etc.[4] But then Sorokin goes on to depict the demographic threat to Soviet military capability: To quote--

> What has been said does not mean that there are no problems or difficulties which have arisen in the development of a multi-national Armed Forces among individual military collectives. There are facts when insufficient account is taken in the Army and Navy of the nationality characteristics of individuals; the necessary struggle against individual nationalistic events are not conducted. Much difficulty occurs also when individual troops poorly command the Russian language. The actual level of overall knowledge among these troops from among the representatives of several nationality regions, regardless of the identical forms of education, frequently is different and individual young people enter the army without the necessary practical experience of inter-nationality interrelationships.
>
> Speaking about the influence of social relations and processes of developed socialism on the Soviet Armed Forces, one must speak also about the impact on the Armed Forces of the existing demographic situation which was noted at the XXVth Congress of the Communist Party of the Soviet Union to be deteriorating (obostrilas') in our country. This exacerbation shows in the reduction in the intensity of fertility, in the cessation of the growth of average life expectancy of the population; in the irrational directions and volumes of

> migration; in the formation of a disproportionate age and sex structure of the population in individual regions of the country; and in the systematic increase in the number of divorces.
>
> One way or another, these trends and phenomena in the aggregate have an influence on the formation of the Soviet Armed Forces as seen throughout the country in the number and origin of the draftees and contingents subject to military service, has an influence on their nationality composition, noticeably increases the number of young people among the draftees who were brought up in so-called "unhappy" families without one or both parents, and so forth. All of this requires the corresponding party and soviet organs, commanders and political personnel, party and komsomol organizations of military units and ships to give concentrated (pristal'nyy) attention and obligatory account of the upbringing of the armed forces personnel. This matter must by organized so that the consequences of the unsatisfactory demographic position in the country will be overcome, will be compensated for, and will not have an influence on the military might and capability of the Soviet Armed Forces."[5]

With minor changes, I would state that it is exactly what I might have written about fertility, family and marriage, mortality, migration, language capability, number and origin of draftees. To this list must be added, however, the dramatically changing numbers and origins of the annual increments to the labor force, and also the health of the Soviet population, which have an impact on all of these categories.

Estimated at 270 million as of mid-1982, the population of the Soviet Union ranks third in the world, after China (1 billion), India (714 million), and ahead of the U.S. in fourth place with 232 million. Its present rate of natural increase (births minus deaths) is about 0.9 percent a year, higher than current rates of natural increase in the U.S. (0.7 percent). Unlike the U.S., net immigration plays virtually no part in Soviet population growth, although emigration was remarkable in some years during the 1970s, while remaining insignificant relative to total population size.

On any basis, short-term or long-term, the prospects for the development of Soviet population and manpower resources until the end of the century are quite difficult. From the reduction in the country's birth rate to the

incredible increase in the death rates beyond all reasonable past projections; from the decrease in the supply of new entrants to the labor force, compounded by its unequal regional distribution, to the relative aging of the population, not much glimmer of hope lies before the Soviet government in these trends. It is true that a new sense of urgency has highlighted the period since the XXVth Party Congress of February-March 1976, but the question remains whether this recent concern is too little and too late, and whether the negative population trends are beyond State control. Moreover, since the initial entry age into the labor force has been defined as age 16, almost the entire labor force for the rest of the century has already been born (except for those expected during this year and next, when significant shifts in demographic trends cannot be anticipated in the very short-run period that two years represent.)

DEMOGRAPHIC PROBLEMS

National population growth has dropped by one half in the last two decades, from 1.8 percent a year in the 1950s to 0.9 percent in 1981-82 due primarily to declining fertility. The national fertility decline masks sharp differences among the 15 republics and even more so among the some 125 nationalities. In 1980, the Russian Republic, by far the largest republic, had an estimated fertility rate of 1.9 births per woman (as did the U.S.) and the rate was just 2.0 in other two Slavic republics, the Ukraine and Belorussia. In the Central Asian republics the rates ranged up to 5.8. Although the Russians will doubtless continue to be the dominant nationality, low fertility and a relatively higher death rate will reduce their share of the total population to less than half by the end of the century. Fertility has begun to decline in the Muslim republics from their extraordinarily high level, but by 2000 they are still expected to have rates of natural increase

as high as 2.1 percent a year - 14 times the projected rate in the Russian Republic.

The implications of this disparity for future labor supplies and military manpower is of major concern for the Russians in the Kremlin, as noted earlier. Annual additions to the population of working age is dropping sharply during the present decade and virtually all net increases will come from the high-fertility, non-Slavic regions. By 2000, one-third of all 18-year-old males available for military service will come from the southern republics, compared to 19 percent in 1970, while the share of 18-year-old males in the Russian Republic is expected to drop from 56 percent to 44 percent.

Policies to lure people to cities for work in factories have been almost too successful. Since the Soviet Unions's formation after 1917 Revolution, the population has shifted from 82 percent living in rural places to almost two-thirds (64 percent) urban in 1982 but the proportions vary sharply among the 15 republics. In some republics, "excessive" migration of young people from rural areas has reduced rural birth rates below those of urban areas and created manpower shortages for priority agricultural projects. In others, the urban population share has not changed in the last decade and has even dropped in one case, Tadzhikistan, due to high rural fertility and virtually no rural-urban migration.

The new population policies adopted to date have ignored the problem of rising death rates. In its first four and a half decades, the Soviet Union recorded a remarkable drop in the death rate from 29.1 deaths per 1,000 population to a low of 6.9 in 1964. Since then, however, there has been an officially reported increase of over 50 percent to 10.3 in 1980, with a slight decrease in 1981 (to 10.1). This rise is more than can be accounted for by

the increasing proportion of elderly persons in the population and is due to past sharp increases in death rates for infants of the 1970s and males aged 20-44 in particular. Why this is happening is not clear. Doctors and hospital beds have increased, but may still be too few or too poorly distributed and utilized to cope with the magnitude of the health care task, which is compounded by shortages of medicines and medical equipment and rampant alcoholism, especially among Slavic males.

Soviet demographic problems are interwoven with the country's serious economic problems. While annual growth in industrial labor productivity is still higher than in the U.S, the long-term trend is clearly downward in the Soviet Union, promising the regime more difficulties in maintaining past economic growth.

DATA PROBLEMS

Any report on the Soviet Union is hampered by a scarcity of reliable data. Since Lenin decreed that statistics should be "practical and not scholastic," both the quantity and explanation of published data have been erratic. Almost no data were published from 1936 until 1956 under Khrushchev, three years after Stalin's death. Annual statistical handbooks with varying amounts of population data have since appeared regularly, an important handbook on population was published in 1975, and the Central Statistical Administration has occasionally released population data in its Vestnik statistiki (Statistical Herald). Published results from the 1959 and 1970 censuses amounted to only about 3,000 pages for each, far short of the effort for the 1926 census, though much more than was published from the 1939 census. After nearly five years, only some results from the January 1979 census have appeared in Vestnik statistiki and the general media and it seems increasingly likely that no official census volumes will be published. Most

worrisome is the absence of crucial data on age structure. This would not be unprecedented in Soviet statistical practice where figures that become inconvenient may be dropped or redefined-a practice that can occur in other countries, but raised to a fine art in the Soviet Union.

Statistical series from other sources besides the census have also disappeared in recent years. For example, no life expectancy data have been published since 1971-72; no infant mortality data since 1974; no data on death rates by age and sex since 1973-74 and by age since 1975-76; and no information on doctors by specialty since 1975. Also absent are data on female births since 1973 and on births by nationality, except for estimates from secondary sources. Soviet sources provide some information and outside experts have filled some of the gaps, most notably by Godfrey Baldwin, Foreign Demographic Analysis Division of the U.S. Bureau of the Census whose estimates and projections I gratefully used.

THE BACKGROUND:

EARLY SOVIET PERIOD

From the launching of the USSR in November 1917 to the early post-World War II years, Soviet population history was one of almost continual catastrophe. The country's participation in World War I ended with the signing of the Brest-Litovsk Treaty in March 1918, but the war's military toll continued to mount as many wounded soldiers later died. Simultaneously, other events caused further heavy population losses. Some 2 million persons were lost in the civil war of 1919-21 or in combat with foreign armed forces sent to try to oust the new government, and with the flight of dissenting "White Russians." Over 3 million persons died between 1917 and 1923 in epidemics of cholera, typhus, typhoid, and dysentery.

The first of three famines in Soviet history, in 1922-24, is estimated to

have taken a toll of 5 1/2 million deaths. Another 5 million persons died during the liquidation of kulaks (private farmers) and forced land collectivization in the early 1930s. The next famine of 1932-34 claimed another 5 million or more lives. The purges and camps of the 1930s may have led to the deaths of at least 5 to 10 million people. During World War II, direct war-related deaths alone totaled over 20 million, many more died from causes less directly related to combat, and annual births dropped precipitously. Many Soviets left as workers in German industry or the retreat of the Germans, never to return. In 1946-47, a third famine in the grain-growing Kuban region of the Russian Republic led to an unknown number of additional deaths. In August 1973, the Soviet population reached the benchmark figure of 250 million. It is estimated that with "normal" growth rates of 1.5 or 1.75 percent a year from 1917 to 1973, the figure would have been 125 million to 200 million higher by that date.

REPUBLICS AND NATIONALITIES

The 15 republics of the Soviet Union are usually grouped by region. The three Slavic republics are the Russian Republic, or RSFSR, stretching nearly the whole width of the country, and the Ukraine and Belorussia to the west and north. The RSFSR contains 52 percent of the country's population and produces 60 percent of the gross industrial product. The Baltic republics, in the north-west corner, are Estonia, Latvia, and Lithuania. Moldavia in the far west, encompasses much of Bessarabia, once part of Romania, and is largely agricultural. The Transcaucasian republics, in the southwest, comprise the ancient countries of Armenia and Georgia, as well as Azerbaydzhan, which borders Iran and has a largely Muslim population. Muslims also predominate in the five remaining republics - Kazakhstan and the four of Central Asia (Kirgiziya, Tadzhikistan, Turkmenistan and Uzbekistan) - except in the north

of Kazakhstan where there are many Russians who came to work in Khrushchev's Virgin Lands agricultural program in the late 1950s and in the military and space facilities located in that region. The four Central Asian republics are split between high proportions of Russians in the large cities and native peoples in rural areas, who move only reluctantly to the cities of their own republics, let alone to other parts of the Soviet Union. This poses a problem for Soviet authorities who are counting on the burgeoning Central Asian populations to offset growing labor shortages in the low-fertility, industrialized northwest of the country and in Siberia.

The 15 republics bear the names of the country's 15 basic nationalities (many of whom live outside "their" republics), make up 90 percent of the total population. Altogether, there are some 125 nationalities. Russian is the language of national affairs, business, and the army, and a necessity for anyone who wants to get ahead. Soviet leaders also see wider use of Russian as a way to "sovietize" other groups and thus, for example, to spread the Russian small-family ideal among non-Slavic peoples. However, some 127 different languages are still spoken in the country, 18 of them by at least a million people each. Radio programs are broadcast in 67 languages, school textbooks are printed in 52 and journals in 42, theaters give performances in 47, and works of fiction are reportedly printed in 76 different languages.

POPULATION GROWTH: 1950-1980

Table 1 shows the marked slowdown in overall Soviet population growth since 1950 and the continuing gap in the growth rates for different republics and regions. Since only a miniscule portion of Soviet citizens emigrates (and even fewer people enter the country intending to settle there), the national population growth rate is shaped almost solely by trends in fertility and mortality. However, migration across borders does make a difference in the

Table 1. Population Growth, 1950-1981, and Doubling Times at 1980-81 Growth Rate: USSR and Republics

(Population in thousands; estimate as of Jan. 1, except 1980, as of Jan. 15.)

USSR and republics	1950 population	1960 population	1950-60 annual percent increase	1970 population	1960-70 annual percent increase	1980 population	1970-80 annual percent increase	1950-80 percent increase (total)	1981 population	1980-81 percent increase	Doubling time at 1980-81 growth rate (years)
USSR	178,547	212,372	1.8	241,720	1.3	264,486	0.9	48.1	266,599	0.8	87
Slavic republics											
RSFSR	101,438	119,046	1.6	130,079	0.9	138,365	0.6	36.4	139,165	0.6	121
Ukraine	36,588	42,469	1.5	47,126	1.1	49,953	0.6	36.5	50,135	0.4	194
Belorussia	7,709	8,147	1.3	9,002	1.0	9,611	0.7	24.7	9,675	0.7	105
Moldavia	2,290	2,968	2.6	3,569	1.9	3,968	1.1	73.3	3,995	0.7	103
Baltic republics											
Estonia	1,097	1,209	1.0	1,356	1.2	1,474	0.8	34.4	1,485	0.8	93
Latvia	1,944	2,113	0.8	2,364	1.1	2,529	0.7	30.1	2,539	0.4	175
Lithuania	2,573	2,756	0.7	3,218	1.3	3,420	0.9	32.9	3,445	0.7	96
Transcaucasus											
Armenia	1,347	1,829	3.1	2,492	3.1	3,074	2.1	128.2	3,119	1.5	48
Azerbaydzhan	2,859	3,816	2.9	5,117	3.0	6,112	1.8	113.8	6,202	1.5	48
Georgia	3,494	4,129	2.7	4,686	1.3	5,041	0.7	44.3	5,071	0.6	117
Kazakhstan	6,522	9,755	4.0	13,009	2.9	14,858	1.3	125.4	15,053	1.3	53
Central Asia											
Kirgiziya	1,716	2,131	2.2	2,933	3.3	3,588	2.0	109.1	3,653	1.8	39
Tadzhikistan	1,509	2,015	2.9	3,900	3.7	3,901	3.0	158.5	4,007	2.7	26
Turkmenistan	1,197	1,564	2.7	2,159	3.3	2,827	2.7	136.2	2,897	2.5	28
Uzbekistan	6,264	8,395	3.0	11,799	3.5	15,765	2.9	154.5	16,158	2.5	28

overall growth rate of some republics.

REGIONAL DIFFERENCES

Between the 1950s and 1970s, annual growth rates declined in all but two republics (Lithuania and Turkmenistan), but the gaps between the rates, though narrowed, still remain.

In the 1950s, the lowest average annual growth rate among the 15 republics was recorded in Lithuania (0.7 percent) and the highest in Kazakhstan (4.0 percent). Kazakhstan's high rate was probably due as much to the influx of hundreds of thousands of workers for the Virgin Lands project and military and space operations as well as high fertility among the native Muslims. By the 1970s, Kazakhstan's annual growth rate had dropped to 1.3 percent (Table 1). In the 1970s, the RSFSR and the Ukraine had the lowest average rates (both 0.6 percent), and Tadzhikistan's was the highest (3.0 percent). Tadzhikistan's fertility rate has risen since the mid-1960s and is the highest of all the republics at 5.8 births per woman.

In the 1950s, population in the Central Asian republics as a group was growing close to twice as fast as that of the Slavic region; by the 1970s it was growing 4 1/2 times as fast.

Population growth in the RSFSR, the dominant Slav republic, is likely to stabilize or even rise slightly in the near future as former residents return or new ones arrive to work in the Non-Black-Earth Zone and other high-priority projects located in that republic, such as the 2000-mile-long Baikal-Amur Mainline railway being built across Siberia. Growth in Central Asia may decline in the next decade as some Russians return to the RSFSR and a few natives respond to official efforts to recruit Central Asian workers for labor-short industries in the north. In the long run, Central Asian fertility should decline as increasing education, urbanization, and female labor force

participation have some impact. Nonetheless, this decline will not lower the region's rate of growth to the level recorded or projected for the RSFSR.

Absolute numbers tell the same story as growth rates. The country's total population grew from 179 million to 264 million, or 48 percent, in the three decades from 1950 to 1980 (Table 1). The Slavic republics grew by one-quarter to one-third, while the high fertility, mostly Muslim populations of all the southern republics, with the exception of Georgia, increased by 100 to 150 percent, or four to five times as much.

The "doubling time," or the number of years it would take a population to double in size if the current growth rate were to continue, is a useful measure of the growth differential. At their 1980-81 growth rates of 0.4 percent to 0.7 percent, the populations of the three Slavic republics would take an average of 140 years, or almost one and a half centuries, to double (Table 1, last column). For the four Central Asian republics, the average based on their 1980-81 growth rates is 30 years.

AGE AND SEX COMPOSITION

Trends in fertility, and in migration in some areas, have naturally affected the age distribution of the population in different ways, while disturbing trends in male mortality have left their mark on the balance between the sexes.

AN AGING POPULATION

As in all industrialized countries, declining fertility has increased the share of the elderly in the Soviet population and thus led to a general "aging" of the population. In the Soviet Union, the "over-age" or "pension" years begin at age 60 for men and 55 for women. Workers' rights to retire on pension at these early ages will probably be maintained, but with growing shortages of people in the "able-bodied" or working ages, pensioners are being

encouraged to remain at, or return to, work. Age 16 now defines the official lower end of the working-age population but this may be raised to age 18 since most children now complete the full basic ten-year school program, which begins at age seven, and the goal is to provide compulsory ten-year schooling to all children.

Nationwide, the proportion of men and women in the "pension" ages increased from 10.4 percent in 1950 to 15.4 percent in 1980 and it is projected to grow to 19.1 percent in 2000. The Soviet national figures mask sharp regional differences. In the low-fertility Russian Republic, the proportion of retired persons is expected to reach 22 percent by the year 2000 -- a worrisome prospect for national leaders concerned about labor force supplies in this republic which still contains over half the national population and produces 60 percent of the gross national product. In the four Central Asian republics and in Kazakhstan and Azerbaydzhan, continuing high fertility is expected to keep the "elderly" share of the population at 10 percent in the year 2000, as it is currently.

The aging of the population is also reflected in the projected rise in the average age of the population. For the country as a whole, the average age is expected to increase from 28.7 years in 1975 to 33.1 years by 2000. Again, the regional differences are wide. For example, the comparable figures for the RSFSR are 31.1 and 37.1 for the years 1975 and 2000; and for Uzbekistan, 17.8 and 20.7.

In many rural areas, the aging process has been hastened by the outmigration of young adults. This "deformation" of the rural age structure which two leading Soviet demographers have cited as particularly disturbing for the Non-Black-Earth Zone program on which Moscow places such hopes for increasing the country's food supply. In a May 1982 speech on the food

problem, Brezhnev included the exodus of young adults among the many problems plaguing Soviet agriculture. With no age data yet published from the 1979 census, this trend cannot be documented for the past decade. However, Soviet leaders' public references to it indicate that the trend revealed by the 1959 and 1970 censuses still persists. Between those earlier dates, the number of persons aged 20-24 in the rural population of the RSFSR dropped almost 50 percent; those aged 25-29, by more than 50 percent; and those aged 30-34 by roughly 20 percent. By contrast, for the same period, the decline in persons aged 20-24 and 25-29 in the rural population of Uzbekistan was only about 20 percent, and the number of those aged 30-34 actually increased by 14 percent.

THE YOUNG POPULATION

The impact of differential fertility on population age structure is most noticeable when we look at trends in the share of children aged 0 to 9 in different republics. Such data are readily available from published material from the 1959 and 1970 censuses. For the comparable figures as of the 1979 census for which there are so far no straightforward published age data, an indirect method was used (See Table 2).

As expected, children aged 0 to 9 as a proportion of the total population dropped sharply in the three Slavic republics, from some 21 percent in 1959 to 15 percent in 1979. In the four Central Asian republics where fertility has remained high, the proportions of young children remained at about 30 percent in three republics. Only Kirgiziya had a drop of more than one percentage point -- from 29.5 to 25.3 percent. This could be because Kirgiziya has a higher proportion of low-fertility Russians than the other three Central Asian republics, especially in its capital city, Frunze.

Absolute numbers reveal still sharper differences. In the RSFSR and Belorussia, the number of children aged 0 to 9 dropped by 21 percent in these

Table 2: Population Aged 0-9 Years, USSR and Republics: 1950, 1970, 1979.

USSR and republics	Percent of total population			Number		
	1959	1970	1979	1959 (thousands)	1979 (thousands)	Change 1955-79 (percent)
USSR	22.2	18.6	16.8	46,362	44,056	- 5.0
Slavic republics						
RSFSR	21.9	16.4	14.8	25,768	20,340	-21.1
Ukraine	18.9	16.0	14.2	7,890	7,055	-10.6
Belorussia	22.0	18.4	14.8	1,768	1,406	-20.5
Moldavia	25.8	20.6	17.7	744	700	- 5.9
Baltic republics						
Estonia	15.8	14.6	14.1	189	207	9.5
Latvia	15.1	14.8	13.6	316	341	7.9
Lithuania	18.7	18.0	15.9	507	539	6.3
Transcaucasus						
Armenia	29.0	25.8	20.7	512	630	23.1
Azerbaydzhan	29.4	30.4	23.2	1,086	1,396	28.6
Georgia	21.5	20.2	17.4	869	867	- 2.3
Kazakhstan	27.8	25.3	22.9	2,585	3,367	30.3
Central Asia						
Kirgiziya	29.5	28.8	25.3	609	891	46.3
Turkmenistan	30.4	31.9	29.0	460	803	74.6
Uzbekistan	30.2	31.8	29.2	2,451	4,492	83.3

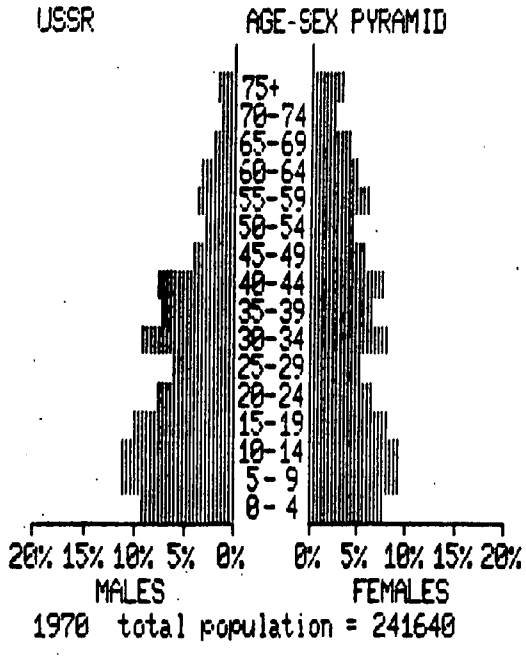
two decades, and 11 percent in the Ukraine (Table 2). The decline in numbers of young people in the RSFSR must be of special concern to national leaders, most of whom are ethnic Russian. It should be noted that ethnic Russians comprise about 85 percent of the population of the RSFSR, or Russian Republic, 52 percent of the national total population, and many live outside the RSFSR.

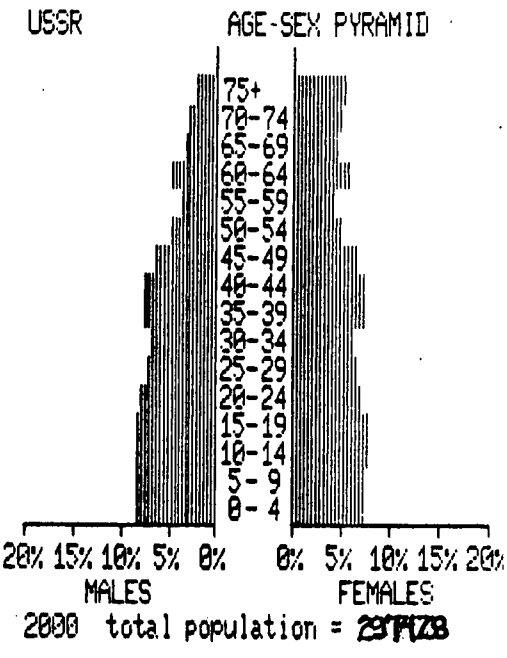
In contrast to the situation in the Slavic republics, the number of children aged 0 to 9 increased rapidly between 1959 and 1979 in the six predominantly Muslim republics -- by some 30 percent in Azerbaydzhan and Kazakhstan, and by 46 percent to nearly 90 percent in the four Central Asian republics. It is projected that by 2000, children aged 0 to 9 in the six Muslim republics will total 85 percent of the total in that age group in the RSFSR. Since these children will in turn become members of the armed forces, workers, and parents, they will thus determine much of the future character of Soviet society.

SHORTAGE OF MALES

Of the two sexes, men have been most affected by abnormal events and trends in Soviet population history. The country's huge military losses in World Wars I and II left a severe imbalance of the sexes in the population which is still evident in the deficit of males aged 55 and over in the country's population age-sex pyramid for 1970 to 2000. The effect of World War II is in the large deficit of births in 1940 to 1945, represented by the "pinching" of the pyramid in the 25-29 age group (of both men and women) in 1970 and 55-59 in 2000. (Figure 1) It appears that the abnormally high death rates in the past two decades among males in the prime working ages 20-44 have contributed to a continued shortage of males in the population. Among the results released from the 1979 census was the fact that men still constituted only 46.6 percent of the total population. This is a low share; normal

FIGURE 1-- USSR POPULATION AGE-SEX PYRAMID: 1970 AND 2000





percentages for developed countries are 48 to 49 percent. (The figure for the U.S. in 1979 was 48.7 percent.) Males in the Slavic and Baltic republics have been much more affected than those in the southern Transcaucasian and Central Asian republics.

The effects of World War II can be seen in the data from the 1959 and 1970 censuses on the percentages of males by age group shown in Table 3 (page 18). In the total population in 1959, males constituted only 45.3 percent of the 30-34 age group (the group most likely to have fought in the 1940-45 war), compared to 49.0 percent in the 25-29 year-old group. In the 1970 data, there is a similar dropoff between the male share (49.1 percent) among 35-39 year-olds and the male proportion (46.1 percent) among 40-44 year-olds.

Overall, in 1959, males made up 45.0 percent of the population. By 1970, their share was up to 46.1 percent, a gain of 0.1 percentage point per year. The recovery of males in the population might have been expected to continue apace in the 1970-79 intercensal period with the birth of new cohorts (distributed normally according to sex) and the death of older cohorts (with their war-induced sexual imbalance). Instead, the percentage of males in 1979, 46.6 percent, represents a slowing in the rate of recovery to only 55 percent of the annual rate for 1959-70. Again there is a regional difference, with Slavic and Baltic men showing markedly low percentages in 1979, while the male proportions are in the normal 48-49 percent range in the southern republics.

This continuing shortage of males is probably linked to increased male mortality, especially at ages 20-44. The fact that the shortage appears in the Slavic and Baltic republics could be because alcoholism - a prime contributing factor in "premature" male deaths - is common in these northern regions but not in the Muslim republics. Also, the recurring influenza

Table 3: Percentage of Males in Total Population and Selected Age Groups, USSR and Republics: 1959, 1970, 1979.

USSR and republics	1959		1970	1979			
	Total	25-29	30-34	Total	35-39	40-44	Total
USSR	45.0	49.0	45.3	46.1	49.1	46.1	46.6
Slavic republics							
RSFSR	44.6	49.6	45.5	45.6	49.1	46.0	46.0
Ukraine	44.4	48.1	43.9	45.2	48.4	45.0	45.8
Belorussia	44.5	46.5	42.4	46.0	47.6	44.6	46.5
Moldavia	46.2	46.1	44.8	46.6	46.8	45.2	47.1
Baltic republics							
Estonia	43.9	48.0	42.9	45.7	48.6	45.7	46.2
Latvia	43.9	48.1	41.2	45.7	48.7	44.4	46.1
Lithuania	45.9	46.9	43.1	46.9	47.5	44.6	47.2
Transcaucasus							
Armenia	47.8	48.7	48.6	48.8	50.1	49.7	48.7
Azerbaydzhan	47.5	49.8	49.1	48.5	50.7	50.4	48.8
Georgia	46.1	47.6	47.3	47.0	49.1	48.7	47.1
Kazakhstan	47.5	51.2	46.7	48.1	51.1	47.0	48.3
Central Asia							
Kirgiziya	47.2	48.7	47.7	47.8	49.6	47.8	48.0
Tadzhikistan	48.7	47.7	50.0	49.2	49.4	50.7	49.4
Turkmenistan	48.2	49.1	47.8	49.2	51.0	49.4	49.0
Uzbekistan	48.0	48.2	49.2	48.7	50.1	49.9	49.1

epidemics of the 1970s may have taken a greater toll among the larger numbers of World War II veterans in the crowded cities of the north. The rise in infant mortality during much of the 1970s may also have had an impact on the distribution of the sexes, inasmuch as male infants tend to be weaker than female infants and hence more likely to die in infancy. Thus, the shortage of males evident in the total population may be particularly marked in the youngest age groups and at ages 20-44. Only detailed age data from the 1979 census can throw light on this possible outcome of the rise in death rates - a rise which is unprecedented for a developed country.

FERTILITY

It is an axiom of the "demographic transition" that as a country develops its industrial base and urban patterns of life predominate, and as educational attainment increases (especially for women), then the crude birth rate, total fertility rate, and other measures of natality will decline. For the Soviet Union, the answer is yes, but....

The overall crude birth rate of the USSR has declined dramatically since 1950 and the trend in the total fertility rate has been generally parallel. However, the national authorities have intitiated a pro-natalist policy which they hope will lead to an increase in fertility. This policy is contrary to world hopes for continued reduction in global fertility, but the Soviet top leadership is anxious to encourage the growth of families, births and child care in their own country.

FERTILITY TRENDS

From 26.7 births per 1,000 population in 1950, the crude birth rate for the country as a whole fell by over one-third by 1969, when the rate was 17.0 (see Table 4, and Figure 3). Since then there has been a slight rise-up to 18.5 on 1981-an increase of just under 9 percent. Why this increase? Most of

Table 4: Crude Birth Rate, USSR and Republics: 1950-1981
(Births per 1,000 population)

USSR and republics	1950	1955	1960	1965	1970	1975	1980	1981
USSR	26.7	25.7	24.9	18.4	17.4	18.1	18.3	18.5
Slavic republics								
RSFSR	26.9	25.7	23.2	15.7	14.6	15.7	15.9	16.0
Ukraine	22.8	20.1	20.5	15.3	15.2	15.1	14.8	14.6
Belorussia	25.5	24.9	24.4	17.9	16.2	15.7	16.0	16.3
Moldavia	38.9	30.4	29.3	20.4	19.4	20.7	20.0	20.5
Baltic republics								
Estonia	18.4	17.9	16.6	14.6	15.8	14.9	15.0	15.4
Latvia	17.0	16.4	16.7	13.8	14.5	14.0	14.0	14.0
Lithuania	23.6	21.1	22.5	18.1	17.6	15.7	15.1	15.1
Transcaucasus								
Armenia	32.1	38.0	40.1	28.6	22.1	22.4	22.7	23.4
Azerbaydzhan	31.2	37.8	42.6	36.6	29.2	25.1	25.2	26.3
Georgia	23.5	24.1	24.7	21.2	19.2	18.2	17.7	18.2
Kazakhstan	37.6	37.5	37.2	26.9	23.4	24.1	23.8	24.3
Central Asia								
Kirgiziya	32.4	33.5	36.9	31.4	30.5	30.4	29.6	30.8
Tadzhikistan	30.4	33.8	33.5	36.8	34.8	37.1	37.0	38.3
Turkemenistan	38.2	40.7	42.4	37.2	35.2	34.4	34.3	34.3
Uzbekistan	30.8	34.3	39.8	34.7	33.6	34.5	33.8	34.9

it is probably due to an increase in the population share of women in the prime childbearing ages of 20-29, born during the modest postwar baby boom of the late 1940s and early 1950s. However, if Western projections are correct, the number of women of these ages in the country as a whole and their share in the national population will drop sharply. Thus the national crude birth rate will perforce drop unless there is a marked upturn in the total fertility rate (a measure of the number of children each woman has) at present fertility levels for all age groups.

The crude birth rates of the different republics are, of course, disparate. The trend in the RFSFSR, with 52 percent of the national population (in 1981), heavily influences that of the country as a whole. Here the crude birth rate dropped by almost 50 percent from 26.9 in 1950 to a low of 14.1 in 1968, before rising slightly to 16.0 in 1981 (Table 4). The sharp drop to the end of the 1960s was probably due both to a real drop in fertility and to the outmigration of large numbers of young people to other parts of the country, especially to the Virgin Lands project in Kazakhstan.

Although Latvia had the lowest birth rate in 1980 and Tadzhikistan's was highest, the pattern in two other republics demonstrates well the range of the differentials. In the low range, Estonia's birth rate dropped by almost one-quarter from 18.4 in 1950 to 14.2 in 1967. Since then there has been an increase-less than 6 percent but an increase nonetheless-to 15.4 in 1981. In Uzbekistan, the rate of 30.8 recorded in 1950 was lower than any in the following three decades. In fact, Uzbekistan's birth rate rose to 39.8 percent in 1960 and has since declined to 34.9 in 1981 reflecting the decline in the republic's total fertility rate now under way. However, the birth rate is still high and is expected to be still about 30 - twice the projected national rate - in 1990. This is because the proportion of 20-29 year-old

women in Uzbekistan's population is still increasing and the total fertility rate is expected to decline only modestly during the 1980s. Figure 2 gives a clear graphic rendition of the comparative trends and the residual net growth.

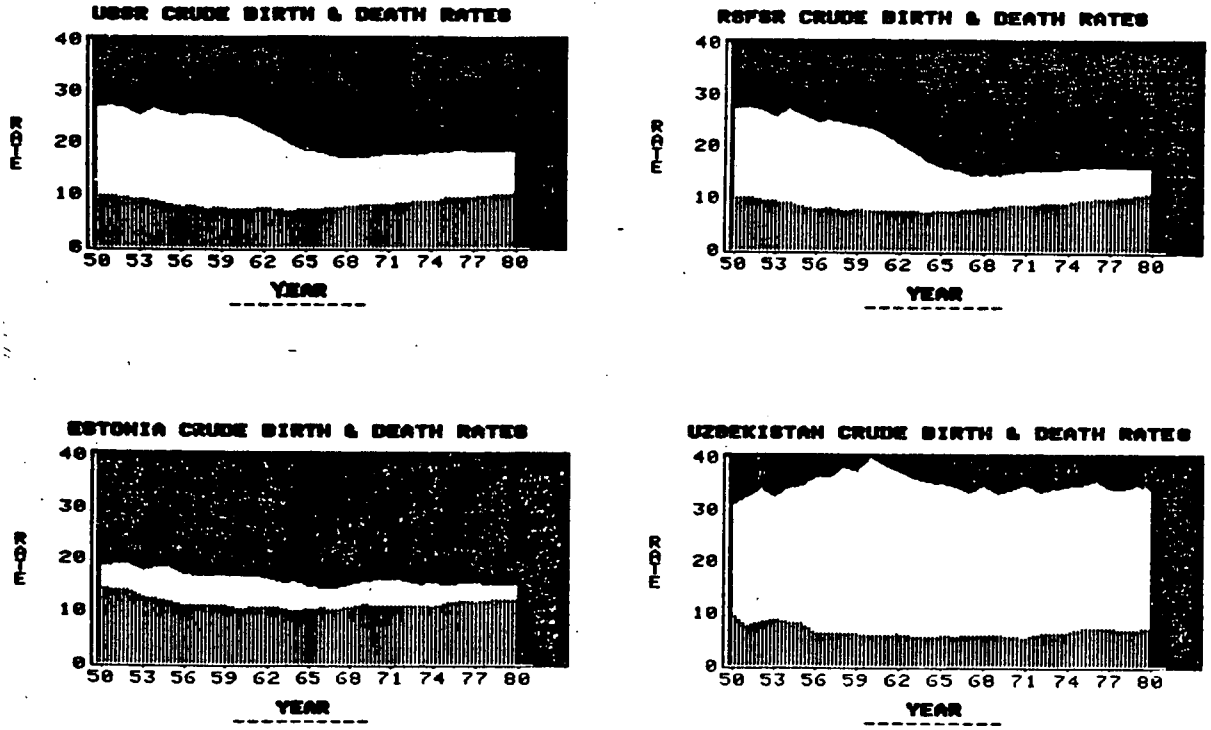
The total fertility rate gives an even clearer picture of trends and differentials in Soviet fertility because, unlike the crude birth rate, it is not affected by population age and sex structure. This rate indicates the average number of children women would have altogether if the age-specific fertility rates of a given year remained constant. (In the Soviet Union, age-specific fertility rates are recorded for women aged 15-49, not 15-44, as in the U.S. These rates have been officially reported for each year since 1971-72, but only sporadically before then.) For the country as a whole, the total fertility rate dropped from 2.8 births per woman in 1958-59 to 2.3 in 1980-81- a decline of 18 percent, without an increase during the 1970s as happened with the crude birth rate. (see Table 5).

Again, the national figures mask large differences in the rates for republics. The most recently reported figures (for 1980-81) show the six Slavic and Baltic republics with total fertility rates of 1.9 or 2.0 This is below the rate of 2.1 children per woman needed to "replace" the population in the long run. In the RSFSR, the total fertility rate has been at or below replacement level since the mid-1960s, as it has been in all six of these republics except for Belorussia and Lithuania.

In the Transcaucasus, the 1980-81 rates for Armenia (2.3) and Georgia (2.2) are also quite low compared to their 1965-66 rates of 3.9 and 3.0 respectively. But Azerbaydzhan in this region has experienced one of the most remarkable fertility declines - from 5.3 children per woman in 1965-66 to 3.2 in 1980-81 - a decline of over one-third.

Among the four Central Asian republics, the 1980-81 rate is lowest in

FIGURE 2.-- CRUDE BIRTH AND DEATH RATES, USSR, RSFSR, ESTONIA AND UZBEKISTAN: 1950 TO 1980



Kirgiziya, with its high proportion of Russians, especially in urban areas, but it is still a fairly high 4.1 children per woman. Tadzhikistan has the highest rate - 5.6. This is distinctly lower than the rate of 6.3 recorded only five years earlier, but it is still three times the 1.9 rate of the RSFSR. Uzbekistan, with a rate of 4.8 in 1980-81, has dropped below the rate of 5 or more children per woman recorded since 1958-59 for the second year.

NATIONALITY DIFFERENTIALS

Fertility differentials by nationality, or ethnic group, are even sharper than by republic.

The size of different nationality groups plays an important role in national economic, military, and political policies in the Soviet Union. The leadership has always been aware of the problems caused by the differences in culture and beliefs among the country's some 125 nationalities but has hoped that these would be overcome by a growing sense of common national purpose as communism matured.

The increasing numbers and shifting proportions of the major nationalities in the Soviet population are shown in Table 6. The 15 basic nationalities have added up to 90 percent of the total population in each of the three post-World War censuses: 1959, 1970 and 1979. However, the three Slavic nationalities (Russian, Ukrainian, and Belorussian) declined from 76 percent of the total population in 1959 to 72 percent of the total population in 1979. Meanwhile, the proportion of Muslims - dominated by the Azeri, Kazakh, Kirgiz, Tadzhik, Turkmen, and Uzbek nationalities - rose from 12 percent to 17 percent.

In 1979, about 10 million Slavs (mainly Russians) lived in the six basically Muslim republics (Azerbaydzhan, Kazakhstan, Kirgiziya, Tadzhikistan, Turmenistan, and Uzbekistan). At the same time, about 10 million Muslims

Table 5. Total Fertility Rate, USSR and Republics: 1958-59 to 1980-81.
(Birth rate per woman aged 15-49; rates are two-year averages)

USSR and republics	1958-59	1965-66	1967-68	1969-70	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
USSR	2.8	2.5	2.4	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3
Slavic Republics														
RSFSR	2.6	2.1	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9
Ukraine	2.3	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	1.9	2.0	2.0	1.9
Belorussia	2.8	2.3	2.2	2.3	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.2	2.0	2.0
Moldavia	3.6	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.4	2.4	2.4	2.4
Baltic republics														
Estonia	1.9	1.9	2.0	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0
Latvia	1.9	1.7	1.8	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9
Lithuania	2.6	2.2	2.2	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.0	2.0
Transcaucasus														
Armenia	4.7	3.9	3.5	3.2	3.2	3.1	2.9	2.8	2.8	2.7	2.6	2.5	2.4	2.3
Azerbaydzhan	5.0	5.3	4.9	4.6	4.3	4.1	4.0	3.9	3.8	3.8	3.6	2.8	3.3	3.2
Georgia	2.6	3.0	2.5	2.6	2.6	2.6	2.6	2.5	2.5	2.4	2.4	2.3	2.2	2.2
Kazakhstan	3.3	3.5	3.3	3.3	3.4	3.3	3.3	3.3	3.3	3.2	3.1	3.0	2.9	2.9
Central Asia														
Kirgiziya	4.3	4.7	4.7	4.8	5.0	4.9	4.8	4.8	4.8	4.8	4.6	4.4	4.1	4.1
Tadzhikistan	3.9	5.5	5.9	5.9	6.2	6.1	6.2	6.3	6.3	6.2	6.0	6.0	5.8	5.6
Turkmenistan	5.1	6.0	6.0	5.9	5.9	5.9	5.9	5.8	5.7	5.7	5.5	5.3	5.1	4.9
Uzbekistan	5.0	5.6	5.7	5.7	5.8	5.7	5.7	5.7	5.7	5.5	5.2	5.1	4.9	4.8

lived in the RSFSR, or Russian republic, alone. This is close to one-quarter of the estimated 44 million Muslims in the USSR in 1979 and may mean that the RSFSR's crude birth rate is somewhat higher than it would otherwise be.

Most of the differences in ethnic numerical growth are due to differential fertility, although changing mortality patterns may now also add to the differences, as death rates rise in the Slavic republics while remaining low in the "younger" Muslim republics. Little fertility-related information by nationality has been published. That ethnic fertility differentials play a role in determining the level of republics' birth rates is demonstrated by an almost unique set of fertility-related data by nationality, for Uzbekistan, shown in Table 7. The Russians, with about 13 percent of Uzbekistan's population in both 1959 and 1970, bore only 7 to 8 percent of the children in these years and had crude birth rates about 40 percent below the average for the republic (23.7 versus 37.0 in 1959 and 19.3 versus 33.5 in 1970). The Uzbeks, on the other hand, representing about 65 percent of the population, had crude birth rates 13 percent to 17 percent higher than the average, and contributed 69 percent of all children born in the republic in 1959 and 74 percent in 1970.

REASONS FOR FERTILITY DIFFERENTIALS

The underlying causes of ethnic fertility differentials range from the higher levels of urbanization, housing shortages, and women's education and employment in the northern Slavic and Baltic republics to Muslims' traditional emphasis on large families, low rates of divorce, and taboos on abortion.

Table 6. USSR Population by 15 Major Nationalities, 1959, 1970, 1979, and Projections for 2000 (Numbers in thousands)

Nationality	1959		1970		1979		2000	
	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total
USSR, total	208,827	100.0	241,720	100.0	262,436	100.0	300,000	100.0
Slavs	159,280	76.3	178,820	74.0	189,207	72.0	195,000	65.0
Russian	114,114	54.6	129,015	53.4	137,397	52.4	140,000	46.7
Ukrainian	37,253	17.8	40,753	16.9	42,347	16.1		
Belorussian	7,913	3.8	9,052	3.7	9,463	3.6		
Moldavian	2,214	1.1	2,698	1.1	2,968	1.1		
Balts	4,715	2.3	5,102	2.1	5,310	2.0	6,000	0.2
Estonian	989	0.5	1,007	0.4	1,020	0.4		
Latvian	1,400	0.7	1,430	0.6	1,439	0.5		
Lithuanian	2,326	1.1	2,665	1.1	2,851	1.1		
Transcaucasian, excluding Azeri	5,479	2.6	6,804	2.8	7,722	2.9		
Armenian	2,787	1.3	3,559	1.5	4,151	1.6		
Azeri	2,940	1.4	4,380	1.8	5,477	2.1		
Georgian	2,692	1.3	3,245	1.3	3,571	1.4		
Muslims, including Azeri	24,738	11.8	35,158	14.5	43,772	16.7	64,000	21.3
Kazakh	3,622	1.7	5,299	2.2	6,556	2.5		
Kirgiz	969	0.5	1,452	0.6	1,906	0.7		
Tadzhik	1,397	0.7	2,136	0.9	2,898	1.1		
Turkmen	1,002	0.5	1,525	0.6	2,028	0.8		
Uzbek	6,015	2.9	9,195	3.8	12,456	4.7		
Other Muslims,	8,973	4.2	11,171	4.6	12,451	4.7		
of which, Tatar	4,968	2.4	5,931	2.5	6,317	2.4		
Jews	2,268	1.1	2,151	0.9	1,811	0.7		

Table 7. Nationalities in Uzbekistan: Percentages, Birth Rates, and Share of Annual Births, 1959 and 1970

Nationality	Percent of total population		Birth rate (per 1,000 population)		Share of total births in each year (percent)	
	1959	1970	1959	1970	1959	1970
Total	100.0	100.0	37.0	33.5	100.0	100.0
Uzbek	62.1	68.5	41.7	39.2	68.9	74.4
Kazakh	4.2	4.0	34.3	36.9	3.9	4.3
Tadzhik	3.8	3.8	38.2	34.3	2.2	3.8
Karakalpak	2.1	2.0	39.1	33.5	0.6	1.9
Kirgiz	1.1	0.9	24.4	31.6	0.6	0.9
Turkmen	0.7	0.6	32.1	32.8	0.6	0.6
Russian	13.5	12.5	23.7	19.3	8.3	7.0
Ukrainian	1.1	0.9	26.0	23.0	0.7	0.6
Belorussian	0.1	0.2	34.4	25.1	0.1	0.1
Other	11.3	9.7	36.0	22.8	10.8	6.4

In the six northern republics in 1980, the urbanized share of the population ranged from 57 percent in Belorussia to over 70 percent in Estonia and in the most populous Russian Republic. Among the six Muslim republics, by contrast, the proportion was only 53 percent even in atypical Azerbaydzhan and ranged down to 34 percent in Tadzhikistan. For the country as a whole, the crude birth rate in urban areas was 17.0 per 1,000 population in 1980, compared to 20.4 in rural areas.

Urban housing shortages may explain much of this differential. The Minister of Housing I.V. Arkhipov virtually admitted in June 1981 that 20 percent of urban families are still required to share apartments. Most newlyweds are forced to live with their parents for many years before

receiving a place of their own.

CHILD CARE

Child-care shortages and inadequacies are another reason why Soviet working women are reluctant to have more than one or two children. Accompanying the drive to increase women's employment in the 1960s, child-care facilities were expanded but to date only 40 percent of the potential demand of preschool-aged children can be accommodated. There are many reports of overcrowded facilities and undertrained, overworked and underpaid staff resulting in high rates of illness among children. Many mothers refuse to resort to state-run centers, even when places are available. Nonetheless, the pronatalist policy puts much emphasis on the expansion and improvement of child-care facilities as an important key to increasing fertility without reducing women's employment.

DIVORCE

High rates of divorce also help reduce Slavic women's average fertility rates. Figures for 1979 from the republic of Kirgiziya illustrate the difference in Russian and Muslim divorce rates. In the capital, Frunze, with five times as many Russians as Muslim Kirgiz people according to the 1970 census, the divorce rate was 4.6 per 1,000 population compared to only 0.2 per 1,000 in a rural area of the republic with less than 5 percent Russians. Divorces have been easily obtainable and have mounted rapidly since the divorce law was liberalized in 1965. To combat this trend, the government has introduced experimental courses on family life in schools of the Slavic region, family counseling centers have appeared in some areas, and the recent intensification of the campaign against alcoholism (a major cause of divorce) is undoubtedly also aimed at lowering divorce rates.

ABORTION AND CONTRACEPTION[6]

Abortion is common among Slavic and Baltic women and rare among Muslim women. Since restrictions on abortion were again lifted in 1956, abortion has remained the primary source of birth control in the Soviet Union, by the Soviets' own admission. In a June 1981 news conference, Alexander Smirnov, deputy chief of the social planning and population department in the State Planning Committee (GOSPLAN), declared that there are "slightly" more abortions than births in the Soviet Union every year. If correct, this would be down from the previously estimated rate of three or more abortions for every live birth. An article published six months after Smirnov's statement reported that in some parts of the Russian Republic in 1979, "the relationship between abortions and births exceeds 3 to 1." A survey of 4,000 women in Minsk in Belorussia, reported in May 1981, found that among women who had had at least one abortion, more than 50 percent had had three or more and some 15 percent had had five or more. These figures cover only recorded legal abortions. Another survey of 400 women in Tomsk, RSFSR, who had abortions performed showed a range of up to 28 prior induced abortions.[7] Of these women, 64 percent had 1 to 3 abortions, 23 percent had 4-7 abortions, 8 percent had 8-10 abortions, and 5 percent had 11 or more. Among them, the ratio of births to abortions was 1:3, i.e., only 1 of every 4 pregnancies resulted in a live birth.[8] A survey in Leningrad suggests that 16 percent of all abortions are unreported. Thus the true rate of abortion may be higher than the presently claimed "slightly" more than one abortion for every live birth.

Soviet authorities appear to have mounted a campaign to restrict abortion, especially abortions of first pregnancies.

ILLEGITIMACY

B. Urlanis, a leading Soviet demographer, flatly advocated that women bear children on any basis, whether legitimate or not. One new Soviet citizen is good, he said, two would be better, and three the best, since the third child would increase population growth and the country's labor resources. Although illegitimacy was tolerated at the beginning of the Soviet regime, out-of-wedlock children were accorded fewer rights than legitimate children between 1949 and 1968. These rights have been restored and the Soviet leadership has endorsed this view by increasing allowances for single mothers by a multiple of four, as part of a new pronatalist policy. This will doubtless encourage a further increase in out-of-wedlock childbearing, which reportedly declined to about 7 percent of all births in the mid-1970s after hovering at 16 to 18 percent from 1944 to 1966, but has now climbed back to 9 or 10 percent of total births. This could have the unintended effect of contributing to the rise in infant mortality, since many studies, especially in the U.S., reveal that death rates tend to be higher among infants born out of wedlock.

Re-restricting divorce and abortion, if that comes to pass, and encouragement of out-of-wedlock childbearing may help boost Slavic (and especially Russian) fertility. Such measures would be irrelevant among the Muslim nationalites. On the other hand, Russian small-family norms can be expected to spread among younger, better educated Muslim women living in cities and working in "modern" jobs.

LABOR SHORTAGES AND MILITARY MANPOWER

A drop in annual increases in the working-age population and in numbers of draft-age males and shifts in the regional sources of manpower already confront Soviet planners in the 1980s. As a net result of past population

losses, increasing death rates among working-age men, and declining fertility, the leadership can no longer count on the traditional means of expanding industrial growth - abundant supplies of manpower, or new workers for new jobs. With declining fertility, military conscription may have to be extended from two to three years to compensate for a nearly half-million reduction in the number of 18-year-old males during the 1980s in order to maintain the Soviet armed forces at a level of some 5 million.

LABOR SUPPLIES

Brezhnev warned of impending manpower shortages and the need to compensate with increased labor productivity already at the 25th Party Congress in 1976:

> "In the 1980s, the resolution of this task [maintaining rapid industrial growth] will become especially imperative. This is linked first of all to the exacerbation of the problem of labor resources. We will need to depend entirely on raising labor productivity and not on mobilizing additional labor force."

During the period 1970-85, the net increase in the population of 20-59 years of age will be 30 million. During the period 1985-2000, the estimated increase will be only 6 million, or one fifth the prior rate.

The regional outlook is even more dismal. In the RSFSR (which alone produces 60 percent of the gross national product) and in the Ukraine, the (officially defined) working-age population (men aged 16-59, females aged 16-54) will actually decline in number between 1980 and 1995. Only in Central Asia will the increase be about the same as it was in 1975-80. By 2000, 20 percent of the country's working-age population are expected to be located in the four Central Asian republics and Kazakhstan, compared to 14 percent in 1980.

In the middle of the 1980s, the nationwide net gain in the working-age population (adding in young males and females who turn 16 and subtracting

Table 8. Projected Population of Working Ages, USSR, Selected Republics and Regions: 1980-2000. (Males aged 16-59, females aged 16-54. Numbers as of January 1, in thousands)

USSR, republics and regions	1980	1985	1990	1995	2000
USSR	154,806	158,455	160,796	163,728	170,968
Net increase in preceding 5 years	11,788	3,649	2,341	2,932	7,240
Index, January 1, 1975 January 1, 1980 = 100	100	31	20	25	61
Slavic republics					
RSFSR	83,791	83,543	82,462	81,817	83,449
Net increase	4,956	- 248	-1,081	- 645	1,632
Index	100	*	*	*	33
Ukraine	29,289	29,250	29,237	28,975	29,159
Net increase	1,933	- 39	- 13	- 262	184
Index	100	*	*	*	10
Belorussia	5,727	5,861	5,886	5,908	6,132
Net increase	451	134	25	22	224
Index	100	30	6	5	50
Moldavia	2,323	2,410	2,493	2,593	2,740
Net increase	193	87	83	100	147
Index	100	45	43	52	76
Baltic Republics	4,781	4,805	4,805	4,766	4,777
Net increase	218	25	- 1	- 39	11
Index	100	12	*	*	5
Transcaucasus	8,079	8,879	9,389	9,900	10,775
Net increase	1,162	800	519	502	875
Index	100	69	45	43	75
Kazakhstan	8,664	9,436	10,106	10,780	11,671
Net increase	1,148	772	670	674	891
Index	100	67	58	59	78
Central Asia	12,683	14,789	16,919	19,488	22,766
Net increase	2,291	2,106	2,130	2,569	3,278
Index	100	92	93	112	143

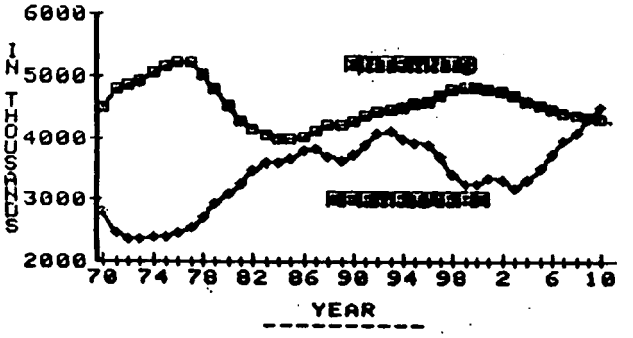
* not applicable

people dying during the working ages and those reaching retirement ages) will be just 300,000 per year, down from the peak annual gain of 2.7 million persons in the mid-1970s (See Figure 3). By 2000, the annual net gain should be back up to 1.9 million. But by 2010, it will be negative for the country as a whole.

A high 88 percent of working-age people already hold a job. Applying this employment rate to the projected numbers of men and women of working age suggests that labor force growth will drop to 0.44 percent per year between the census of January 1979 and January of 1990 and increase only to 0.61 percent per year in the 1990s. Between the censuses of 1970 and 1979, the annual growth was 1.77 percent, having increased from 1.38 percent in the prior intercensal period (1959 to 1970).

Few resources are available to expand the work force. Pensioners are being encouraged to remain at, or return to, work; the limit on how much a worker can earn and still draw a pension was raised in late 1979, and over 6 million pensioners reportedly held a job in 1980. The drive to mobilize women has led to reduced fertility and few unemployed women, except in the high-fertility southern republics. With an obligatory ten years of schooling, few young people enter the work force before age 18. Then 18- and 19-year-old men are drawn off to the military. Foreign workers scarcely fill the labor gap, though increasing numbers have been recruited in recent years, particularly from Bulgaria, North Korea and Vietnam. So far, their numbers are barely noticeable in comparison with the 2 million job vacancies in Soviet industry in 1981 and in a work force of perhaps 130 million. To maintain economic growth, Soviet planners thus have no alternative but to attempt to distribute existing labor supplies more "rationally" and find ways to increase industrial and agricultural efficiency and worker productivity.

FIGURE 3.--ENTRANTS AND DEPARTURES, USSR: 1970 TO 2000



As regarding the military implications of these changing fertility patterns, most potential draftees will come from the non-Slavic southern republics of the Transcaucasus, Central Asia and Kazakhstan (See Table 9). The dramatic increase in the share of potential conscripts from 18.7 percent in 1970 to 33.2 percent in 2000 will pose a problem to the efficiency of the Armed Forces precisely along the lines described by Admiral Sorokin, quoted above.

MORTALITY

Soviet party secretaries, health ministers, and scholars are now also acknowledging the health-care inadequacies that underlie the most unusual demographic problem--a rise in death rates among almost all age groups, but particularly among infants and young to middle-aged males. Brezhnev outlined current efforts to improve health care and continued shortcomings in his February 1981 speech to the 26th Party Congress. However, while crude death rates still appear regularly, all detailed data related to mortality have disappeared from the standard statistical publications since the mid-1970s.

MORTALITY TRENDS

Until the mid-1960s, the Soviet Union followed the standard demographic transition path of simultaneously industrializing and reducing mortality. Once past the catastrophic human losses of the country's first 30 years, the crude death rate stood at 9.7 deaths per 1000 population in 1950 (see Table 10), down from the pre-World War I level of 29. Among the republics, the officially reported rates for 1950 ranged from 8.0 in Belorussia to 14.4 in Estonia; in the United States the 1950 rate (9.6) was virtually the same. The Soviet Union officially recorded a continuing sharp decline in its national crude death rate to 6.9 in 1964. Since then, if official Soviet data are to be credited, the rate had increased by 50 percent to 10.3 in 1980 (the U.S.

Table 9. Males Aged 18, USSR and Selected Regions: 1970-2000.
(Estimtates as of July 1; numbers in thousands)

Regions	1970		1980		1990		2000	
	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total
USSR	2,238	100.0	2,542	100.0	2,135	100.0	2,544	100.0
RSFSR	1,261	56.3	1,251	49.2	959	44.9	1,124	44.2
Transcaucasus	113	5.0	170	6.7	141	6.6	176	6.9
Kazakhstan and Central Asia	307	13.7	495	19.5	504	23.6	668	26.3

crude death rate was 8.8 in 1980), with a slight decline since 1980.

A population's crude death rate increases when fewer children are being born and thus elderly persons--among whom death is more likely--make up a larger proportion of the total population. However, the dramatic rise in the national crude death rate of the Soviet Union is beyond what can be explained by the population's "aging" so far. If the age-specific death rates (see Table 11) had remained unchanged in the last half of the 1970s, the crude death rate would have been 9.8 rather than 10.3 in 1980.

The age-specific death rates for males and females separately, last published for 1973-74, show that men have fared much worse than women. In the prime working ages of 20-44, the death rates of males increased from levels which were 2 to 2 ½ times as high as those of females in 1963-64 to 3 to 3 ½ times as high in 1973-74 (see Table 12).

Table 10. Crude Death Rates, USSR and Republics: 1950-1981.
(Deaths per 1,000 population)

USSR and republics	1950	1955	1960	1965	1970	1975	1980	1981
USSR	9.7	8.2	7.1	7.3	8.2	9.3	10.3	10.2
Slavic republics								
RSFSR	10.1	8.4	7.4	7.6	8.7	9.8	11.0	10.9
Ukraine	8.5	7.5	6.9	7.6	8.9	10.0	11.4	11.3
Belorussia	8.0	7.4	6.6	6.8	7.6	8.5	9.9	9.6
Moldavia	11.2	8.3	6.4	6.2	7.4	9.3	10.2	10.3
Baltic republics								
Estonia	14.4	11.7	10.5	10.5	11.1	11.6	12.3	12.3
Latvia	12.4	10.6	10.0	10.0	11.2	12.1	12.7	12.6
Lithuania	12.0	9.2	7.8	7.9	8.9	9.5	10.5	10.3
Transcaucasus								
Armenia	8.5	8.8	6.8	5.7	5.1	5.5	5.5	5.3
Azerbaydzhan	9.6	7.6	6.7	6.4	6.7	7.0	7.0	6.9
Georgia	7.6	6.7	6.5	7.0	7.3	8.0	8.6	8.6
Kazakhstan	11.7	9.2	6.6	5.9	6.0	7.1	8.0	8.0
Central Asia								
Kirgiziya	8.5	7.8	6.1	6.5	7.4	8.1	8.4	8.0
Tadzhikistan	8.2	8.9	5.1	6.6	6.4	8.1	8.0	7.8
Turkmenistan	10.2	10.4	6.5	7.0	6.6	7.8	8.3	8.5
Uzbekistan	8.7	8.2	6.0	5.9	5.5	7.2	7.4	7.2

Table 11. Age-Specific Death Rates, USSR: 1958-59 to 1975-76.
(Deaths per 1,000 population in age group)

Age group	Two-year average rates							
	1958-59	1963-64	1965-66	1969-70	1970-71	1971-72	1973-74	1975-76
All ages	7.4	7.1	7.3	8.2	8.2	8.4	8.7	9.4
0-1[a]	40.6	28.8	26.1	24.7	22.9	24.7	27.9	31.1
0-4	11.9	7.8	6.9	6.9	6.7	6.8	7.7	8.7
5-9	1.1	0.8	0.8	0.7	0.7	0.7	0.7	0.7
10-14	0.8	0.6	0.6	0.6	0.5	0.5	0.5	0.5
15-19	1.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20-24	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.7
25-29	2.2	2.0	2.0	2.2	2.2	2.1	2.0	2.1
30-34	2.6	2.5	2.6	2.8	2.8	2.8	2.8	3.0
35-39	3.1	3.1	3.2	3.7	3.8	3.7	3.6	3.8
40-44	4.0	3.7	3.9	4.7	4.7	4.8	4.9	5.3
45-49	5.4	5.1	5.1	6.0	6.0	6.1	6.4	6.9
50-54	7.9	7.7	7.9	8.7	8.7	8.8	8.8	9.3
55-59	11.2	10.7	11.1	11.7	11.8	11.9	12.3	13.4
60-64	17.1	17.1	17.2	18.0	17.9	18.1	18.2	18.9
65-69	25.2	24.1	25.5	27.5	26.9	26.8	27.0	28.0
70 and over	63.8	63.6	65.8	75.7	74.9	74.8	73.5	75.0

[a]Figures for age 0-1 are for the second of the two years shown i.e. 1958-59 = 1959 data.

Table 12. Death Rates at Ages 20-44, by Sex, USSR:
1963-64 and 1973-74
(Deaths per 1,000 population in age group)

Age group	Males		Females		Ratio: Males/Females	
	1963-64	1973-74	1963-64	1973-74	1963-64	1973-74
20-24	2.2	2.5	1.0	0.8	2.2	3.1
25-29	2.8	3.1	1.2	0.9	2.3	3.4
30-34	3.7	4.4	1.5	1.4	2.5	3.1
35-39	4.5	5.4	1.9	1.8	2.4	3.0
40-44	5.4	7.4	2.5	2.6	2.2	2.9

INFANT MORTALITY

For infants under age one, the low point in the death rate was reported for 1971. The infant mortality rate that year was 22.9 deaths per 1,000 population aged 0-1 (Table 11). This represented a spectacular decrease to a little more than one-quarter of the rate of 80.7 reported for 1950. By 1974, however, the rate had gone up again to 27.9. No official infant mortality rates have been published since that time. A secondary source, co-edited by the then Soviet First Deputy Minister of Health, S. P. Burenkov, cited a slightly higher figure of 30.8 for 1975. By 1978, the rate may have reached 35 or 36, while there has been a possible decline to 27-28 since then.

All these rates are actually too low because they follow the unorthodox Soviet practice of excluding from the mortality totals the approximately 14 percent of infants of less than seven months' gestation, less than 1,000 grams in weight, and less than 35 centimeters in length who die within seven days of birth. Adjusted for this discrepancy, the estimated 1978 figure becomes 39 or 40--almost three times the U.S. infant mortality rate of 13.8 in 1978 (The 1982 U.S. rate was 11.2).

LIFE EXPECTANCY

The roller-coaster trends in age-specific death rates are reflected in the figures on life expectancy. The first officially reported post-war figures, for 1954-55, put life expectancy at birth at 64 years for males and females combined, 61 for females (see Table 13). A decade later, in the mid-1960s, the reported figures were up to 70 for both sexes combined, 66 for males, and 74 for females--exactly the same as the U.S. figures for these years (1965, 1966, and 1967), also shown in Table 13. From then until the last officially published figures, for 1971-72, life expectancy for both sexes combined and for females remained the same, but dropped by two years to 64 for

males.

Godfrey Baldwin, in a careful examination of data on births and deaths since the last published figures, for 1971-72, has estimated that life expectancy had dropped further by 1980 to 61.9 for males and was about the same, 73.5, for females (see Table 13, center column). In the U.S. in 1981--the last year for which the figures by sex are available--the figures were 70.7 for males and 78.3 for females.[9]

Baldwin's series of estimates in the center column of Table 13 suggests that, since the peak in 1964, life expectancy for Soviet males has dropped by five years (67.0 to 61.9) and female life expectancy has dropped by two years (75.6 to 73.5). Along with the decline for both sexes, the gap between them has widened. Already at the beginning of the 1970s a male child born in the Soviet Union could be expected to live ten years less than a newborn girl. Now the difference is 11.6 years. No other developed country has such a gap.

At a round table on family problems in early 1981, A. Volkov, head of the demography department of the Central Statistical Administration's research institute, gave an idea of the excessive male mortality that is widening the life expectancy gap between Soviet men and women. He stated that premature deaths of males now exceed divorces as a reason why women become heads of households. He gave no ages, but presumably was referring to people in the range from 30 to 50 when he reported that there were 8 million premature deaths between the 1970 and 1979 censuses, most of them occurring to males.

Table 13. Life Expectancy at Birth, USSR and United States

USSR						
Officially reported				Estimated		
Two-year average	Both sexes	Male	Female	Year	Male	Female
1954-55	64	61	67	1955	62.2	70.4
1955-56	67	63	69	1956	64.1	71.9
1957-58	68	64	71	1958	65.4	73.4
1958-59	69	64	72	1959	64.4	72.7
1960-61	70	65	73	1961	66.1	74.2
1962-63	70	65	73	1963	66.2	74.5
1963-64	70	66	73	1964	67.0	75.6
1964-65	70	66	74	1965	66.2	74.8
1965-66	70	66	74	1966	66.3	75.3
1966-67	70	66	74	1967	65.8	74.8
1968-69	70	65	74	1969	64.8	74.4
1970-71	70	65	74	1971	64.8	74.7
1971-72	70	64	74	1972	64.5	74.2
				1975	63.2	73.8
				1976	63.1	73.9
				1977	62.7	74.1
				1978	62.6	74.3
				1979	62.0	73.8
				1980	61.9	73.5

No wonder the 26th Party Congress in February 1981 paid such attention to population, family, and health issues!

Although few data were published, the adverse mortality trends did get some public mention in the 1970s. In an important article of December 1976 in the Russian Republic's health journal, Professor A. Boyarskiy listed the following among the problems that had "disturbing implications and required undeviating study:"--

1954-55 to 1980

United States			
Officially reported			
Year	Both sexes	Male	Female
1955	69.6	66.7	72.8
1956	69.7	66.7	72.9
1958	69.6	66.6	72.9
1959	69.9	66.8	73.2
1961	70.2	67.1	73.6
1963	69.9	66.6	73.4
1964	70.2	66.8	73.7
1965	70.2	66.8	73.8
1966	70.2	66.7	73.9
1967	70.5	67.0	74.3
1969	70.5	66.8	74.4
1971	71.1	67.4	75.0
1972	71.1	67.4	75.0
1975	72.5	68.7	76.5
1976	72.8	69.0	76.7
1977	73.2	69.3	77.1
1978	73.3	69.5	77.2
1979	73.8	-	-
1980	73.6	-	-

-- rise in the male age-specific death rates;

-- reduction in the rate of increase in life expectancy;

-- rise in the gap between life expectancy of males and females;

and on the next page he adds: "and in recent years, there has also appeared a disturbing tendency of an increase in infant mortality."

REASONS FOR MORTALITY CHANGES

MEDICAL CARE

As noted earlier, lower fertility has cut annual gains in new workers. With still fewer new workers available in the decade ahead, economic growth will depend more than ever on inducing managers and workers to be more efficient and making better use of existing machinery and factories.

There will also be increasing competition for scarce capital and labor. Currently, most capital investment goes to defense, agriculture and energy, leaving little room for increased attention to all other social and economic needs. With the rise in death rates, a chief claimant for expanded growth should be the health-care sector. Medical personnel and facilities grew faster than the population in the 1970s and the USSR now has twice as many health personnel as the U.S. But the emphasis has been on numbers rather than upgrading facilities and quality of health delivery. Thus the Soviet medical system apparently is unable to cope with the increasing challenges to the population's health. Physicians work short hours (28 hours a week), crowded clinics are open only part of the day, the waits are long, diagnostic work is haphazard, and doctor-patient relations are often unsatisfactory. Medical equipment is in short supply and often out of date and even such rudimentary medicines as aspirin are often unavailable, especially in rural areas.

That the leadership is concerned over these problems was evident in legislation issued in September 1977 which called for better doctor-patient relations, better access to polyclinic and out-patient service, and more medical equipment. No hint of the depth of the health problem was given by Brezhnev in his Accountability report at the 1976 XXVth Party Congress; only some minor problems at "some medical institutions," and resources had to be used fully as designated,[10] But no further details. However, the September 1977 decree provided a different picture as did his XXVIth Party Congress Accountability Report. At first Brezhnev lauded the growth in patient visits per polyclinic and expansion of cardiology centers and so forth. But he also noted the continued shortages of medical staff and medicines, and obsolescence of medical equipment. Increased efforts, the launching of research in medical demography, and another major decree on health in the summer of 1982, indicate

that the Soviet leadership is concerned about the nation's deteriorating health and death rates.

Table 14. Death Rates by Cause, USSR: 1960, 1970, 1980
(Deaths per 100,000 population)

Cause of death	1960		1970		1980	
	Rate	Percent of total deaths	Rate	Percent of total deaths	Rate	Percent of total deaths
All causes	713.4	100.0	822.4	100.0	1,033.3	100.0
Heart diseases	247.3	34.7	384.7	46.8	542.8	52.5
Cancer	115.5	16.2	127.2	15.5	140.0	13.6
Other	350.6	49.1	310.5	37.8	350.5	33.9

While I have noted many negative trends in the health status of the Soviet population in recent years, it should not be forgotten that they have also achieved much in the health area. Just before the Soviets took power, the country had only 23,000 physicians (in 1913), or about 1 per 5,700 persons. (By the end of 1981, there were about 925,000 physicians (excluding dental surgeons and dentists) in the USSR, or 1 doctor for every 291 persons. For the United States, the number of physicians and rate in 1979 is 473,000 and 1 for every 477 persons, respectively). When the Soviet regime was established, health conditions were dreadful. Epidemics of infectious diseases were particularly exacerbated by the wartime conditions, economic difficulties and the famine of the time. Between 1917 and 1923, deaths from cholera, typhus, typhoid and dysentery were estimated at over 3 million persons in a report prepared for the League of Nations. In December of 1919, Lenin spoke about the dangers to the new government from typhus epidemics in the strongest of words:

> "A....scourge is assailing us, lice, and the typhus that is mowing down our troops. Comrades, it is impossible to imagine the dreadful situation in the typhus regions, where the population is broken, weakened, without material resources, where all life, all public life ceases. To this we say, "Comrades, we must concentrate everything on this problem. Either the lice will defeat socialism, or socialism will defeat the lice!"[11]

from this difficult beginning to the present period, enormous strides have been taken and achieved. Nonetheless, as I have described in my submission on health to the latest compendium on the Soviet economy issued by the Joint Economic Committee[12] serious morbidity problems remain as witnessd by Soviet official statistics and comments in the medical literature. Moreover, since the preparation of the materials contained in this study for the Committee, more recent data published in the Soviet annual statistical compendium demonstrate that in 5 of the 7 infectious diseases listed, the numbers of cases and rates per 100,000 population increased between 1980 and 1981, with in some instances quite large increases. For example, the number of diptheria cases reported increased from 350 to 560 in 1980 and 1981, respectively. In the United States, with a population size not too much below that for the Soviet Union (roughly 230 and 270 millions, respectively) according to Center for Disease Control data, there were only 3 cases in 1980, having sharply dropped from 59 reported cases in 1979.

Thus, in sum, the health situation combined with the fertility and mortality trends have alerted the leadership of the Soviet Union that much attention needs to be paid to these issues. Whether the efforts made to date will suffice remains moot.

REFERENCES

1 Unless otherwise noted, this testimony is based on the following publications, (listed in order of publication date): Murray Feshbach, "Between the Lines of the 1979 Soviet Census,' Problems of Communism, vol. XXXI, no. 1, January-February 1982, pp. 27-37; Murray Feshbach, The Soviet Union: Population Trends and Dilemmas, "Population Bulletin," vol. 37, no. 3, Washington, DC, Population Reference Bureau, Inc., August 1982, 45 pp.; Murray Feshbach, "Issues in Soviet Health Problems," in US Congress, Joint Economic Committee, Soviet Economy in the 1980's: Problems and Prospects, Part 2, 97th Congress, 2d Session, Washington, DC, GPO, December 31, 1982, pp. 203-227; Murray Feshbach, "Trends in the Soviet Muslim Population--Demographic Aspects," in Ibid., pp. 297-322; and Murray Feshbach, "Population and Labor Force," in Abram Bergson and Herbert Levine (Eds.), The Soviet Economy: Toward the Year 2000, New York and London, Allen Unwin, 1983, pp. 79-111. In addition, Soviet official statistics are used to update various figures.

2 Murray Feshbach, "Prospects for Outmigration from Central Asia and Kazakhstan in the Next Decade," in US Congress, Joint Economic Committee, Soviet Economy in a Time of Change, Volume 1, 96th Congress, 1st Session, Washington, DC, GPO, October 10, 1979, pp. 690-691.

3 A.I. Sorokin, "Vooruzhennyye Sily razvitogo sotsializma," Voprosy filosofii, no. 2, February 1983, pp. 10-11.

4 Ibid., pp. 7-8.

5 Ibid., pp. 10-11.

6 Except as noted in footnote 4, above, based on sources listed in footnotes 0-48, in Feshbach, The Soviet Union, 1982, p. 42.

7 A.A. Radionchenko et al., "Early and Delayed Complications of Induced Abortions," Sovetskaya meditsina, no. 7 July 1983, p. 114.

8 (Ibid.)

9 U.S. Department of Commerce,a Bureau of the Census, Projection of the Population of the United States: 1982 to 2050 (Advance Report), Series P-25, No. 922, "Population Estimates and Projections," Washington, D.C., October 1982, p.1.

11 V.I.Lenin, Polnyye sobraniye sochineniy, Fifth edition, volume 39, Moscow, p. 410, cited in Igor Gubarev, Health Care, Moscow, Novosti, 1983, p. 10 (in English).

12 Soviet Economy in the 1980's: Problems and Prospects, (Part 2, pp. 203-227, espec. pp. 221-227).

Representative HAMILTON. Thank you very much, Mr. Feshbach. Just to begin, I am curious about the accuracy of the data. I notice that you have a section in your prepared statement on the data problems in the Soviet Union. How good are the data on all of these demographic questions that you have looked at? How much confidence do you have in those figures? Is their quality improving?

Mr. FESHBACH. "Improving" is a difficult word, also. And the degrees of confidence would vary by each individual figure. If we are talking about total numbers of people, that is one issue. If we are talking about figures on nationality composition, we have other kinds of problems because no documentation was required of the respondent to the census enumerator on what is their nationality. One could answer that you are a Tadzhik or a Chukchi or Nentsy or anything, even if your nationality was Moldavian, whatever that is in itself, too, because there is a debate between Romania and the Soviet Union as to that territory.

That being the case, most of the figures we think are reasonably correct, though not all of them. We have problems with the definition, so you have to learn the precise definition, compared to the practice used in other countries. Then, of course, there is the question of degree of availability.

As you know, between 1936 and 1956, the Soviet Union hardly published a single statistical handbook. There was one basically propaganda piece in 1938, an education handbook in 1940, and a secret plan, which was not issued, but was captured by the Germans. We captured that from the Germans and then the American Council of Learned Societies published it by the tens of thousands around 1945–1946, but that is all we had for those two decades, until the first handbook appeared 3 months after Khrushchev's secret speech in 1956, 3 years after Stalin's death.

Since then, they have published handbooks every single year with more or less continuity in the series. However, beginning around 1974–1975, many of these demographic materials have not been published in the basic sources, as, for example, even the number of doctors by specialty related to the question of the health issue. Now why the number of ophthalmologists should not be published or whatever other specialty by doctors, I do not know—these numbers are not the same as nonferrous metals, which have a direct impact on the military sector, for example.

In the demographic area, we have known that there are no infant mortality figures published since 1974 in the handbooks and no age-specific death rates since 1975–1976. That is an average for the 2 years, et cetera, et cetera.

Now on that basis, any estimates that we make since then, of course, are subject to all kinds of questions about completeness of coverage, and about the definition, of course. Maybe they changed the definition in the meantime, too.

That is possible.

Representative HAMILTON. You say, for example, that there is a very high death rate. You attribute that to inadequacies in the medical system, influenza, and alcoholism. You have said some very specific things with regard to the causes of the death rate. You have some confidence, then, in those figures, do you not?

Mr. FESHBACH. Oh, yes. I try to avoid giving a figure if I have no confidence in it. But always the question of the reliability of any particular figure has to remain.

INFLUENZA

Representative HAMILTON. Why can the Soviets not solve the influenza problem? I mean, that is medically a problem that you can deal with. Why do they have high rates of influenza?

Mr. FESHBACH. One, as we all know, the antigen that is the root cause of a particular influenza incidence or epidemic, if it gets that far, changes frequently from Victoria to Bangkok to Singapore to London, or whatever the particular category of that antigen is characterized.

It appears that until recently, the Soviets have been using a single vaccine, regardless of the antigen. Now if that is correct, then it is a general purpose vaccine rather than a specific purpose one.

Now there is some experimentation, I believe, going on at the Center for Disease Control to examine that particular vaccine. I would hope that they would be extremely careful with it. But some of the problem is in the quality of batch production in the vaccines by the Soviets, in its maintenance—that is, its storage—there are many reports of problems of improper storage facilities, refrigeration, et cetera.

Representative HAMILTON. Do these problems suggest a deterioration in the delivery system for medical products in the Soviet Union?

Mr. FESHBACH. Not of and by themselves. I think it has to be added onto many other pieces of evidence that the number of doctors and the number of beds, regardless of how high they are, the question is of how they are utilized. The availability of pharmaceuticals or medications is insufficient. The quality of X-ray film has been addressed by the former minister of health to say that health personnel could not read two-thirds of the film, according to one quote from 1977. That is in my Joint Economic Committee paper published earlier this year. Issues of the range of supply problems goes down even to the question of supply of needles at the present time. One recent source indicates, for example, a shortfall of 2 million out of a request for 2,300,000 for needles in one particular area.

This supply issue seems to be worse than it was before. Why do they not allocate more resources to it, of course, is the big question.

ALCOHOLISM

Representative HAMILTON. Let me ask you a few questions about alcoholism. We hear an awful lot about the alcoholism problem in the Soviet Union. How serious a problem do you perceive it to be among their national problems? Why do you think that there is such a high rate of alcoholism in the Soviet Union?

Mr. FESHBACH. I think it is a very important question related to both social and economic issues confronting the Soviet Government.

Representative HAMILTON. Is this a problem of such urgency that the Politburo would discuss it?

Mr. FESHBACH. Yes; I believe so. I believe so for a variety of different reasons. One is—first, let me go back. To understand, it is not just

the question of the quantity of alcohol that one consumes. That is, the average number of liters of pure alcohol divided by the per capita 15 years of age population.

In other words, the technical way that one normally measures the level of consumption. But it is the structure of what kind of alcohol one drinks, strong or hard liquor versus wine and beer, and the style in which you drink it. That is, when a bottle of vodka is opened in the Soviet Union, its intention is to be finished then, not later. And you do not just sip your drink, you—what is called "upoi," you chug-a-lug vodka. Now that is not a very elegant way of saying it, but that is the effect of it.

That, however, has an effect on the ethanol level in the blood almost immediately. Now it is a question also of regional differentials. There are some population of Muslim origin who do drink also, who do not totally follow the Koran in abstinence from drinking in the Soviet Union, at least. We are not talking about Iran or other places.

Nonetheless, the consumption per capita among the Slavic and Baltic peoples, the Russians, Ukrainians, Belorussians, Estonians, Latvians, and Lithuanians is very high, maybe three times as high as that by republics in the south, based upon some very interesting research done by Professor Treml of Duke University.

In this consumption, it then has affected the life expectancy of males, so much so that, according to official reports, life expectancy of males at birth between 1965–66, excuse me, for the combined years, but it is the way the basic statistic is presented, until 1971–72, went down by 2 full years officially reported by the Soviets. Mr. Baldwin, my former colleague at the Census Bureau, and I have estimated that male life expectancy is now down to around 62 years, a drop of 4 full years.

Representative HAMILTON. Does the Soviet Union stand out in that respect?

Mr. FESHBACH. Oh, very much so, way beyond any other country, and the gap between male and female life expectancy at birth now of around 11, 11½ years, ranks them among the very highest in that category. It is not the kind that one wants to be the highest among. Others perhaps, but not that one.

As a consequence, for example, one particularly important Soviet researcher, at a conference on family stability and family units and divorce issues, et cetera, noted alcoholism as being the primary cause of request for divorce certainly on the part of the female initiating divorce proceedings, indicated that more family units were dissolved between the two census periods of 1970 and 1979 in the Soviet Union due to premature mortality of one of the spouses than the number of divorces actually granted.

That is, some 8 million people died prematurely. Now, one would assume that premature ages in this case means ages 1930's through 1950's. Not initially when they first got married and not certainly later on when, on the average, they tend to die at a higher rate. These premature deaths are roughly two-thirds male, one-third female.

Now the consequence of alcoholism on females, and then transmitting it to the infant through fetal alcohol syndrome is, again, a very major worry among the Soviets. For example, again, former Minister

of Health Petrovski signed an article called, "Illness No. Three." Among females alcoholism is the third highest category after cancer and heart; not respiratory illnesses and not accidents or injuries, or other normal kinds of illnesses.

In addition, there is a great deal of evidence that the incidence of mental retardation among young Soviet children is growing due to this factor of alcoholism which is reported separately as growing among women at 5 percent per year.

Now the base is much lower than that among males, but, regrettably, it is increasing. And, again, it is not perfect here in this country.

Representative HAMILTON. But why do you have such a high rate of alcoholism in the Soviet Union?

Mr. FESHBACH. Well, I think in part it is due to the large number of—well, it may be due to choices of what one consumes. For example, in Latvia, it is stated that all the additional income that the farmers earned in the interval between 1970 and 1980 went to the consumption of alcohol rather than purchasing of standard consumer goods—socks, stockings, clothing, et cetera, et cetera.

That is a direct quote from an individual staff member of the Latvia ministry of health.

Another is the question, of course, of widowed, divorced women, single women, and that the incidence of alcoholism is very high among them. The question of whether it is a manifestation of dissatisfaction with the state, the economy, et cetera, is almost impossible to prove. There are hints at it in the Soviet literature. I would not be surprised if that is the case. But how does one really prove a statement to that effect. It is very difficult. It is very traditional to drink in the Soviet Union.

Representative HAMILTON. Do you think that the Soviet authorities recognize the high rate of alcoholism as a manifestation of social rebellion?

Mr. FESHBACH. Yes. From some tangential evidence that we have—again, I cannot state it very directly—but when you see their reference to the fact that at least 50 percent of hooligan acts—is the term that they use—is committed by persons who are then in a state of intoxication, of questions about the very high frequency of workers showing up for work who are drunk even before the day began, let alone those who get drunk on the job, in the activities of the MVD and other similar organizations to expand their activities in this area, and even just to reading the medical literature—you get an impression even stronger in that literature.

MILITARY MANPOWER

Representative HAMILTON. But let me ask you about the impact of the population trends on military manpower. You made a few comments on that in your statement and I would like you to elaborate a little bit. How serious for the Soviets is that problem of a shortage of younger males? What kind of an impact will that have on their military strength in the years ahead, and when will its impact be felt?

Mr. FESHBACH. Let me first start with the numbers and then lead up to some of the other issues. But abstracting from issues of hardware—I am talking about, if you wish, in a software sense, not including firepower and not CEP's or accuracy of missiles or anything like that

and what the kind of fighters you build, whether they are for defensive purposes or offensive or their range, et cetera. The numbers decrease very dramatically in this decade from 1975 to 1985, but actually 1987 will be the low point, by about 20 percent; that is, because of declines in fertility before, the number of young males potentially available to be drafted drops from around 2,500,000 in 1975 to 2,012,000 in 1987. It goes up to 2,100,000 in 1990 and 2,400,000 at the end of the century.

But it is not just numbers which are very important, but it is also their regional composition, thereby, their level of industrialization, their level of technological capabilities, and the level of Russian language ability, since Russian is the language of command, control, and communication within the military.

If I may just use an analogy without making any value judgments, in the United States, we are concerned with the issues of bilingualism. In the Soviet Union, they teach school in 52 languages. They have books published in 60 languages. They have theater in about 40 languages, et cetera, et cetera.

So with a variety of peoples such as this over this vast expanse, there certainly has to be a lingua franca. The question is how you make that langauge be used by everyone and whether you are having an adverse impact on the original culture and whether one forces it or not forces it is part of the issue.

So to the degree that there are potentially a larger group of young people available for the draft by age 18 since 1967—before that it was 19 years of age to be drafted—it means the question of what kind of troops you can assign them to.

One of the biggest debates we have had in the West—because we really do not know the practice that well—is over the question—do they assign the draftees by nationality, origin, in proportion to their size or do they assign them by degree of loyalty or whatever the case may be, which would have some impact on the question of the capability of the military. When Admiral Sorokin talked about number and origins, I believe he was referring to this nationality distribution problem. And earlier, the paragraphs I quoted in the written text about ethnic conflicts, language ability, et cetera. Chief of Staff Ogarkov has also talked about the nationalists problem, but only in a one-liner, rather than three paragraphs as I have quoted here.

The pattern seems to be that in the past, those of Central Asian origin—that is, of Muslim origin—largely were assigned to ancillary troops rather than to front-line or particularly elite troops, such as strategic rocket, navy and air force. We now believe that there are more of them assigned to such elite units, maybe even proportional to the population. Let us say 15 percent or so, or whatever, 16 to 20 percent. But that they are not assigned to "pulling the trigger" slots. That is, they are assigned to rear service activity even in these components of the Soviet military.

RUSSIAN LANGUAGE

Representative HAMILTON. Is the Russian language used throughout the military?

Mr. FESHBACH. Russian is used throughout the military. The question is do they understand it? And there are some surveys giving us very mixed results of ability to understand commands that would be

necessary, like "run," "stop," "fire," "retreat," or whatever the case may be. "Right column" and "march", that is not important. The others are important.

And there are some very contrary pieces of evidence, some saying that it is all solved and some saying that the language issue is a very serious problem still.

I come down on the "serious problem" side of the evaluation and this is what they are trying to prevent by initiating an incredible program of Russian language training even before entry in kindergarten, in preschool institutions, in which children of all non-Rusisan nationalities will participate.

Now one of your questions is what your success patterns would be if you do not know Russian. You may be able to stay in your own republic. There are limits to what you can do. But certain fields—physical mathematical fields, technical fields, are not available to people who do not study Russian.

So within the military, to the degree, then, that these young people, not only the numbers are changing, but the proportions of 18-year-olds coming from the eight southern Republics—that is, the Central Asian republics plus Kazakhstan, plus the three from the Transcaucasia—to the degree they know or do not know Russian fluently affects their combat ability, their responsiveness, et cetera. That number changes dramatically from around 19 percent in 1970 to one-third by the end of the century and it will increase even more beyond that.

MANPOWER SUPPLY POLICIES

Representative HAMILTON. You have a lot of social problems in the Soviet Union which contribute to the low manpower supply—high divorce rate, alcoholism, bad health care, high abortion rate, a lot of divorces, and I am sure many other things. How does the Government of the Soviet Union come up, then, with policies to attack these particular social problems?

Mr. FESHBACH. Yes. The question is in two parts, then, of earlier and more recently.

Until fairly recently, in fact, I think they ignored the problem. Like sort of "go away, do not bother us" kind of thing. But since the 1970's, I think they have taken much more serious legislative initiatives and other policies to try and cope with the problem. For example, in the initiation in 1981 of these two pronatalist policies of granting bonuses to women when they have their first child and second and third child, while previously, the bonus was only given beginning with the fourth. This would, of course, encourage the Central Asian women to keep on going to have 8 or 9 or more children, to become mother heroines with 10 or more surviving to about age 8 or so.

Even though the infant mortality rate was higher in Central Asia, the figures may not have been perfectly accurate. It may have been even higher, but still—seeking replacement, they continued to produce children, shall we say.

The issue of divorces: the divorce law was changed in 1965 and the officially registered number doubled in that 1 year, between 1965 and 1966, from 300,000 to 600,000 divorces. But many people do not register

their divorces because of housing shortages. Even as recently as 1981, some 20 percent of the urban population of the Soviet Union, according to the Minister of Housing, lived in shared facilities. Now that may be a shared bedroom, a shared kitchen, a shared bathroom, a shared entrance-way, whatever it may be, but not separate apartments.

To that degree, if you have good housing, you may accommodate to it, even though, in reality, you are not a conjugal pair, to use the technical term, of both married officially and behaving as a marital pair.

The number of divorces has continued to increase again by another 50 percent to the present time. But there are major differentials between the nationalities. If you look in one republic where there is some clear evidence, the ratio is 20 to 1 between a city which has Russians in almost the entire population and to one of the rural areas where the population is 99 percent of Muslim origin. And since not everybody remarries and not everybody who remarries has a child, this affects the birth rate which would then be the supply-side, as you talked about before, to the labor force, and the potential supply to the military in the future would be cut down, thereby, as well as causing a great deal of unhappiness during the divorce procedures.

Representative HAMILTON. You mentioned the pronatalist policies. What are those? Is that a financial incentive?

Mr. FESHBACH. Well, one part is financial incentives. Another is trying to increase the number of child care facilities available to the population. But that is still only up to 40 to 45 percent of potential demand of children 0 to 7 years of age.

Representative HAMILTON. Does every family get a stipend for each child in the Soviet Union?

Mr. FESHBACH. Now. The answer is yes, now, since—well, no, excuse me. Not quite now. Two months from now it will be yes, for everybody, because it will not come to Central Asia until November 1983. And we are still in September.

Representative HAMILTON. That is a payment from the government to the family for each child.

Mr. FESHBACH. That is right, each child. Then they get—at birth, they get a bonus. That is the 50 rubles that I mentioned earlier. At the fourth, it is 65 rubles. Then it increases through 10 or more.

Then, in addition, for each child over a certain number, you get a monthly quantum of money, a rather small amount. They also quadrupled the amount of money available to mothers of children born out of wedlock at the same time because they want children, regardless of what marital status the mother is in and whether there is a father or whatever available, even, in the household.

It went from 5 rubles a month to 20 rubles a month.

CHILD CARE

There are very mixed stories about the quality of child care facilities. The idea—they were much ahead of us. They deserve a lot of credit for that. But the health conditions in these facilities for young children, first year of age and second year of age, is brought up by many Soviet commentators, medical and sociological and others, and many women do not want to put their children there.

So they are now also offering as part of this policy, reduced pay for an entire year, not just for 56 days before and after birth, but for an entire year, and then a mother can stay home for another 6 months without pay as part of an incentive to have children.

In addition, they are trying to make the managers offer part-time work for new mothers, both in the factory or work of a cottage industry at home. But many managers do not like this because the productivity level is lower and it is a question of the arrangements not always being the easiest to make.

So these issues, plus more available maternal and child care health facilities are part of the efforts that the Soviets are making in this area.

Representative HAMILTON. Mr. Winn.

HOUSING

Representative WINN. You referred to housing. You just touched on it lightly and I would like to ask a few more questions. First, I would like for you to elaborate, if you would, on the dimensions of the urban housing shortage and then compare that with shortages in the rural areas.

Mr. FESHBACH. Well, it is much better than it used to be. The story, of course, many Russians tell us, or Soviets, is we used to have a pig and a cow inside the house with us. Now we do not have that. That much is better, even in urban areas because in very many cities there is no rural nonfarm in the Soviet Union, or suburbia, as we have here. It is immediately rural farm on the outside.

You know, the United States was already 50 percent urbanized in its population by the time of the 1920 census. The Soviet Union did not become 50 percent according to their official criterion until four decades later, until 1961, which was not very long ago. But many cities still have rural appearances.

Now within this, in the immediate post-war period after the terrible devastation of the Second World War, which they suffered very greatly from, perhaps 50 percent of the population lived in shared housing facilities in urban areas. Now that is down to 20 percent. It could have been lower if more resources were allocated, or it should have been lower, whatever the word should be. Certainly, Rotterdam and Cologne and many other cities were devastated also in the West, completely devastated.

The current housing——

Representative WINN. Let me get a little background there.

Mr. FESHBACH. Surely.

Representative WINN. Is there not a social status as a part of their housing based on their job, their importance to the government?

Mr. FESHBACH. That is in the allocation of housing.

Representative WINN. The allocation of housing.

Mr. FESHBACH. There are many different criteria and then there is much of what we would call company housing; that is, belonging to the institution to which you belong, whether it be the Academy of Sciences or the Central Statistical Administration, it would own some housing. The factories would own housing of its own, too.

So that this would be not part of the job, but access to this housing, which takes you out of the general mass, if you wish, of those applying for housing.

In addition, for example, in Moscow, every week, or every month, at least—I believe it is weekly—they issue a bulletin for the exchange of housing space. It says, I have a two-room apartment here with an elevator on the fifth floor in this district. I would like a three-room apartment in this district, even if it does not have an elevator, et cetera. That kind of information is still there. So the housing shortage is such that there has to be an information exchange such as this officially issued by the local housing authority in Moscow, and I know about it existing in other cities, too.

Representative WINN. But those exchanges officially by the housing authority, where does the social status come in?

Mr. FESHBACH. Not in those. In these, there is no social status. This is outside the other. But if you are military, if you are an academician like Sakarov in Moscow, if you are a professor at Moscow University, if you are a branch chief in the Central Statistics Administration, this would give you access to certain area housing.

Now, then the question is of the age of the housing, the quality of the housing. They are building all the new housing districts out by the ring around the city, but to which there is some difficulty in transportation, still. They are improving it, without a question. However, they have a long way to go. The quality of what they build leaves much to be desired.

I have been in a number of apartments. They are quite reasonable, but they tend to be the older apartments rather than the newer ones.

But the solution to this problem is still a long way in the future.

Representative WINN. What steps are they taking to correct the housing shortage? You say that they are building some new housing and you did not seem to be very enthusiastic about it, both the quality and—I have been there several times and I am a former builder-developer. People around here, they would not take those under much of any circumstances.

Mr. FESHBACH. But it is a separate apartment to them. That would be important.

Representative WINN. I understand that.

Mr. FESHBACH. That has a very unmeasured kind of value to them other than the different criteria that we may have, culturally or otherwise, from them.

The resource allocation to housing increases all the time. I just do not think it is sufficient for their own needs to solve their own problems.

So it is not as if the money is going down or that the per capita level is that low. It is just insufficient to solve this problem in the near-term.

Representative WINN. What about new technologies in the housing field and in construction?

Mr. FESHBACH. Well, I am not an expert and I fear to say it in front of you, but there was——

Representative WINN. Well, I have not been there in years. I wondered if they had made any——

Mr. FESHBACH. No; I have not seen any primary new ones. They used these vertical cranes of a French design long before we did. They used industrialized housing long before we did in terms of prefabrication right on the spot, and I know that that received a certain amount of attention from some congressional committees about 15 years or so ago. But innovations beyond that, I do not believe I have seen any.

Representative WINN. You mentioned the vertical cranes. I was aware of that when I was there about 7 years ago. But the difference between the American ingenuity is that our cranes are working and theirs are sitting for 2 or 3 days at a time. That, again, is the inefficiency of their operations. One of them.

Mr. FESHBACH. That is right. But, in part, that downtime is related to organization of work, supply of materials, availability of labor force, very high turnover rates, the question of soberness of the workers, et cetera. All of these add up to difficulties in finishing construction work on time, which is one of their major problems in all things, not just housing.

Representative WINN. Yes. What about promises, political promises to the people about improved housing?

Mr. FESHBACH. Well, they made it.

Representative WINN. I know they make it.

Mr. FESHBACH. But they do not say when it will be solved. Mr. Khrushchev did back in 1961, but I think that has been buried in its own way.

Representative WINN. What do you think the public reaction is? We all know that they make promises and we read them from time to time along with their next 5-year plan on agriculture and all of those things that never come to being. But with your contacts with the people, what is their reaction to that? They just do not pay much attention to it or they do not believe it? They do not argue very much about it, I guess. Or debate it.

Mr. FESHBACH. Well, one does not—the people I have contact with basically would have fairly good housing. I think that the information provided to the public by the party and government about the number of new facilities available, the number of people who have novesel'ye—have a party announcing that they are in a new apartment by themselves—this kind of thing is available to them, and I think it is better than it was, is the way that they think about it. They know it could be better even than that.

Representative WINN. Has there been any noticeable discontent, any outspoken criticism of the housing policies? Any mumblings?

Mr. FESHBACH. Yes; there are letters to the editor frequently saying that I have been waiting 5 years on the list; I have been waiting 10 years on the list; I have three kids. Why am I still living here as opposed to there?

That does get published, particularly in some areas where I guess the abuses may be worse than others. But I cannot generalize from that across the country or a particular area.

Representative WINN. What is the name of the little houses?

Mr. FESHBACH. Dachas, d-a-c-h-a.

Representative WINN. Dachas. That is for the upper echelon. A great many of them have that as a second home, do they not?

Mr. FESHBACH. Oh, yes. Well, obviously, there are dachas and dachas also, just like, I mean, the fancy housing in any country. But it is available to a great number of people. You can buy space—you can rent or buy a corner in a dacha. Some people do that, even, a little room maybe in somebody else's large dacha.

But, basically, they go along with position. That is correct.

INFANT MORTALITY

Representative WINN. You mentioned, and the chairman did, just briefly on the infant mortality. What is their pattern? Are they following a pattern? Can you give us statistical information? I assume that that must be a real problem to the Soviet leadership?

Mr. FESHBACH. Yes; I must state first that they deserve an enormous amount of credit for their achievements from the beginning to a certain point in time. When the Soviet Union was first formed, whatever way it was, in 1917, the rate was approximately one out of every four children died. That is, at least 250 deaths per 1,000 children live born at that time.

Representative WINN. From disease?

Mr. FESHBACH. From all kinds. The health situation in the beginning was beyond belief; 3 million people died just from cholera, typhus, typhoid, and dysentery in the first 5 or 6 years of the Soviet regime. I mean died, not just were sick; 25 million people may have been sick with typhus at the time.

So they overcame those levels and they deserve a lot of credit for it. And then the infant mortality figures, if you look at 1950, was down to around 81 deaths per 1,000 live born children, officially reported. Now whether the real number was 90 or 100, this is the number that they officially reported per 1,000 live born—their definition, which is not quite the same as ours.

Representative WINN. Do you have any reason to believe that those figures are not true?

Mr. FESHBACH. I have reason to believe that there is an undercount, but the question is how much of an undercount? I could believe 10, 15, or 20 percent, but I would not believe 100 percent. But it might be in certain areas it may have been that they missed one out of two. But I think, again, that is very unlikely. The question is the impact on the national figure.

Now, when it was 81 in the Soviet Union, the figure was 30 in the United States. With the proper adjustment, the Soviet figure was around 90, actually. They leave out certain categories of extremely high risk children that we would include. But the U.S. figure was 30. It really did not go anyplace. The United States was pretty bad in the 1950's. It was around 26 in 1960, still 25 in 1935. But by that time, there were lots of new procedures, new techniques, new money, new facilities. And the rate has halved in the United States since 1965 to 1982 to a figure of around 11.

I give you this background only because I want to go to the relational aspects between the Soviet Union and the United States.

Now from 1950, when it was 81 in the Soviet Union, they very proudly let us know, officially reported and otherwise, through the World Health Organization, et cetera, that until 1971, when they were

talking about it, it went down to 22.9, again officially reported. It was 23 deaths per 1,000 live born, 2 percent of the children died in their first year of life, again as the Soviets define it, 2 per 100 or 23 per 1,000.

The number went up in 1972–73, that is, the rate, and 1974. And then they stopped publishing the figures. It became inconvenient, if you wish, or otherwise. The number had gone up by, again, officially reported, some 18 to 20 percent.

Now if the undercount was less later than it was before, maybe the slope was not quite as sharp. But there was a real increase for reasons including influenza leading to pneumonia to death, increased alcoholism of women, number of prior induced abortions leading to less viable children, and so forth.

Then a secondary source told us a figure of 31 for 1975 and nothing else since then.

Now I and a colleague had estimated a figure of around 35 or 36 for 1978, which is a 50-percent increase since the low point and it has probably gone down to around 27 or 28 at the present time, in Soviet definition, if the figures are reasonably correct. But when adjusted, again, to make it comparable to the United States, it is around 30, or 3 times that of the United States again as it was in 1950.

This is contrary to all other countries. In Sweden, the figure is down to 6 deaths per 1,000. It is unbelievable. We never thought that it would go below 10 and here it is at 6.

Representative WINN. Well, is the government really concerned about these?

Mr. FESHBACH. Very much concerned and they are now beginning to open up new facilities that they never had before. For example, in 1980, there was only one neonatal intensive care unit in the country, as far as I could find out.

Representative WINN. One?

Mr. FESHBACH. In the Soviet Union. We had 485 that year. Now there are many more, but not up to where we are. Again, where was it? It was in one location, not throughout the whole country. And this is one of the issues. They have wonderful people in certain areas and many areas, but they are not available throughout the whole nation. Here you could go to—I am not sure which States you are exactly from, so I may not pick out the right one—Seattle, Cincinnati, San Diego, Portland, whatever the case may be, and you can find very fine facilities.

The parallel is just not there. That is one of their biggest problems. Not that they are ignorant or anything.

Representative WINN. Well, is the government making that a top priority?

Mr. FESHBACH. They are now making that a top priority.

Representative WINN. Are they allocating some——

Mr. FESHBACH. They are allocating some more money. I do not think enough, in my own opinion. That is part of the problem.

Representative WINN. How much of the total economy, how much of the total budget would you say that they are allocating to that problem?

Mr. FESHBACH. Well, I can only tell you the aggregate amount to health has gone down from a peak of 6.6 percent of the state budget

in the 1960's, the first half of the 1960's, to 5.2 percent of the State budget.

Now there are other expenditures for health which would increase it by trade unions and some other, and private expenditure, but I think it is insufficient to meet the needs, even though it has gone up in absolute terms and per capita terms.

Representative WINN. Was not the Soviet Union, were they not criticized by the World Health Organization for their reporting or lack of efficient reporting?

Mr. FESHBACH. I do not recall, Congressman. I do not know that. If you find it, I would like to see it.

Representative WINN. It seems to me that I heard that.

Mr. FESHBACH. It would not surprise me because if you look in the world health annuals, statistical or quarterly statistical publications, it is difficut to find them among those who fill in the slots of the tables which they are required to submit.

Representative WINN. That may be what I was referring to.

Mr. FESHBACH. Probably.

Representative WINN. It seems to me that the World Health Organization criticized the Soviet Union for lack of reporting or inconsistent reporting.

Mr. FESHBACH. They are eligible for it, if I may say so.

CHILD CARE

Representative WINN. Yes. You mentioned earlier child care, and then this is my last question, Mr. Chairman. What kind of child care facilities do they have? I visited one and it was in a pretty darn nice apartment area, you know, relatively speaking. There was an American State Department person there, too, that lived in the same unit. It looked to me like basically it was an enclosed yard with 2 or 3 of the Russian women, probably mothers, but I do not know whether they were or not, taking care of about 15 or 20 children in a playground.

Well, we have those all over our country with some playground equipment—in that case, minimum playground equipment. Is that one of their versions of child care or do they have something else that I did not see?

Mr. FESHBACH. You are talking about one of the versions, that is correct. But there are a variety of different types, including even large facilities where they feed the children, where they do more than play games.

Representative WINN. For the mothers that work all day?

Mr. FESHBACH. For the working mothers, in particular.

Representative WINN. OK.

Mr. FESHBACH. Very much so. The problem with them is reported by many Soviets—there are many good things about it, do not misunderstand me. There are also problems, too. The good thing is the availability, although it is only about 40 to 50 percent of potential demand. But a lot of mothers, parents, do not want to put the children in there because there are higher incidences of morbidity, of sickness rates, particularly in the first 2 years of life. The question of the training of the people running these facilities has come under scrutiny, even

by many Soviet authorities, saying that they are less qualified than they are supposed to be.

Also, there is the lack of availability of grandmothers now. One, they are more educated than they used to be. Also because of labor shortages, more of them are working.

So the young women who have the children are expected to work. The grandmother is working also, or does not want to take care of the child. So what happens when the child gets ill?

Representative WINN. Is that a real problem with the working grandmother?

Mr. FESHBACH. Yes, yes.

Representative WINN. That sort of fouls up their social status of grandmother taking care of the grandchildren while the mother works, does it not?

PENSION LAWS

Mr. FESHBACH. This is because of labor shortages. The pension laws have been changed, beginning in 1966, but particularly in the early 1970's, to encourage those who are eligible for pensions, both males and females, to return to work.

Representative WINN. What is the retirement age over there?

Mr. FESHBACH. Extremely young. The official retirement age as pronounced very loudly at international social security conferences, is 60 for males and 55 for females, officially. However, they are now calling the next 5 years a quasi-working age, to use their term, quasi—that is a wonderful word, "quasi"—it is an encouragement because of labor shortages and many of them have gone back to work. The question is the numbers we can get in general—the question is the quality of the work, whether they are working full time, whether they are allowed to work in their old skills and professions or assigned to work in the service sector, where there are even larger shortages.

Representative WINN. Are they sort of closing their eyes on some of that?

Mr. FESHBACH. No; I think they are aware of it. Some may be doing that, but others are aware of it. There are studies, careful studies, done of it. I would not say that.

Representative WINN. Do you have that statistical information?

Mr. FESHBACH. Yes, we do. Not here, but there are books where they publish much of this information. But not about the question of the quality of work place or that, but numbers of people who return to work, yes.

Representative WINN. I wonder if you could give us out of those studies and things, and I hate to make additional work for you, just a couple of paragraphs that we could put into the record and have them incorporated at this stage in the record.

Mr. FESHBACH. On the persons eligible for pensions who have returned to work?

Representative WINN. Who have returned to work.

Mr. FESHBACH. OK.

Representative WINN. And, if possible, how that affects the economy, if it is that big an issue.

Thank you very much. Thank you, Mr. Chairman.

[The following information was subsequently supplied for the record:]

PO FORM NO. 9

Office Memorandum • GEORGETOWN UNIVERSITY

TO: Richard Kaufman, JEC DATE: October 25, 1983

FROM: Murray Feshbach, GU

SUBJECT: Additional testimony, per request of Congressman Winn

From an attitude of virtual discouragement of persons eligible for pensions to return to work, the Soviet leadership has changed policy to strongly encourage such persons to stay at, or return to work. Under the pressure of growing labor shortages overall, and specific sectoral shortages, the rules and regulations have been altered to allow persons to collect their pensions and their earnings--albeit with many codicils restraining either total amounts or places and sectoral assignment. Nonetheless, the program has been successful in recruiting many millions more to work.

Thus, from a point of over one million such pensioner-worker and employee participants in the labor force at the beginning of 1956, the number decreased to a low of some 530 thousand in 1960, doubled again by the beginning of 1965, achieved a level of some 3 million by 1971-1972, and over 6 million by the beginning of 1979. (footnote: See A.G.Novitskiy and G.V. Mil', Zanyatost' pensionerov. Sotsial'no-demograficheskiy aspekt, Moscow, Finansy i statistika, 1981, p. 37.) By early 1983, the First Deputy Chief of the State Committee on Labor and Social Problems, Dr. L.A. Kostin, told a Pravda interviewer that the number had grown to over 8 million. (January 4, 1983, p.2.) The numbers are impressive. However, some modification must be introduced into their evaluation beyond the absolute numbers. First, many of these older persons are from a generation less well-educated than their off-spring. Second, many are women who may not have worked earlier. And third, not all work full-time, or at the same proficiency as they might have if they were to be allowed to work in their prior specialty. It appears as if many were assigned to jobs in the services sector which was in dire need of additional workforce, and being less mechanized than the advanced sectors probably is much more physically demanding than others. It also appears that the number should be deflated to perhaps one in 5 to obtain full-time equivalents, given part-time, cottage industry and other arrangements made to utilize these persons. If so, then their total number of 8 million would be equivalent to somewhat over one-and-one-half million, or about 1 percent of the total state sector number of workers and employees. In sum, they are undoubtedly of significance in individual sectors, but numerically small within the overall total workforce.

Representative HAMILTON. Mr. Scheuer.

Representative SCHEUER. I regret very much not being here to hear your introductory remarks, Mr. Feshbach. You are a legend in this field.

BIRTH RATES

I have been to the Soviet Union. I have been to Soviet Asia a couple of times. I know something about the birth rate in Soviet Asia, which is astronomical. They are still offering Stalin prizes or Lenin prizes, or whatever, to Asian women who have 10 kids and more. So they have a pronatalist policy there, although I think they are very much concerned about the increase in the Moslem population, the increase in the non-Russian-speaking population, and the increase in the population that does not seem to have literacy skills and that is less adaptable to full integration in the work force of the Soviet Union.

How are they coping with this? How are they encouraging—how are they coping with the need to encourage the birth rate among Ivan Ivanov and sort of dampening, perhaps, the birth rate among Asian Russia?

Mr. FESHBACH. Well, Ivan's wife does not want to be encouraged too much, but she might have one more child, but she will not have two more children. The fertility rate, the total fertility rate, the average number of children among women in the Slavic and Baltic republics is below replacement at the present time. Replacement would be about 2.1 or 2.6, depending upon different measures. But it is below 2.0, regardless. So, there will eventually be a net decrease and this is one of the things that is worrying the leadership.

The encouragement comes through new policies beginning in 1981 of giving some bonuses, I think relatively small amounts of bonuses, to women by region, first in the north, then spread a little bit more across the middle, and then finally in a few months to those in the south where one Soviet demographer said, you do not need to give them incentives. It is as foolish as irrigating a cloud and sewing a rainstorm. The incentives are there on their own, if you wish [laughter]—regardless of whether party member or not. And they do continue to have large families, although there is some decline.

Among the facilities is the part-time work, large propaganda programs about incentives. They have to change their psychology. For many, many years, they wanted the women to go to work. In the 1950's, they were extremely successful, also in the 1960's, in getting women to participate in the labor force.

If ours increased during and after the Second World War, and particularly with the Korean war, to a level of around 50, 55 percent of women working in this country, the figure in the Soviet Union is between 85 and 90 percent of all women participating in the labor force.

Now all of a sudden they want to turn around, after all of these years of encouraging them to go to work and thereby also, among other reasons, including higher levels of education, including drives for current consumption versus the future—you know, when infant mortality decreases, the attitude is well, I do not have to have more children because the chances of their surviving is much greater.

Now in Central Asia, they do not quite have that particular certainty of survival yet because the infant mortality rates are much higher than elsewhere. What they are doing in Central Asia is to try and encourage the native populations to have less children, is, of course, by first educating women longer than they used to; that is, to have at least a high school education, which they never used to have.

Now the quality of education in rural areas still leaves very much to be desired, according to the Soviets' own commentary. I do not have to add anything.

So there are some questions of what the numbers are. They may be past. There may be a certain amount of onward and upward kind of thing, of, you know, making sure they just get through it, and, again, the issue of quality arises.

But including the quality of Russian language training, in particular, which would make them more mobile, first of all, to move into the cities of their own republics, where it is very heavily Russian and Ukranian due to other peoples who have come down from the north to fill the skilled jobs. Central Asians are not even moving into their own cities and we have migration data finally from the 1979 census showing practically no movement out of rural areas into urban areas among these core nationality Muslim groups.

So there is a pattern of less technology, less Russian language ability, and they continue to preserve their basic fertility patterns of having five, six, seven, or more children as a nationality attribute.

The republic figures, which are what are normally available to us, on total fertility rates shows, for example, that the Republic of Tadzhikistan finally came below six children, on the average. That includes the low fertility Russians, Ukranians, and others there. The ethnic Tadzhiks probably are still having six, seven, or eight, so much so that, in fact, the percentage of the urban population in that republic decreased between the two census seasons. This is almost unprecedented—so many more children and no mobility into the cities.

To encourage mobility, they are now using the educational system in a way they never did before. And that is by assigning young people to go to vocational schools outside the region; that is in the north, and hoping they will stay there, hoping that they will take on the attributes, if you wish, demographic and otherwise, of the local populations, meaning less fertility, more Russian language speaking, et cetera. But that is going to take a long time for a large number to move out of the area.

So I think that it is a present and future problem. They may solve it in the year 2020, but the time horizon is further down the road.

INFANT MORTALITY

Representative SCHEUER. Turning to another subject, how do you explain the significant and rather rapid rise in infant mortality and what are the implications of that?

Mr. FESHBACH. Well, the rise in the 1970's, as opposed to in a given year—we can have all kinds of explanations for a given year—it seems to me that there are at least three basic categories and then some more, although there is some overlap in each of these.

One is the incredible impact of influenza on young children that authorities are not able to cope with, which leads to pneumonia; for example, in 1970, as much as one-quarter of the children in the Russian Republic, let alone in the Central Asian republics, died from this factor of influenza leading to pneumonia leading to death.

Representative SCHEUER. Do we have an innoculation against those kinds of diseases?

Mr. FESHBACH. Yes; the influenza impact on the entire population of the U.S.S.R. is much worse—it is bad enough here—but it is much worse there, much worse. And the mortality figures get affected. And they have even footnoted the rise in mortality rates because of this factor in the past, which is a very unusual statement for them to make.

Representative SCHEUER. Well, now, something as relatively simple as a preventative innoculation——

Mr. FESHBACH. How about measles? Measles, in one region I have data on, 98 percent of the children were innoculated, 25 percent of whom came down with measles because of poor administration, poor maintenance, using needles straight out of a sterilizer without allowing it to cool off, giving it to a child when the child was ill because they are so frequently ill, but they wanted to give it to them. The same problem exists also with pertussis, that is, whooping cough. The number of cases of measles in the United States should have been around zero about this time. It is now around 1,200, so far, cumulative this year through September 12, as reported by CDC, the Center for Disease Control. The Soviet Union is still reporting figures in the 300,000's. The size of the population is not that much greater than in the United States. It is 270 million versus 230 million, roughly. And this being the case, why do they not, why can they not correct it? And I try and ask them.

It is better than it was. Do not misunderstand me. But five of the seven infectious disease figures that they published in the last handbook went up rather than down. And the levels that they are up at—scarlet fever, for example, is still 200,000. It is a non-notifiable disease in the United States. Now maybe it is incorporated with another category, like streptococcal sore throat, but one cannot break it out. But the numbers are not like it was when I was a youngster growing up, when it was a scourge.

So this is one of the causes for infant mortality increases, the influenza cause, and their inability to prevent it leading to pneumonia leading to death, in part, because of associated diseases which compound this, whether it be salmonellis or other things which have increased dramatically in this period of time in the Soviet Union, according to their own statements.

The other issue is undoubtedly alcoholism, leading to fetal alcohol syndrome. That is an illness, not a death. Several surveys have shown us, however, that 8 to 10 percent of the children born to chronically alcoholic women die in their first 2 years of life. Now if it would be only the first, obviously that would count in infant mortality, technically defined as deaths in the first year of life. Female alcoholism is still increasing, and therefore, the number of infants affected undoubtedly also would go up.

The number of prior induced abortions is a factor, we believe, in a very different way. Now an abortion is not a live birth, by definition

of the medical sense of it, but it is a question of the number of abortions a woman has had previously.

Now in the United States—and I do not want to get into right-to-life issues, please. I want to be very careful here—the number of abortions per woman over the fertile life, at the present time, is approximately 0.75 abortion per woman in the United States. It has gone up from 0.5 before.

Representative SCHEUER. You mean over a lifetime?

Mr. FESHBACH. Over 15 to 44 years of age in the United States.

Representative SCHEUER. Childbearing years.

Mr. FESHBACH. Right, 15 to 44. Whether one stops bearing children at ages 35 or 30, I mean, that is beside the point, we use all women in all childbearing years.

In the Soviet Union, the average number of abortions for the country as a whole is in the range of 4 to 5, or more, much more among women of Slavic and Baltic regions. And one recent source which I include in my written testimony gave a survey of 400 women who had at least one prior induced abortion in a very Russian—meaning the ethnic composition—area, which was 90 percent of Great Russian nationality. The number of abortions went from 1 per women up to 28.

Now supposing the women misrepresented the high number. She only had 24. Supposing she had 32? Very large, regardless. But 28 was the highest number reported; and of the 400 women, 5 percent had 11 or more abortions.

Now it is not the issue of how many abortions, but the medical technique by which it is performed. By the use of vacuum aspiration, on the one hand, versus what we used to call D&C, dilatation and curetage, now called sharp curetage, and what the latter does to the physiology, if you wish, of the woman. And when she does go to term afterward and has the child, it is at that point when the infant mortality issue comes up. You have to have the pathway at that point.

The probability is that with a very high or larger number of prior induced abortions using sharp curetage, having more premature births appears to be the case. Please, there are a lot of caveats in this statement. There is Hungarian evidence to this, but I do not have it for the Soviet Union, per se. But I have had some agreement with some people I have talked to; that is, women give birth to a premature child much more frequently than if they did not have this large number of prior induced abortions.

Now prematurity is not defined in terms of time. It has nothing to do with it, although it is obviously associated; but is defined in terms of birth weight. And that is, less than 2,500 grams, the high-risk children.

In Soviet conditions, the rate of deaths among these children is 10 to 15 times or more higher than those born to full-term children—of roughly 3,000 to 3,500 grams.

Now to the degree that abortions continue to be the primary means of birth control in the Soviet Union, as opposed to any use of contraceptives, withdrawal, rhythm, or IUD's, pills, condoms, or whatever the case may be—this factor will continue to play a part in the rise of infant mortality.

Abortions became officially available to women in 1956. It was illegal between 1936 and 1955. Maybe this rise is a consequence of the health status of those children born during the prohibitive period, and the children that they are having at this time, as well as the cumulative effect of the number of prior induced abortions, that has driven up the infant mortality rate. There are also issues of the quality of artificial milk, the quality of prenatal and postnatal care.

All of these are possible. It is also possibly due to an increase in smoking. We know that the consumption of cigarettes is increasing and I assure you that most Soviet cigarettes available to the public—I do not smoke any more. I used to—I believe that they are probably not of the same quality Virginia tobacco as many others available outside, as bad as the impact of smoking is on fetuses, anyway.

So that may be another factor. There is a whole array of other possible causes, but we do not have all of the evidence to prove whether a specific cause drove the rate up. We know that many other issues contribute, but you cannot prove that it contributed 5 percent, 22 percent, whatever.

Excuse me for the long answer, but it is the only one I had.

Representative SCHEUER. I did not realize that I was asking such an incredibly complicated question. [Laughter.]

Mr. FESHBACH. I am sorry. I could not answer yes or no. [Laughter.]

Representative SCHEUER. Thank you very much, Mr. Chairman.

ECONOMIC PERFORMANCE

Representative HAMILTON. Let me ask you a question or two about the economic performance of the Soviet Union. This year their performance is supposed to be pretty good, with a growth rate of 3½ to 4 percent. That is better than in the previous few years. But how do you interpret the Soviet economic performance? What is significant about the growth rate in the Soviet Union?

Mr. FESHBACH. The significance of growth rates, of course, is the question of rates of, or allocation of resources. It is in any country, about what is available for defense, consumption, and investment. And the question of the rate of growth. If it is 5 percent per year, on one hand, as it used to be in the Soviet Union, and you support a defense rate of expenditure of 3, 4, or 5 percent, whatever the number is, and then investment is 4 or 5 percent and you have consumption of 2, 3, 4 percent, within that, there is no problem in meeting those basic arrays of rates.

However, if your rate of economic growth goes down to 2 percent, or 3 percent, or 1 percent, and defense continues at 3, 4, 5, wherever it is in that range, investment goes down to around 2½ to 3 percent, as it is now, 2.6 according to the current plan, what happens to consumption and the residual as a rate of increase, given the lower resource pool available in that particular period of time?

So the question arises then, what are the numbers of people available to perform the work and investment rates in a production function type of resource combination, and the residual to make up for it in terms of productivity, both capital and labor, because the numbers may be lower than hitherto, by a large proportion. So you have to get

output-per-worker up very much and this is, in part, what they were worried about, about alcoholism issues, about other issues of incentives. But you have to have consumer goods available for these people also.

So I do not think that the one, first year of Mr. Andropov's term in office, whatever that may be defined as or not defined as, is necessarily the future of the country. I would expect, in fact, a drop again. First of all, there is the storming in the beginning of the man's takeover, if you wish, and the initial few months are better than the recent few months' data that we have seen, regardless of who has made the estimates for you. I am less optimistic than some of my other friends in town, from this viewpoint only, I think, because the numbers of employment will go down dramatically.

Representative HAMILTON. You do not expect them to be able to keep that 3½ to 4 percent growth rate.

Mr. FESHBACH. That is correct. I do not, personally, but I cannot prove that.

Representative HAMILTON. Is part of the unusually good growth rate attributable to good weather?

Mr. FESHBACH. Well, certainly, the contribution of agriculture to total economic growth in the Soviet Union is much higher than here, without a question, and it certainly is a very important factor. But it is also systemic in terms of resources, in terms of storage, in terms of roads, in terms of incentives for the workers, organization of production. It is not just weather, though weather certainly makes a big impact.

Representative HAMILTON. What percentage of their GNP do they give to the defense sector?

Mr. FESHBACH. I would rather take the fifth amendment on that one. Well, it depends on who you cite—I do not make defense expenditure estimates. I can cite you lots of numbers, but you have seen more than I have from 5 to 15 percent, or more or less. I do not know.

I would assume it is—it is certainly in the 10-plus range, I would guess, but I do not know. And I do not go through the hassle of making those estimates. I understand the question, but I do not know the answer, nor does anybody else, including maybe even the Soviets.

A good example. The exstate banker of Czechoslovakia, Dr. Eugene Loebl, emigrated after the end of the Czech events of the spring of 1968, and he said that they tried to make an estimate of their defense expenditures in Czechoslovakia while he was still there, still under the Soviet, shall we say, influence. He said they went to 250 pages and still did not know the answer.

Not the one line we get from the Soviets.

NATIONALITIES

Representative HAMILTON. One other question, the question of nationalities. The Asian part of the population is growing much faster than the European. What are the implications of that to the Soviet Union?

Mr. FESHBACH. Well, besides the social issues, which we discussed, and somewhat the military, the economic issues are particularly im-

portant in terms of their mobility, the investment issues relative to other demands for investment money.

For example, they do not want to move so far, but they need water. Water is being channeled to them, maybe, through diversion of the Siberian rivers, which could also possibly have a world ecological impact because of the question of warm water flowing into the Arctic, and there has been a very major debate within the Soviet Union about the diversion.

But it seems to me that they are beginning to do it, that there are major signs now that they have initiated this long-term, incredible investment, probably more money even than the Baikal Amur Mainline [BAM] railway will be. But it is a project of now and the next century.

As a consequence, it means less money will be available to develop Siberia, to develop the Ukraine, which are the competing regions—lobbies—for much of this money. But if the rate of investment growth is down to 2½ percent to 2.6 percent, it is not like what it was when it was 4 to 5 percent per year; if the economic growth rate continues, up to where I would not expect it to be, then it would be possible to have sufficient investable capital.

The question of having labor available for the factories, however, is an important issue since declines in the labor force are taking place in the Russian Republic and in the Ukraine, where 60 to 70 percent of the gross industrial product is produced. It is a major issue to them because it is going to continue for 15 years or more. Then it may get positive, but only in the next century. Early in the next century, the decline in labor supply which will be based not on fertility declines as in the past and which echo we are seeing now—but this cannot continue even at its current level—but because the number of 20- to 29-year-old women is dropping dramatically in the Russian and Ukrainian Republics where these industrial products are largely produced. And so there will be less numbers of women available to have children for the future. So we will have another ripple effect down the road 20, 30 years from now, which means that productivity will be burdened even more.

That is one reason why I think, in the long term, the economic growth rate will go down, partly because of labor supply and partly because of all their other problems.

I believe that they are addressing the internal issues and I think there will be major changes in the way the economy is operated. I did not use the word "reforms" because reforms implies liberalism and I do not necessarily know that that will be the case. But I think they are giving very full consideration to the economy; however, all the recent events—KAL, missiles—and health probably have stopped Andropov and his colleagues from continuing down that path.

Representative HAMILTON. Any other questions?

HEALTH

Representative WINN. I just have one question, Mr. Chairman. What one thing in the Soviet Union are you watching most closely?

Mr. FESHBACH. Health. The health area, I do not believe the figures I am finding. It is so early in the research effort, I do not want to repeat

even more details, but maybe I will save them for the next JEC compendium if I am asked again, as I have been in the past.

I am now looking at 20 different health journals published in the Soviet Union, made available to me in a variety of different ways, especially by the Fogarty Center of NIH. The National Library of Medicine is an incredible facility. This is a plug for it. Please do not hurt it. It is an incredible place. It is all there. Soviet health officials and researchers are talking to each other, but nobody has really taken that material and joined it together with our other evaluations of the society and economy. And that is basically what I am going into.

Representative WINN. Thank you.

Representative HAMILTON. Any more questions? Mr. Scheuer.

Representative SCHEUER. Mr. Feshbach, I am a little bit puzzled by your explanation of this rise in infectious diseases where there are known preventable innoculations. In a society that is as organized and disciplined as the Soviet Union is, where, as you say, 80 or 90 percent of the women work, so that between giving innoculations at the school and the work place, they catch practically everybody in the population—with all of that discipline, with all of those controls, and with all of that concern about a decreasing work force, and certainly their concern about a decreasing Ivan Ivanovich work force, why, in the name of God, are they not devoting intensive, well funded, well organized efforts to providing all of their people with preventive medicine in terms of these innoculations that would prevent all of these ravages of these infectious diseases that you have mentioned?

That seems to be an obvious achievable first step that is well within their capability. We are not taking about a primitive developing world country that does not have the infrastructure or the knowledge or anything else.

Mr. FESHBACH. Well—first, I would not use "in the name of God" for themselves, though many do, much more than used to. It is partly a resource allocation issue. I think a large part of it is sanitation, an attitude toward sanitation. It is manifested in many different ways, whether it be, in this case, maintenance of the vaccines or sanitary conditions throughout. It is also a question of water pollution. One source told me—that is, a public health journal of the Soviet Union—that 14 percent of all illnesses throughout the country are waterborne dysentery-related. Even Lithuania, a recent source, said that only 37 percent of the water in Lithuania is treated. Now I just did not believe it when I saw it. I would have thought that it would have been at least 63 in Lithuania, let alone what it is in some Central Asian areas.

So issues of infectious diseases continue to plague them. Again, it went down dramatically. They deserve a lot of credit for that. But something seems to have turned around. They are no longer coping. Now maybe it is just purely a defense/health kind of allocation, a major shift over of resources. Hopefully, they would take it that way and we would, too, as far as I am concerned. And the question of availability of drugs. It is not a question of knowing what it is. It is a question of their availability. There are many reports of shortages of nitroglycerine, which is not an unimportant medication for cardiac patients, not an infectious disease in this case. But many other complex antibiotics are not available.

Why do they not import them from Hungary, which is a major producer of health preparations? I have asked some of them and I do not get an answer.

Representative SCHEUER. Thank you, Mr. Chairman. Thank you very much for your marvelous testimony, Mr. Feshbach.

Representative HAMILTON. We are delighted to have had you, sir. You had a very special workout since you were the only witness this morning. You handled it very well. I am not sure there are any questions about the Soviet Union we could ask you that you could not respond to.

Mr. FESHBACH. Well, it does not make any—well. [Laughter.]

Representative HAMILTON. Thank you very much, sir. The subcommittees stand adjourned.

[Whereupon, at 11:30 a.m., the subcommittees adjourned, subject to the call of the Chair.]

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