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SOVIET MILITARY ECONOMIC RELATIONS

WEDNESDAY, JULY 7, 1982

ROOM S-207,
THE U.S. CAPITOL,
Washington, D.C.

The workshop was convened at 9:10 a.m. by Hon. Gilbert Gude, Director, Congressional Research Service, Library of Congress.

John P. Hardt, Congressional Research Service, Library of Congress, and Richard F. Kaufman, Joint Economic Committee, moderators.

OPENING REMARKS OF HON. GILBERT GUDE

Mr. GUDE. I'd like to bid everybody a good morning.

I'm Gilbert Gude, director of the Congressional Research Service. We are very pleased to join with the Joint Economic Committee in sponsoring these 2 days of workshops on Soviet Military Economic Relations.

The Congressional Research Service is represented here this morning not only by the people in our Foreign Affairs Division, but also Senior Specialist Charlie Gellner in the back here by the American flag, very appropriately, and Joe Whelan.

I'd like to introduce Mr. John P. Hardt, our Senior Specialist in Soviet Economics and Associate Director for Senior Specialists at the Congressional Research Service. John did his undergraduate work and part of his graduate work at the University of Washington, received his doctorate and also a Rockefeller award at Columbia University, has written and published and lectured extensively on Soviet economics, including Soviet economic statistics and mathematics and computers in the Soviet plan. He feels very much at home in the Soviet military economic sphere.

Mr. Hardt, please proceed.

OPENING REMARKS OF JOHN P. HARDT

Mr. HARDT. Thank you very much.

Mr. Kaufman is comoderator from the Joint Economic Committee. He is the long-time general counsel with the full committee, and he will read opening remarks from Vice Chairman Proxmire of the Subcommittee on International Trade, Finance, and Security Economics.

Mr. KAUFMAN. On behalf of Senator Proxmire, who was to chair these proceedings but who is not in the city today, I will read the opening remarks that he had prepared for this morning:

OPENING REMARKS OF SENATOR WILLIAM PROXMIRE

Mr. KAUFMAN [reading]. I want to welcome the speakers and invited guests to the workshop on Soviet Military Economic Relations, and I also want to extend my appreciation to the Honorable Gilbert Gude and the Congressional Research Service of the Library of Congress for cosponsoring this event.

Cooperation between the Congressional Research Service and the Joint Economic Committee with respect to numerous subjects, but particularly the subject of the Soviet Union, dates back many years, to the 1950's. This has been a productive and useful relationship, and I expect it will continue.

Questions surrounding Soviet military economic relations are especially pointed and relevant to current policy issues. I have been chairing annual hearings on the "Allocation of Resources in the Soviet Union and China" since 1974. The latest round of those hearings are now in progress, Gen. James A. Williams, Director of the Defense Intelligence Agency, having testified on June 29, 1982.

We plan to receive testimony from the Central Intelligence Agency in September. The hearings and this workshop are taking place at a time when information about the Soviet economy and Soviet defense spending are of more than theoretical or passing interest.

The annual allocations hearings were initiated as a way to keep abreast of changes in Soviet economic activities including defense spending. One of the problems has been the tendency of government officials with access to classified information to use intelligence estimates of Soviet defense activities in a selective and biased way.

It was my hope that public disclosure of the intelligence estimates in a comprehensive form would discourage or correct the misuse of the estimates. I believe significant progress has been made toward achieving this objective, although much remains to be done. Certainly, there are many unanswered questions about the measurement and burden of Soviet military spending.

Of course, the chief obstacle is Soviet secrecy. The Soviet Government persists in keeping up the pretense that its defense spending has not increased for a number of years in the face of overwhelming evidence to the contrary, both from physical activities, including its expanding arsenal of weapons in all categories, and from estimates prepared by intelligence experts in this country and abroad.

No doubt there are margins of error in these estimates. Only the Soviets can know precisely how much they spend and how large their defense program is. The question the Soviet leadership should ask itself is: In whose interest is such secrecy?

I would argue that Soviet secrecy about its defense allocations are not in the interests of the Soviet Union. Nothing creates suspicions and leads to doubts about intentions and capabilities so much as secrecy. The Soviet leaders profess to be in favor of ending the arms race and avoiding a war. But the policy of secrecy leads in the opposite direction.

The present U.S. defense buildup is in direct response to the consensus in this country that the costs of Soviet defense programs exceeds U.S. defense spending by a wide margin. This consensus developed over a period of years during which U.S. intelligence estimates

demonstrated the general direction and the composition of the Soviet defense buildup.

If the Soviet Government disagrees with the estimates of its defense costs, it would be in the Soviet interest to point out where and why it disagrees. If the West is wrong about the Soviet defense program, the Soviet Union's failure to correct the record would be to stand by silently while the United States and other NATO countries build up its forces to meet an exaggerated Soviet threat. In effect, the Soviet Government would be promoting the arms race which it has denounced as a disservice to mankind.

Last year, the Defense Department published a pamphlet entitled "Soviet Military Power," purporting to document the growth of the Soviet defense program and the increased power of Soviet armed forces. In response, the Soviet Defense Ministry issued a publication this year entitled "Whence the Threat to Peace," purporting to refute the Pentagon's pamphlet and to present the truth about the East-West military balance.

I find this initiative and response syndrome interesting for several reasons. Would that it were true that the difference between the two nations will always be fought as a war of words on a literary battlefield. I might add that it is significant to me that both publications appear in expensive formats with glossy, multi-colored photographs and drawings, as well as charts, maps, and tables. The message to me is that the Soviet Defense Ministry must be at least as pampered and well-fed as is the Pentagon.

It is also significant that the Soviet publication dwells mostly on the U.S. defense program, showing how it has expanded, without directly refuting statements made in the U.S. pamphlet about the Soviet program. On the other hand, the Soviet publication does contain some useful information. The chapter on the East-West military balance compares strategic and general-purpose forces of NATO and the Warsaw Treaty organization countries and raises some interesting questions about long-range and medium-range nuclear weapons, as well as about the conventional forces.

I have addressed questions to the Defense Intelligence Agency based on the information in the Soviet publication. The publication is a step forward, in my judgment, because it indicates that the Soviet Government is willing to engage in a dialog with us about Soviet defense activities and is willing to disclose some information.

A correct understanding of the Soviet economy is equally important in making of United States policy. This issue breaks down into questions concerning the slowdown in economic growth, the effects of the military burden, the Soviet dependency on Western technology, and its susceptibility to economic leverage from the West.

Implicit in the administration's policies regarding East-West trade and the Siberian gas pipeline is the idea that the Soviet economy is in such a weak state, partly as a result of the heavy defense burden, that a cutoff of Western technology will seriously impede the pipeline project and eventually, if other trade restrictions are imposed, force the Soviet leadership to choose between an economic crisis or a reduced level of defense spending. The question is whether the administration's assumptions about the Soviet economy and the defense burden are correct.

I believe the administration is underestimating the strength and staying power of the Soviet economy. Despite the economic burden of a bloated defense budget and its other problems, the Soviet Union does not face an economic crisis or a collapse. If there is evidence to the contrary, I look forward to hearing it presented and discussed during the workshop.

I want to thank all of you for coming and participating in what I am confident will be a provocative, productive, and useful undertaking.

Mr. HARDT. Thank you, Mr. Kaufman.

The proceedings here will be taken down, as you will note.

We would like to have the proceedings off the record until released by the subcommittee, and they will be released in a hearing workshop format. So, please treat the formal statements and the discussions here as privileged to those attending these sessions until there is a release of the documents.

We would like to thank very much the participants in this panel and the successive two panels for devoting their time and energies in a relatively short period of time to a rather challenging task.

The procedures followed will be to hear first from each of the panelists from this morning's session then to have some discussion within the panel and last, to open the discussion for questions and discussions from the rest of the group here.

There is a definite timeliness about this new assessment in view of the rising defense allocations of the superpowers in response to the expanding burdens of defense; the increasing dangers of war, and the enhanced prospect of bilateral or multilateral arms negotiations.

While the Joint Economic Committee has held annual hearings on resource allocation and the defense of the U.S.S.R. under Senator Proxmire's chairmanship, a fresh approach is appropriate to enhance the value of this periodic congressional forum. There is a need for a broader, more integrated view of Soviet military economic relations.

Therefore, the three panels that have been set up have been intended to deal with the intertemporal, interdisciplinary, and international perspectives which provide a broad framework for understanding and developing policies on Soviet military economic programs. These aspects of Soviet military economic relations have previously been considered largely separately, but never viewed as an interactive whole.

A fresh, more comprehensive approach may be more appropriate in this time of tension in order to begin to appraise anew our analytic techniques for reassessing Soviet security-related developments.

Moreover, it may be possible, if a negotiating climate develops further, to encourage the U.S.S.R. to provide more relevant primary data.

As noted in Senator Proxmire's opening remarks, the data problem starts with Soviet disclosure.

President Reagan invited new initiatives in the area of information and data disclosure in his speech on disarmament to the United Nations assembly on June 17. He said, in part:

> The democracies of the West are open societies, information now on our defenses is available to our citizens, our elected officials, and the world. We do not hesitate to inform potential adversaries of our military forces and ask, in return, for the same information concerning theirs.

The amount and type of military spending by country is important for the world to know as a measure of its intentions and the threat that a country may pose to its neighbors.

The Soviet Union and other closed societies go to extraordinary lengths to hide their true military spending, not only from other nations, but from their own people. This practice contributes to distrust and fear about their intentions.

Today, the United States proposes an international conference on military expenditures, to build on work of developing a common system for accounting and reporting.

We urge the Soviet Union, in particular, to join this effort in good faith, to revise the universally discredited official figures that it publishes, and to join with us in giving the world a true account of the resources we allocate to our armed forces.

So, in addition to the continuation and expansion of these congressional hearings of a periodic nature, we hope that the panel will contribute insights into how we might proceed in this effort that the President has initiated at the United Nations in New York. Specifically what kind of prescriptions should we offer to the Soviet leaders for improved disclosures? What is the possible rationale for improved Soviet disclosure of defense economic information? What kind of data would most likely be released? What kind of data would be most useful? What mode of disclosure would be most useful and most likely? And is an international conference, as proposed, the most likely and useful forum? What other avenues should be explored with the Soviet Union for sharing the "true account" of the resources we allocate to our Armed Forces?

Now, each of the panels has been asked to address itself to particular themes, which we will articulate again. As we turn to the panels, I would like to ask Mr. Kaufman again to make opening remarks in reference to the purposes of this conference.

OPENING REMARKS OF RICHARD F. KAUFMAN

Mr. KAUFMAN. For my opening remarks I have prepared a short commentary entitled, "The Soviet Defense Sector: A Note on the Importance of Size and the Distinction Between Size and Strength," which I hope will provide an introduction to the substantive comments of the panelists.

It should be obvious that, in order to have intelligent discussion of Soviet military economic relations, a certain level of understanding of both the Soviet military and the Soviet economy is necessary. Indeed, a good understanding of one is not possible without some understanding of the other. The same can be said about the United States.

You cannot intelligently discuss or adequately assess the economies of either the Soviet Union or the United States without knowledge of their defense sectors. The fact that the military burden is estimated to be roughly twice as large in the Soviet Union as in the United States underlines the need for information about the Soviet defense sector.

An elementary thing to know about the Soviet defense program is its size. The size of the defense sector is established in absolute and relative terms by collecting information about defense activities and their physical components and converting them into monetary units, dollars and rubles. This process runs into a number of conceptual and practical obstacles and is the source of endless confusion and misinterpretations.

One problem is that Soviet defense spending in rubles can no more be converted exactly into dollars than can the Russian language be translated exactly into English. There are many areas of uncertainty and instances where they do things differently from us, requiring that educated guesses and subjective judgments be made. This would be the case to a lesser extent even if the Soviets published a comprehensive, detailed defense budget. Inevitably, something is lost in translation. Nevertheless, the effort must be made.

Another source of confusion, and one that is more unfortunate because it is more avoidable, is the failure to distinguish between size and strength. Size is primarily an economic issue. Strength is primarily a military one. Of course, intentions are also important and the size and changes in the size of the Soviet defense program are not entirely irrelevant to the issues of strength and intentions. But size is only one of numerous factors that should go into a military assessment, and size can be a misleading factor.

Yet, there is a strong tendency even among experts to mix up size and strength issues, confusing levels of resource allocations with levels of effectiveness and capabilities. It is common for those who believe Soviet military strength is underestimated to look for ways to exaggerate size, and for those who think size is overestimated to look for ways to minimize strength. The two attributes are not interchangeable. Of course, there are many unresolved issues about the measurement of size and much room to debate military capabilities and intentions. These should be argued on their own grounds.

Our own language seems to get in the way of maintaining the distinction between size and strength. Many adjectives apply equally well to size and strength—great, large, growing, shrinking, et cetera—and our culture encourages treating the two as synonymous or casually related. Phrases like big and strong and large and powerful are common. Militarily, the biggest is sometimes the strongest, but sometimes not. Among other things, one needs to keep in mind the propensity of nations to waste military resources.

Inevitably, there will be those who use estimates about changes in the size of the Soviet defense program to argue that the military threat has increased or decreased. Such misuses of the size data should be rebutted, but not by manipulating the same data or by substituting different estimates about size to prove the opposite point about the threat. It is also foolish to argue that because estimates about size are subject to misuse they should not be made. Any estimate is subject to misuse, especially if it is not well understood.

Disentangling the size and strength factors and viewing them in proper perspective is a precondition for useful analysis and the making of informed policy decisions about the economic and military issues they raise.

[The opening remarks of Mr. Kaufman follow:]

"THE SOVIET DEFENSE SECTOR: A NOTE ON THE IMPORTANCE OF SIZE AND THE DISTINCTION BETWEEN SIZE AND STRENGTH"

by

Richard F. Kaufman

It should be obvious that, in order to have intelligent discussion of Soviet military economic relations, a certain level of understanding of both the Soviet military and the Soviet economy is necessary. Indeed, a good understanding of one is not possible without some understanding of the other. The same can be said about the United States. You cannot intelligently discuss or adequately assess the economies of either the Soviet Union or the United States without knowledge of their defense sectors. The fact that the military burden is estimated to be roughly twice as large in the Soviet Union as in the United States underlines the need for information about the Soviet defense sector.

An elementary thing to know about the Soviet defense program is its size. The size of the defense sector is important because it enables us to study the effects of the military burden, the defense industrial base, and the interaction of the defense sector with the rest of the economy. It is equally important to know how the defense sector has changed over time with respect to its size and composition. Measures of size may be useful in making international comparisons.

In the CIA's direct cost methodology, the size of the defense sector is established in absolute and relative terms by collecting information about defense activities and their physical components and converting them into monetary units, dollars and rubles. This

process runs into a number of conceptual and practical obstacles and is the source of endless confusion and misinterpretations.

One problem is that Soviet defense spending in rubles can no more be converted exactly into dollars than can the Russian language be translated exactly into English. We operate under contrasting economic systems. There are many areas of uncertainty and instances where they do things differently from us, requiring that educated guesses and subjective judgments be made. This would be the case to a lesser extent even if the Soviets published a comprehensive, detailed defense budget. Inevitably, something is lost in translation.

Uncertainty in the size estimates cannot be eliminated. But it should be acknowledged so that the consumer can judge how to use them. The CIA says its direct cost estimates have a 10-15 percent range of error. A much larger range of error, 35 percent or higher, is assigned to a complementary methodology involving the analysis of Soviet published statistics to derive the implicit costs of defense. The usefulness of the latter methodology is seriously limited partly because of the large margin of error.

Efforts to estimate the size of the Soviet defense sector must be made despite the uncertainty. Virtually all types of economic statistics contain error components. This is true of efforts to measure U.S. economic trends. It is especially true with respect to Western assessments of the centrally planned economies and international comparisons. As Oskar Margenstern wrote in his book, On the Accuracy of Economic Observations, "we all shall have to go through a long and painful process of adjusting to the fact of

error."* Analysts in all fields are familiar with the problem of imperfect data. Analysts have a responsibility to make sure that policymakers are also familiar with this problem.

Another source of confusion, and one that is more unfortunate because it is more avoidable, is the failure to distinguish between size and strength. Size is primarily an economic issue. Strength is primarily a military one. Of course, intentions are also important and the size and changes in the size of the Soviet defense program are not entirely irrelevant to the issues of strength and intentions. But size is only one of numerous factors that should go into a military assessment, and size can be a misleading factor. Yet, there is a strong tendancy even among experts to mix up size and strength issues, confusing levels of resource allocations with levels of effectiveness and capabilities. It is common for those who believe Soviet military strength is underestimated to look for ways to exaggerate size, and for those who think size is overestimated to look for ways to minimize strength. The two attributes are not interchangeable. Of course, there are many unresolved issues about the measurement of size and much room to debate military capabilities and intentions. These should be argued on their own grounds.

Our own language seems to get in the way of maintaining the distinction between size and strength. Many adjectives apply equally well to size and strength (great, large, growing, shrinking, etc.) and our culture encourages treating the two as synonymous or causally

* Princeton University Press, paperback edition (1965), p. vii.

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Inevitably, there will be those who use estimates about changes in the size of the Soviet defense program to argue that the military threat has increased or decreased. Such misuses of the size data should be rebutted, but not by manipulating the same data or by substituting different estimates about size to prove the opposite point about the threat. It is also foolish to argue that because estimates about size are subject to misuse they should not be made. Any estimate is subject to misuse and will be misused if it is not well understood.

Disentangling the size and strength factors and viewing them in proper perspective is a precondition for useful analysis and the making of informed policy decisions about the economic and military issues they raise.

Mr. HARDT. Let me say a word about the participants in the first panel and introduce the general theme of the panel. David Holloway, a professor at Edinburgh University, Scotland, spent this year at Cornell University, and has served in many research institutes throughout the world—in Germany, England, the United States. He has long been a student of the Soviet military and political-military relations and decisionmaking and has spent some time in this town working at the Kennan Institute on a particularly interesting and relevant assessment of the Soviet decision to develop their nuclear capability.

Richard Anderson, in the office of Congressman Aspin, is a student of Soviet political-military affairs. He is particularly interested in the decisionmaking process.

Michael MccGwire, over a long series of careers as a British naval officer, as a professor, and now as a senior analyst at the Brookings Institution, has focused his attention over the years on the Soviet military with an emphasis on naval development.

Richard F. Kaufman, the Assistant Director-General Counsel of the Joint Economic Committee, took his legal training at the University of Texas and has practiced law. He has been with the Joint Economic Committee for more than a decade and has worked on the Soviet and the U.S. economies as well as other economies of the world in order to understand their decisionmaking procedures.

The first panel is to give us an historical perspective and, indeed, a basis for developing a future perspective on the rationale for rising and varying the levels of defense budgets and priorities to accommodate national security programs.

Professor Holloway will give us a historical perspective of the political and historical factors that have contributed to this process. Professor Holloway.

Panel I. Soviet Military Perceptions

STATEMENT OF DAVID HOLLOWAY—THE POLITICAL AND HISTORICAL CONTEXT OF SOVIET MILITARY EXPENDITURES

Mr. HOLLOWAY. Thank you, I would like to summarize my statement and elaborate on one or two of the points in it.

One of the main problems facing students of Soviet military policy is to explain the rising curve of military expenditure over the last 20 to 25 years. Too often, I think, this cure is presented as though it expressed an innate militarism in the Soviet state or emanated from some essential characteristic of the Soviet system.

What I want to do is to try to put this military buildup into some kind of historical and political context by trying to explain it as the result of political decisions taken in specific conditions by the Soviet leaders, who do, of course, operate in a particular institutional setting and have their own view of the world.

The first problem that faces the student of Soviet military policy, especially one without access to classified information, is the need to establish exactly what has to be explained. The level of military expenditure and its rate of growth are the subject of intense controversy. Soviet secrecy certainly doesn't help the student of Soviet pol-

icy, and considerable uncertainty surrounds even the historical record of Soviet military policy since 1945, and this uncertainty creates considerable problems of analysis.

Nevertheless, I believe that a historical approach can help, since usually, though by no means always, the actual course of policy can be determined more accurately in retrospect. A full review of the major decision points in Soviet policy since 1945 is clearly impossible, both for reasons of time and because the research has not been done. And, indeed, the Soviet Union has not provided any information for the research. But some contexts can be provided and some general issues raised.

In 1943, Stalin initiated a small atomic project after word had reached Moscow about German, British and American interest in the bomb. This became an all-out effort after Hiroshima and Nagasaki had shown the power of the new weapon. Stalin determined that the American atomic monopoly should be eliminated as quickly as possible, for American possession of the bomb was seen to pose both a military and a political threat to the Soviet Union.

Between August 1945 and March 1946, when the fourth Five-Year Plan was being worked out, Stalin also expanded work on long-range rockets, radar, and jet propulsion. The then Minister of Finance wrote later that finding the financial resources for the plan proved more difficult than anticipated because the drop in defense spending was smaller than expected at the end of the war and because "significant resources" were required for the development of new technology.

The slogging match in the East had not provided the same impetus to military technology as the war in the West. Stalin now felt that the Soviet Union would once again have to try to catch up and overtake the advanced Western powers.

In February 1946, he said it would take the Soviet Union at least 15 years to be ready for all contingencies.

It was only after Stalin's death that the postwar R&D programs had their full impact on the Soviet armed forces. It was only then that the forces received nuclear weapons and that they could discuss, more or less openly, the implications of nuclear weapons for the conduct of war.

In the mid-1950's nuclear fire power began to replace manpower. The armed forces were cut by 2 million men between 1955 and 1958. Conventional arms production fell. Aircraft production, for example, dropped from about 5,000 plans a year to 500, as some aviation missions were assigned to missiles. Shipbuilding programs were revised. These changes precipitated major arguments about strategy and, in particular, about the relationship between nuclear and conventional forces that lasted until well into the 1960's.

Military expenditure seems to have held steady during the mid-1950's, and it was probably at its lowest as a proportion of GNP for any period since 1950. It began to rise again quickly in 1959, the first year of the new Seven-Year Plan.

Deployment of a large and medium intermediate range ballistic missile force, about 750 by the mid-1960's began in that year, and the strategic rocket forces were established as a separate service.

In 1960, Mr. Khrushchev unveiled the outlines of a new military

doctrine which stressed that a future world war would be thermonuclear and that nuclear armed rockets would be the chief weapon.

The major changes in the Soviet military policy in the Khrushchev years were made more turbulent by Khrushchev's own style of leadership. After 1960 he tried, against the opposition of the high command, to continue the policy of replacing manpower with fire power and proposed to reduce the armed forces by one-third. At the same time he tried to show that a "new look" policy, based predominantly on nuclear weapons, would bring political gains, especially on the question of Berlin.

But Khrushchev's policy failed and helped to stimulate the massive strategic arms program launched by the Kennedy administration in 1961. The Soviet leaders responded to this by changing their own plans, by increasing their own ICBM force and seeking to threaten U.S. ICBM's and to counter the Polaris submarines, for, contrary to the expectations of some American officials in the mid-1960's, they were not willing to resign themselves to any form of strategic inferiority.

The Cuban adventure seems to have been designed to provide a stopgap until the Soviet Union managed to build up its own intercontinental strategic forces.

When Khrushchev was removed from office in October 1964, his successors continued the buildup of the strategic forces. They decided to deploy large forces along the frontier with China. By 1967 they accepted that large conventional forces had a role to play in a European conflict and reinstated the post of Commander in Chief of the ground forces.

The new leaders seemed to have accepted an almost open-ended military commitment, but they also placed increasing weight on arms control negotiations as a way of managing the strategic relationship with the United States.

The ABM Treaty, signed in 1972, ended for the time being the prospect of a race to deploy ABM systems, a race in which the Soviet Union might well have fared as badly as it had done in the early stages of the ICBM race.

The Interim Agreement on Offensive Missiles was carefully negotiated by the Soviet Union to allow the deployment of a new generation of ICBM's later in the decade. Efforts by the United States to cut back the countersilo capability of Soviet ICBM's were firmly resisted in the SALT 2 negotiations.

Soviet military expenditure, according to the CIA estimate, grew at a steady rate during the 1970's. The Soviet leaders apparently believed their own argument that only growing Soviet power would persuade Western governments to pursue so-called realistic policies. They also took advantage of opportunities in Africa and Asia to expand Soviet influence.

But if the 1970's were a period of expansion in Soviet foreign policy, they also saw closer ties being formed between the Soviet Union's chief adversaries, in large measure as a result of growing Soviet military power. The prospect of a new encirclement between the United States, China, Japan, and Western Europe, which assumed particular force in 1978–79, marked the failure of Soviet détente policy, which was de-

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signed in significant measure to prevent a Sino-American rapprochement.

The Soviet Union of course has been trying, with some limited success, to prevent the cementing of this quasi-alliance by exploiting differences between its members.

The Reagan administration's plans to build up American military power and to put economic pressure on the Soviet Union also signaled the failure of Soviet détente policy vis-a-vis the United States and posed a formidable military and economic challenge for the Soviet Union.

A number of very general points can, I think, be drawn from this brief and sketchy survey of Soviet military policy in the postwar period.

First, the Soviet military buildup has not been a single, undifferentiated process. Part of the strategic nuclear buildup seems to stem from decisions taken in response to the Kennedy administration's programs. This strategic buildup was complemented by the deployment of large forces along the Chinese frontier in the late 1960's and early 1970's.

Moreover, the military debates of the 1960's concluded that conventional forces were needed in the event of nuclear war. In the 1960's and 1970's, military power became a more important instrument of Soviet policy on a global scale. The military buildup, therefore, has not resulted from a single political blueprint, but from a series of major political decisions taken in the context of changing threats and changing opportunities.

Second, the standard comparison made between Soviet and U.S. military expenditure is not an appropriate one for understanding how the Soviet leaders have viewed the military-political environment. The U.S. allies in NATO are economically and militarily more powerful than the Soviet allies in the pact. Western sources that have claimed that the Soviet Union outspends the United States by 50 percent in dollar terms on defense also show that NATO has been spending more than the Warsaw Pact and that NATO has had more men under arms.

Moreover, since 1966, the Soviet leaders have directed a part of their defense effort, 15 to 20 percent in dollar terms according to the CIA, toward strengthening their position vis-a-vis China. The choices that have faced the Soviet leaders, and face them now, can be understood, I think, only in this broader context.

Third, for most of the military buildup the proportion of GNP devoted to defense has remained steady, according to the CIA estimate. At the end of the 1970's, however, the proportion rose from 11 to 13 percent to 12 to 14 percent. This was because military expenditure continued to grow at 4 to 5 percent a year while the rate of economic growth continues to decline.

The secular decline in economic growth has been making resource allocation choices more difficult for the Soviet leaders. Of the three major resource end uses—investment, consumption, and defense—only defense has been protected so far against the consequences of the economic slowdown. Investment was cut back in the 10th and 11th Five-Year Plan, while consumption has stagnated since the mid-1970's; the rate of growth of consumption has stagnated since the mid-1970's. How long this state of affairs can continue is not clear.

Fourth, a definition of priorities and a shift of resources away from defense might raise questions about the economic system. Defense expenditure has no doubt contributed to Soviet economic difficulties, but it is by no means their only source.

Most economists would put greater weight on the economic system itself, which fails to stimulate technological innovation or encourage the intensification of economic growth.

The system of economic planning and management which was created in the 1930's helped to foster industrial growth as long as there were large increments of capital and labor entering the economy each year. It also helped to build up Soviet military power.

Now, however, while the planning system protects the defense sector, it acts as a break on civilian industry.

A contradiction has emerged between the civilian and defense sectors, and this means that if the question of shifting resources away from defense arises, the efficiency and effectiveness of the economic system, as a whole, may well become an important political issue.

A redefinition of priorities might lead to a debate comparable in importance to the industrialization debate of the 1920's. Such a debate is possible, but by no means inevitable in the succession period.

Fifth, the Soviet Union appears to be at a decision point comparable in importance to those of 1945–46 and 1960–61. The military-political environment, although it offers some opportunties, is generally threatening.

The Reagan administration has made it clear that it intends to place military-political and military-economic pressure on the Soviet Union through its own arms programs.

The Soviet system responded effectively to the challenge of American monopoly of atomic weapons and the Kennedy administration's strategic programs. The Soviet leaders may interpret the Reagan administration's challenge as primarily political and economic and try to meet it by diplomacy abroad and economic reform at home.

It seems more probable, however, that they will try to meet it in the same way as in the past. And if they do, their response, in building up Soviet military power, is likely to preclude economic reform.

[The complete statement of Mr. Holloway, together with a paper entitled "Economics and the Soviet Weapons Acquisition Process," follows:]

THE POLITICAL AND HISTORICAL CONTEXT OF SOVIET MILITARY EXPENDITURES

By David Holloway

Prepared for the Seminar/Workshop on Soviet Military-Economic Issues, organized by the Joint Economic Committee, U.S. Congress, 7-8 July, 1982.

One of the main problems in analyzing Soviet military policy is to explain the rising curve of military expenditure over the last twenty to twenty-five years. (See Chart One) Sometimes this curve is presented as though it expressed the innate militarism of the Soviet state or emanated from some essential characteristic of the Soviet system. I want to put Soviet military expenditure over this period into some kind of historical and political context by trying to show how it has resulted from major political decisions taken by the Soviet leaders.

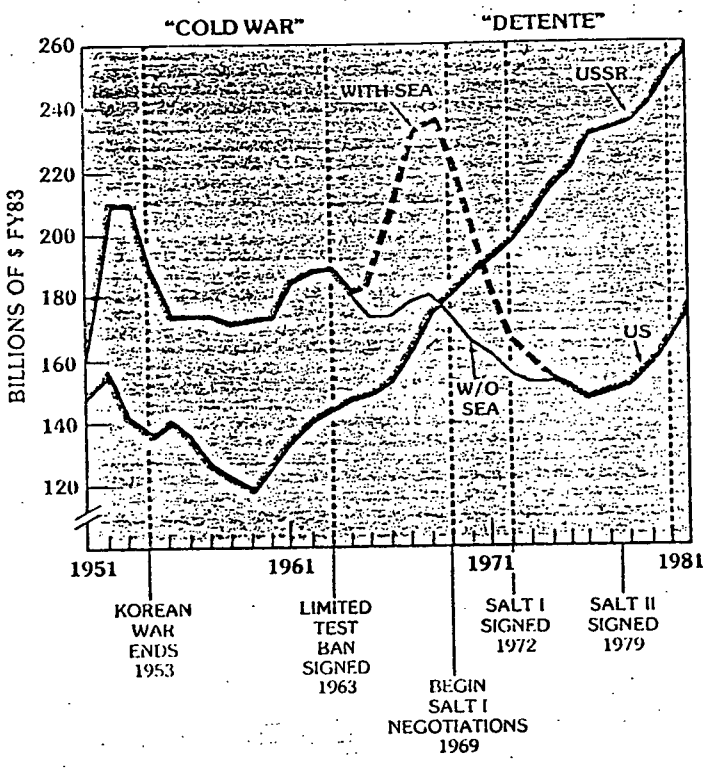
Soviet secrecy impresses everyone who tries to examine Soviet defense spending or decision-making for defense. That secrecy extends also to the history of Soviet policy-making in the nuclear age; only now is the Soviet Union releasing information about the earliest nuclear weapons decisions. Nevertheless, the course of policy can be determined more accurately in retrospect, and a historical analysis should help, therefore, to throw light on how Soviet leaders might respond to the problems and choices that face them now. A full survey is of course impossible here, but an outline can be provided and some general issues raised.

Turning-points in Soviet Defense Policy

In 1943 Stalin initiated a small atomic project after word had reached Moscow about German, British and American interest in the bomb. This became an all-out effort after Hiroshima had demonstrated the power of the new weapon and American willingness to use it. Stalin determined that the American atomic monopoly should be eliminated as quickly as possible, for American possession was seen to pose both a military and a political threat to the Soviet Union. 1/ Between August 1945 and March 1946, when the Fourth Five Year Plan was being worked out, Stalin also expanded work

CHART I.B.1

US DEFENSE OUTLAYS AND ESTIMATED DOLLAR COST OF SOVIET DEFENSE ACTIVITIES DURING THE "COLD WAR" AND "DETENTE" PERIODS



Source: FY 1983 Report of Secretary of Defense Caspar W. Weinberger, p. I-20

on long-range rockets, radar and jet propulsion. The then Minister of Finance wrote later that finding the financial resources for the Plan proved more difficult than anticipated because the drop in defense spending was smaller than expected at the end of the war, and because 'significant resources' were required for the development of new technology. 2/ Stalin decided that the Soviet Union would once again (as in the late 1920s and the 1930s) have to try "to catch up and overtake" the advanced Western powers.

It was after Stalin's death in 1953 that the post-war R&D programs had their main impact on the Soviet Armed Forces. Only then did the Forces receive nuclear weapons and only then could they discuss, more or less openly, the implications of those weapons for the conduct of war. In the mid-1950s nuclear firepower began to replace manpower: between 1955 and 1958, as the nuclear stockpile grew, the Armed Forces were cut by two million men. 3/ Conventional arms production was cut: aircraft production, for example, dropped from about 5,000 planes a year to 500, as some aviation missions were assigned to missiles; shipbuilding programs were revised. These changes precipitated major arguments about strategy, and in particular about the relationship between nuclear and conventional forces, that lasted well into the 1960s. Military expenditure held steady during the mid-1950s and was probably at its lowest as a proportion of GNP for any period since 1950. 4/ (In Chart 1 expenditure is shown as dropping, but that is because in a dollar cost valuation Soviet troops are costed as though they received American pay). Defense expenditure began to rise again in 1959, the first year of the new Seven Year Plan. Deployment of a large M/IRBM force (about 750 by 1965) began in that year,

and the Strategic Rocket Forces were established as a separate service. In 1960 Khrushchev unveiled the outlines of a new military doctrine which stressed that a future world war would be thermonuclear, and that nuclear-armed rockets would be the chief weapon.

The major changes in Soviet military policy in the Khrushchev years were made more turbulent by Khrushchev's style of leadership. After 1960 he tried, against the opposition of the High Command, to continue the policy of replacing manpower with firepower and proposed to reduce the Armed Forces by one third. At the same time he tried to show that a defense policy based predominantly on nuclear weapons would bring political gains, especially on the question of Berlin. But Khrushchev's policy of threats and bluff failed, and helped to stimulate the massive strategic arms program launched by the Kennedy Administration in 1961. The Soviet leaders had to respond to this by changing their own plans (by increasing their ICBM force and by developing forces that could threaten U.S. ICBMs and counter the Polaris submarines), for, contrary to the expectations of some American officials, they were not willing to resign themselves to any form of strategic inferiority. 5/ The Cuban adventure seems to have been designed to provide a stop-gap until the Soviet Union managed to build up its own intercontinental strategic forces. The missile crisis in turn reinforced the Soviet determination to match American Strategic power.

When Khrushchev was removed from office in October 1964 his successors continued the build-up of strategic forces; they decided to deploy large forces along the frontier with China; by 1967 they accepted that large conventional forces had a major role to play in Europe and reinstated the

post of Commander-in-Chief of the Ground Forces; they continued also to expand the deployment of the Soviet Navy. Brezhnev appears to have accepted a military doctrine that implied an almost open-ended commitment of resources. But he also placed increasing weight on arms control negotiations as a way of managing the strategic relationship with the United States. The ABM Treaty signed in 1972 ended the prospect of a race to deploy ABM systems--a race in which the Soviet Union might well have fared as badly as it had done in the early stages of the ICBM race, when its initial lead had been quickly lost to the United States and it had had to devote considerable resources to catching up. The Interim Agreement on Offensive Systems was carefully negotiated by the Soviet Union to allow the deployment of a new generation of ICBMs later in the decade. Efforts by the United States to cut back the countersilo capability of Soviet ICBMs were firmly resisted in the SALT II negotiations.

Soviet military expenditure grew at a steady rate during the 1970s, according to the CIA estimate. The Soviet leaders evidently believed their own argument that only growing Soviet power would persuade Western governments to pursue 'realistic' policies. They also took advantage of opportunities in Africa and Asia to expand Soviet influence. But if the 1970s were a period of expansion of Soviet foreign policy, they also saw closer ties being formed between the Soviet Union's chief adversaries, in large measure as a result of growing Soviet military power. The prospect of a new encirclement (between the United States, China, Japan and Western Europe) assumed particular force in 1978-79, and this marked the failure of Soviet detente policy, which was designed in large measure to prevent a Sino-American rapprochement. 6/ (The Soviet Union has been trying,

with some limited success, to prevent the cementing of this quasi-alliance by pursuing better relations with Western Europe and China). The Reagan Administration's plans to build up American military power and to put economic pressure on the Soviet Union also signal the failure of Soviet detente policy vis-a-vis the United States and pose a formidable challenge to the Soviet Union.

General Issues

Some general points are suggested by this survey. First, the 'Soviet military build-up' (as it has come to be called) can be dated from 1959, when Soviet military spending began its upward course. But this has not been a single undifferentiated process. Part of the strategic nuclear build-up stems from decisions taken in response to the Kennedy Administration's programs. This was complemented by the build-up of forces along the Chinese frontier in the late 1960s and early 1970s. The debates of the late 1960s gave a new impetus to the modernization of conventional forces in Europe. In the 1960s and 1970s military power became a more important instrument of Soviet policy on a global scale. The military build-up, therefore, has resulted not from a single blueprint, but from a series of major political decisions, taken in the context of changing threats and changing opportunities.

Second, the standard comparison made between Soviet and United States military expenditure is not an appropriate one for understanding how the Soviet leaders have viewed the military-political environment. The United States' allies in NATO are economically and militarily more powerful than the Soviet allies in the Warsaw Pact. Western sources that claim that the Soviet Union outspends the United States by 50 percent (in dollar

terms) on defense also show that NATO has been spending more than the Warsaw Pact, and that NATO has had more men under arms. 7/ Moreover, since 1966 the Soviet leaders have directed a part of their defense effort (15-20 percent in dollar terms, according to the CIA) towards strengthening their position vis-a-vis China. 8/ The choices that have faced the Soviet leaders (and that face them now) can be understood only in this broader context.

Third, for most of the Soviet military build-up the proportion of GNP devoted to defense has remained steady, according to the CIA estimate. At the end of the 1970s, however, the proportion rose from 11-13 percent to 12-14 percent. 9/ This was because military expenditure continued to grow at 4-5 percent a year, while the rate of economic growth continued to decline. (From 1956 to 1960 Soviet national income (produced) grew at 9.1 percent a year; from 1975 to 1979 it grew at an annual rate of 4.5 percent. According to the CIA, Soviet GNP grew at an annual rate of 5.8 percent from 1956 to 1960, and at 2.8 percent from 1976 to 1980). 10/ The secular decline in economic growth has been making resource allocation choices more difficult for the Soviet leaders. Of the three major resource end uses--investment, consumption and defense--only defense has been protected so far against the consequencesa of the economic slowdown. Investment was cut back in the 10th and 11th Five Year Plans, while consumption has stagnated since the mid-1970s. How long this state of affairs can continue is not clear.

Fourth, there is evidence that the Soviet leaders have been aware of the heavy cost of their defense programs. In 1942 Stalin was anxious to know what the cost of developing an atomic bomb would be. 11/ In 1945

and 1946 the economic planners were constrained by the decision to launch an all-out effort to develop the atomic bomb and other modern military technologies. In the early 1950s the defense budget was an important issue in the political conflict between Khrushchev and Malenkov. In the mid-1950s Khrushchev rejected a proposal to expand the Navy on economic grounds. 12/ In the early 1960s he tried to devise a defense policy that would be effective and relatively cheap at the same time. He did not succeed, however, and his successors have raised defense spending at a fairly steady rate. The Soviet leaders have given high priority to the creation of military power, and have tried to protect the defense sector against pressures from elsewhere in the economy. That does not mean, however, that defense has had absolute priority and that it will necessarily be unaffected by other claims for resources.

Fifth, the Soviet Union appears to be at a decision point comparable in importance to those of 1945/46 and 1960/61. The military-political environment, although it offers some opportunities for Soviet policy, is generally threatening. The Reagan Administration has made it clear that it intends to put military and economic pressure on the Soviet Union to alter its policies. The Soviet system responded effectively to the challenges of the American atomic monopoly and the Kennedy administration's strategic programs: in each case it dispelled the illusion that the Soviet Union was too weak economically and technologically to match the United States. The Soviet leaders may interpret the Reagan Administration's challenge as primarily political and economic and try to meet it by diplomatic moves to weaken the cohesion of its adversaries and by reform at home to strengthen the economy. It is also possible, however, that they will try to meet the challenge in the same way as in the past, by building up Soviet military power in the effort to prove once again that the American beliefs about Soviet economic weakness are illusory.

Notes

1/ See David Holloway, "Entering the Nuclear Arms Race: The Soviet Decision to Build the Atomic Bomb, 1939-45", Social Studies of Science, May 1981, pp. 159-197.

2/ A.G. Zverev, Zapiski Ministra, Moscow, Politizdat, 1973, pp. 227.

3/ N.S. Khrushshev, in Pravda, 15 January, 1960.

4/ See David Holloway, "The Soviet Defense Industry" in M. Leitenberg and N. Ball (eds.) The Structure of the Defense Industry, Croom Helm: London, forthcoming.

5/ See, for example, Secretary of Defense Robert McNamara's comments in U.S. News and World Report, 12 April, 1965.

6/ See Marshal N.V. Ogarkov's comments in "V interesakh porysheniya boevoi gotovnosti", Kommunist Vooruzhennykh Sil, 1980, no. 14, July, p. 26.

7/ See, for example, The Military Balance 1981-1982, London: The International Institute for Strategic Studies, 1981, pp. 112, 113.

8/ U.S. Congress, Permanent Select Committee on Intelligence, House of Representatives, CIA Estimates of Soviet Defense Spending, Hearings before the Subcommittee on Oversight, September 3, 1980, Washington, D.C.: U.S. Govt. Print. Off., 1980, p. 79.

9/ U.S. Congress, Joint Economic Committee, Allocation of Resources in the Soviet Union and China - 1980. Hearings before the Subcommittee on Priorities and Economy in Government, Part G, Washington D.C.: U.S. Govt. Print. Off., 1981, p. 136.,

10/ Abram Bergson, "Soviet Economic Slowdown and the 1981-85 Plan", in Problems of Communism, 1981, May-June, p. 26.

11/ Holloway, "Entering the Nuclear Arms Race..., loc.cit., p. 176.

12/ N.S. Khrushchev, Khrushchev Remembers. The Last Testament, London: Andre Deutsch, 1974, pp. 25-26.

ECONOMICS AND THE SOVIET WEAPONS ACQUISITION PROCESS

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It is often remarked that the Soviet Union exhibits growing power - especially military power - to the rest of the world, while facing political problems and declining economic performance at home. It is this contradiction that many observers see as providing the framework for Soviet policy in the 1980s. The direction of policy is not clear, however. Will the Soviet Union strive more vigorously to exploit its power throughout the world? Will it turn inwards to attend to domestic problems? Will it seek accommodation with other states in an effort to devote more attention to internal matters without yielding its position in the world? Speculation about these questions is heightened by the prospect of a major change in the Soviet leadership and the possibility that this will lead to a shift of emphasis in Soviet policy.

In this context it is particularly important to ask whether, and in what way, economic factors will influence Soviet arms and arms control policy. There are two extreme positions on this point. The first is that the Soviet Union does not count the cost of its defense policy, and that the priority given to military power overrides all other considerations. This is supported by arguing that the Soviet Union has a dual economy, with the defense sector protected against the failings of other sectors. Consequently, in this view, the performance of the Soviet economy will not deflect the Soviet leaders from their chosen defense policy. The second position argues that economic factors do play an important role in defense policy and that weaknesses in the Soviet economy will sooner or later force the Soviet leaders to place less emphasis on military power and attend to domestic reforms. Between these two extremes a wide range of views can befound, for the relationship of economic factors to defense is very broad and complex.

Various aspects of this relationship are discussed by the other papers in this volume. This paper focuses on the role of economics in Soviet weapons acquisition. The life-cycle of a Soviet system is analyzed in order to see how economic factors are taken into account in making and implementing weapons decisions. The context in which such decisions are made is examined with particular reference to the momentum which builds up behind weapons development programs, and to the secrecy which surrounds decision-making in this area. The question of momentum is important because it determines the point at which one can say that a final commitment has been made to a specific system. Secrecy is important because it affects the way in which influence can be brought to bear Soviet weapons decisions, whether by domestic institutions or foreign governments.

Finally, the efficiency of the weapons acquisition process is discussed. If military R&D is highly efficient by comparison with civilian R&D there is little to be gained by merely shifting resources from the military effort, and improvements in military technology will be purchased relatively cheaply. If it is not more efficient, then there is much to be gained by a reallocation of resources, and improvements in military technology will come at a high price. Consequently, the efficiency of the RDT&E system has major implications for our understanding of how economic factors might affect Soviet policy.

The Performance of the RDT&E System.

Before these issues are examined, something must be said about the performance of the RDT&E system. The Soviet Union is the only country to compare with the United States in the range and sophistication of the weaponry it produces. From the output of the defense sector it is clear that there exists a very extensive network of military R&D establishments. It is clear also that

this network is effective in developing equipment of high quality. But Soviet military power is based not only on the quality of Soviet weapons but also on their quantity, on the quantity and quality of its troops, on its military doctrine and on other factors. Consequently it is wrong to draw conclusions directly from the fact of Soviet military power about the level of Soviet military technology. In terms of major technological innovations and the diffusion of those innovations through stocks of weapons, the Soviet Union has lagged behind the United States. This is not to disparage Soviet technology but to point to the fact that military power is not to be equated with the technological level of weaponry. 1/

The level of Soviet military technology - if measured in the same way - appears to be higher than that of civilian technology in the Soviet Union. But the available studies do not indicate a difference in degree. For all the efforts made to insulate the defense sector against the failings of the civilian economy, the effects of the latter are felt in weapons development and production. It could hardly be otherwise, given the complexity of modern armaments and the interrelationships of military and civilian technology. The defense sector, in short, is not an isolated realm in the Soviet economy. 2/

The organization of the defense sector is similar to that of the rest of Soviet industry. The industrial ministries in the defense sector control research institutes and design bureaus, where weapons are designed and developed, and plants where they are produced. The defense sector does have some special features which arise from the high priority it has enjoyed in the Soviet economy and from the leaders' desire to protect it against failings elsewhere in the economy. These mainly take the form of arrangements which ensure first call on scarce manpower, materials and components. Not all the production of the defense sector is for the Armed Forces, and there appears to be a growing

"gray area" where the defense and civilian sectors overlap. 3/

In the Soviet defense sector, by contrast with the American, research, development and production do not appear to experience the "feast or famine" syndrome. Over the last fifteen years defense spending seems to have grown steadily. (The problems of calculating Soviet defense outlays are discussed by Richard Kaufman elsewhere in this volume). According to CIA estimates, the shares received by the different branches of the Armed Forces have remained fairly steady since the late 1960s. 4/ The R&D establishments exhibit a similar stability. The research institutes and design bureaus are marked by a striking institutional continuity, and they are funded from the budget so that their fortunes do not depend directly on orders for weapons development. And to judge from the sparse figures available, weapons production does not fluctuate very widely. 5/ Of course the stability is relative: trends alter and institutional changes are made, but the steady state has been a notable feature of the Soviet defense sector since the mid-1960s.

In pointing to the contradiction between external power and inner vulnerabilities it is a mistake to overemphasize either element. In particular, it would be wrong to exaggerate the performance of the RDT&E system. What it appears to do best is to turn out follow-on systems which are well designed to meet the Armed Forces' requirements. Such systems may then be produced in large quantities. It is also effective in mobilizing resources for large-scale Manhattan Project type efforts. Where the United States has enjoyed a lead in a major new military technology (e.g. nuclear weapons, MIRVs, cruise missiles) the Soviet Union has been able to concentrate its effort on closing the gap. But even the defense sector seems to share with the rest of the economy a lack of flexibility in transferring technologies across departmental boundaries, unless this is organized as a matter of priority by the Party

leadership. This appears to be an important factor in assessing the overall performance of the RDT&E system, because Western studies of innovation stress that such flexibility is a major element in technological progress. 6/

The Weapons System Life-Cycle.

There is an extensive Soviet literature about the relationship between defense and the economy which, unfortunately, has not received the careful study it deserves. 7/ One branch of this literature is concerned with the economics of weapons acquisition and the formal decision-making process. It concentrates primarily on measuring the effectiveness of weapons, estimating costs and selecting the optimal design. It has very little to say about the informal processes which studies of American decisions show to be so important in weapons acquisition. In spite of this, however, analysis of the formal process will make it possible to say something about the way in which weapons acquisition is conducted, and about the role of economic factors in weapons decisions.

The simplest way to approach the major decision points in weapons acquisition is to examine the life-cycle of a system from conception to withdrawal from service. The discussion here is organized around figure 1, which is taken from Ekonomicheskaya otsenka letatel'nykh apparatov (The Economic Evaluation of Aerospace Vehicles) by S.A. Sarkisian and E.S. Minaev. 8/ The figure shows the various stages in the life-cycle of an aircraft or missile. Although it is schematic, it does have the advantage of being a Soviet outline of the stages of a weapons system life-cycle.

According to Sarkisian and Minaev, the starting-point for a new system is the recognition by the user that he faces new missions or that the missions he has to perform have changed in scope or character:

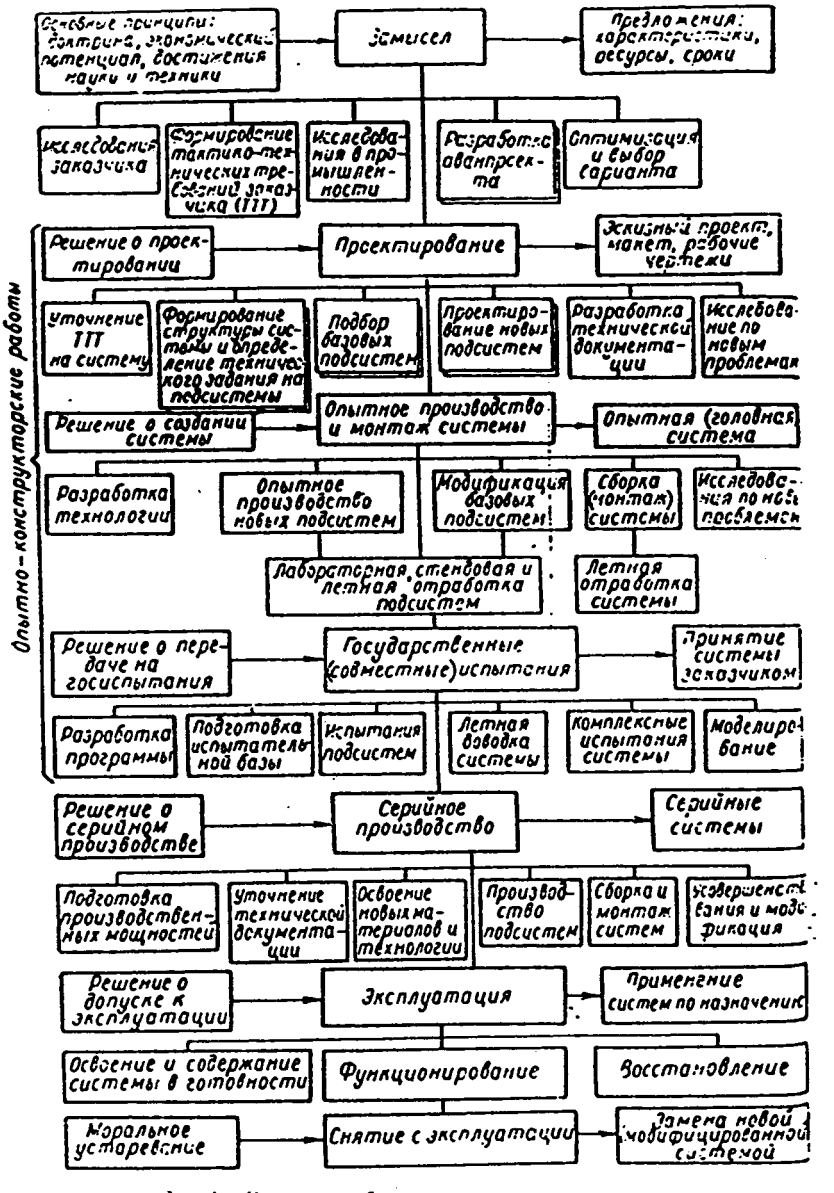
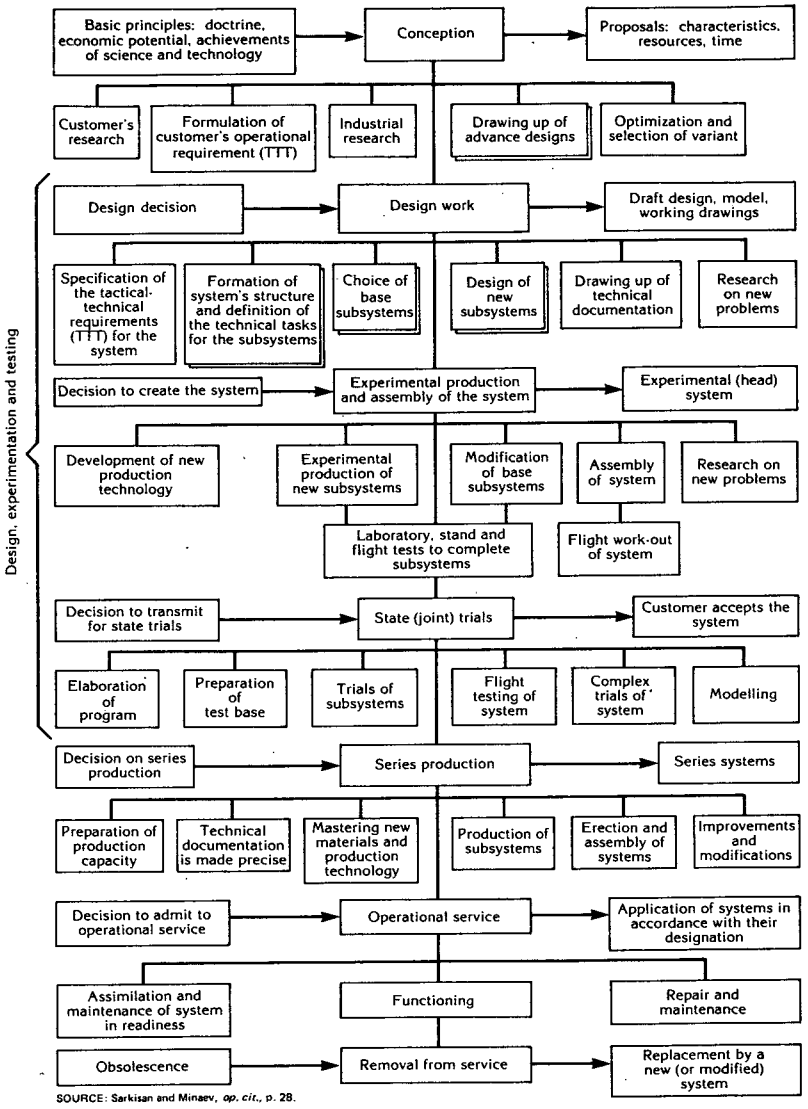


Рис. 1. Основные события жизненного цикла системы

Figure 1. The basic events in a weapons system life-cycle.



SOURCE: Sarkisan and Minaev, *op. cit.*, p. 28.

Figure 1. The basic events in a weapons system life-cycle.

"The initial conditions for the conception of a new project are provided by radical changes in the character of the transport or combat operations which form the basic principles (the doctrine) in the sphere in which the aerospace vehicles function. Calculation of the country's economic potential and of scientific-technical progress provides the necessary conditions for a practicable project. Doctrine serves here as the organizing principle. Success in creating new systems and the appearance of types of system which are new in principle influence, in their turn, the content of doctrine in a determining way. Thus in the process of creating systems there is an interaction between theory and practice: new missions - doctrine - conception of the system - the new system - doctrine." 9/

Figure 1 shows that a number of different elements are involved in the formulation of the project. The first of these is the research which the customer - the Ministry of Defense - does into his own operational requirements. The second is the formulation of the preliminary requirement for the system. According to Sarkisian and Minaev, this should take account both of the needs of the user and of the technology which will become available. The third element in the pre-design stage is the work of the industrial research establishments. The different branches of the defense industry have major research institutes which engage in applied research on a continuing basis. Working closely with these institutes, the design bureaus prepare draft designs which show the appearance of the system, the basic design relationships, the main technical approaches and the resources needed to create and operate the system. The fourth element in this stage is analysis of the

drafts to select the preferred designs. The final result is a set of proposals and recommendations which specify the system's characteristics, the resources needed, and the time required for development and production. Several alternative designs are likely to be proposed.

The Ministry of Defense's research establishments and the military academies do work which is intended to help the Armed Forces decide on their operational requirements, monitor scientific and technological developments, test prototypes and use the equipment when it is delivered. By and large they do not engage in actual weapons design and development. It is clear, however, that at this early stage there is a good deal of give-and-take between customer and designer in relating military requirements to technical capabilities. Sarkisian and Minaev, for example, warn that as much freedom as possible must be left to the designers in the choice of technical solutions, while another writer argues that the customer should do research to see what is technically feasible. 10/ It is possible that disputes do arise on this point, and these will have to be resolved before the final proposals are drawn up.

At this early stage the important actors are the design bureaus and research institutes in the defense industry, and the technical administrations (armaments directorates) in the Armed Forces. These administrations (for example, the Main Rocket and Artillery Administration) handle procurement, but in drawing up the operational requirements they must, of necessity, work closely with the operational staffs and the research establishments of the Armed Forces. Once the design proposals are prepared they will have to be evaluated and approved at higher levels in the Ministry of Defense and in the appropriate defense industrial ministry. This will involve a review of operational, technical and economic considerations, and the proposed development and production will have to be assessed in the context of the industrial ministry's

plan and of the Armed Forces' procurement plan. By this stage the less satisfactory designs will have been weeded out, so that a smaller number will go forward to design and development.

The basic document regulating design and development is the Tactical-Technical Instruction (TTZ: Taktiko-tekhnicheskoe zadanie) which sets out the object and purpose of the development; the operational, cost and special requirements of the prototype; the composition, and the stages of preparation, of the technical documentation." Even at this stage, however, room remains for changes in design. According to Sarkisian and Minaev,

> "design of the system begins with more precise definition of the tactical-technical requirements. In working out the designs of several system variants an alternation takes place between systems synthesis and systems analysis, and the appearance of new possibilities is not to be excluded. Therefore it is still necessary here to treat the customer's requirements as indicating the directions of effort, although basically they ought to be regulating the work of those developing the system. It should be noted that design involves also research on new problems which have arisen in the process of conceiving the project and during the design work. The design process ends with the preparation of the working documents." 12/

Designs may be prepared by more than one bureau. Bureaus which design subsystems or components will have their work coordinated by the bureau which designs the whole system and has overall responsibility for systems integration.

Once the design process is completed, a decision is taken about the production of prototypes. At this stage too some designs may be dropped, although more than one bureau may go ahead to the prototype stage with competing designs. The decision about prototype production will involve both the customer and the defense industrial ministry. In aircraft and missile

development the prototypes are produced in special factories attached to the design bureaus. These are separate from the plants where the system will be produced if series production is decided upon. Prototype production may require the development of new production technology, the production of new subsystems, modification and assembly of the subsystems, research on new problems and extensive laboratory and factory trials. These trials are conducted by representatives of the design bureau, the factory and the customer and are designed to see whether the design meets the specifications laid down in the Tactical-Technical Instruction. 13/

When these trials have been completed satisfactorily the prototype is handed over for state trials. These are conducted by a special commission which consists of representatives from the various ministries involved and is headed by an officer. The state trials are intended to establish, as far as possible, how the system will perform in operational conditions, and are normally conducted at the customer's testing-ground. If these trials are successful the customer accepts the system; if not, the system may be sent back for modification. If more than one system has gone to the prototype stage, these trials may be competitive.

The next major step is to put the system into series production. It is true that some systems are developed for experimental purposes only, but the general object of the RDT&E process is to develop systems that will be produced and deployed. Consequently, a decision in principle to produce the system is taken early in the life-cycle, at the same time as the design decision. If the trials are successful the chances that the system will be produced must be high. Such a system will have a good deal of momentum behind it; the customer and the design bureau will presumably be strongly committed to it after so many stages of review. This momentum is inversely

related to the innovativeness of the RDT&E system, for one of the factors inhibiting innovation is the complex system of review and the consequent difficulty of altering decisions unless the political leadership intervenes. 14/

The series production decision does not, however, follow automatically from successful state trials. The Western assumption that systems which had been flight tested would be produced and deployed was one of the bases for the bomber-gap and missile-gap scares of the late 1950s and early 1960s. But the series production decision involves many wider considerations than the performance of the system itself and has to be taken at a higher level than the commission that conducts the state trials. The Defense Ministry and the industrial ministry have to balance the production of a given system (and the resources needed for it) against the procurement and production of other systems. Decisions have to be taken about the rate of production and the numbers to be produced. Military and economic planners will have to match military requirements to production capacity and fit the system into the overall defense procurement program.

The series production of major systems appears to be decided finally at the very highest political level, by the Defense Council or the Politburo. Here the widest considerations of defense and foreign policy and of resource allocation will have to be taken into account. It is here that overall shape is given to defense policy and the balance is struck between the allocations for defense and other activites.

Once production has been decided upon, work will be allocated to the series production plants. The basic document regulating production is the Technical Conditions (TU: tekhnicheskie usloviya) which set out the purpose and sphere of application of the system, the basic tactical-technical data, the methods of quality control, packing and transport requirements and so on. 15/ The

transition from development to production is crucial and has often been the point of delays in innovation in the Soviet economy. The design bureaus deliver the technical documentation to the series production plant, not only for the new product but also - in some instances, at least - for the new production processes. The Ministry of Defense has a team of military representatives at the plant whose main responsibility is to exercise quality control. This they appear to do quite strictly and thus help to ensure that the Armed Forces do not receive defective equipment. The design bureau's role does not end once series production has begun, for operational service is likely to generate requirements for modification, and the basic system may need to be adapted to new missions.

At each stage of the life-cycle studies are conducted to help the decision-makers. Various kinds of analysis are done - mission analysis and operational analysis, for example - and economic studies play an important role. 16/ The early design proposals have to specify the time and resources needed for development and production, while the Tactical-Technical Instruction lays down the cost specifications for the system. Economic analysis also plays an important part in the series production decision.

Sarkisian and Minaev write that

> "in choosing the preferred system at the stage of research and design it may be difficult to assess with sufficient accuracy and reliability the expediture of resources on series production and exploitation of the systems, and this can lead to wrong decisions. This can be done with much greater accuracy and reliability on the basis of the results of the actual expenditure on the creation of the prototype. Therefore, at this stage a concrete systems analysis ought to be conducted when taking the decision about the program of series production." 17/

This implies very cleary that cost overruns are not unknown in Soviet weapons development and that economic calculations do play a role in the series production decision.

This brief survey of the Soviet weapons system life-cycle shows that, in the formal processes at least, economic factors do play a role in decision-making. The design decision is taken on the basis of recommendations which incorporate not only operational requirements and engineering proposals but also estimates of the cost of the system over its whole life-cycle. When the series production decision is finally taken, wider considerations are brought to bear, and these may include more general economic factors.

The Context of Weapons Decisions.

One of the major obstacles for outside observers who try to examine the Soviet weapons acquisition process is the secrecy in which it is shrouded. There is practically no discussion in the Soviet press of the details of those systems that are in service, and less about those that are under development. As far as one can discover, the desire for secrecy means that only those directly involved in the acquisition process known anything about the system being developed. (There is, however, quite a lot written in general terms on weaponry and on the military potential of new technologies - for example, of lasers.)

This secrecy has important implications for the Soviet decision-making process. It is difficult for those not directly engaged in weapons acquisition to intervene in decision-making. It is very unlikely, for example, that the Ministry of Foreign Affairs or the policy-oriented institutes of the Academy of Sciences have a say in the major decisions, even though they might be particularly interested in the political effects of the deployment of a system such as the SS-20 IRBM, which has been much criticized by Western European govern-

ments. One of the military writers on science and technology has argued that among the tasks which only the Armed Forces' own research institutes can perform is

> "the evaluation of the latest scientific achievements ... from the point of view of their possible application in military affairs, taking account of the scientific, economic, military, political (including diplomatic) prospects of such a step." 18/ (Emphasis added)

This reads very much like a plea to keep assessment of the political impact of weapons development and production in the hands of the Armed Forces, and perhaps some people are pressing for analysis from a wider range of institutions to be fed into the decision-making process. There appears, however, to be no Soviet equivalent to the Arms Control Impact Statements prepared by the U.S. Arms Control and Disarmament Agency; even if there were, what we know of Soviet arms control decision-making suggests that they would be done in the Ministry of Defense. 19/ It would be wrong, however, to overstress the compartmentalization of Soviet decision-making, for it is always open to the Politburo to call on the advice of outside experts. There is no evidence that this is done in the weapons acquisition process for arms control purposes, but secrecy makes it unlikely that we would know in any case.

Secrecy also has a bearing on the economics of defense, for it is one of the ways in which the priority of the defense sector is protected. Arguments about resource allocation are made more difficulty by the fact that the overall level of defense outlays is known to very few people. In 1963 Khrushchev complained that "because the production of defense industry enterprises is secret, shortcomings in the work of such enterprises is closed to criticism." 20/ Secrecy helps to fend off claims from civilian industry for scarce materials

and manpower. The defense sector can commandeer resources from civilian industry merely by saying that they are needed for military purposes; secrecy will make detailed justification unnecessary.

The same arrangements which insulate weapons acquisition against domestic interference also make it very difficult for foreign governments to intervene in the decision-making process. It is usually only when testing begins that it becomes clear to other governments what the characteristics of a new Soviet system are, and only when deployment begins is it clear that series production has been approved. Foreign governments can thus try to influence specific Soviet weapons decisions only when the development has acquired momentum. The difficulties created by secrecy are compounded by the national amour-propre which regards Soviet defense decisions as a matter for the Soviet leadership alone and not for other governments. The closed nature of Soviet weapons decision-making stands in contrast to the relative openness of such decisions in the United States, where considerable controversy may surround specific weapons. This contrast should not be overdrawn, however, since these political controversies usually come late in the weapons system life-cycle, and sometimes major weapons with far-reaching arms control implications (e.g. MIRVs) are deployed without much political argument. But the secrecy which surrounds Soviet weapons decision-making suggests that the ability of foreign governments to influence specific Soviet decisions is small.

Weapons acquisition is not just a matter of individual systems. The Five Year Plans for the economy are accompanied by Five Year Plans for the development of the Armed Forces, and these plans include weapons procurement. (There is indeed evidence of armament plans extending to ten and twenty years.) 21/ The defense sector is planned alongside the rest of the economy and the Armed Forces' procurement plans are coordinated with the production of the defense

sector. It is of course logical that this should be so since the defense sector is too much a part of the Soviet economy to plan in isolation, nor could procurement be planned separately from production. Since the development of a system usually presupposes its production it must be assumed that military R&D plans are tied into the production plans. Consequently any individual system has to be seen as part of a broaderpattern of development and production.

Just as the design bureaus cannot act outside the framework of their ministry's plan, so the individual branches of the Armed Forces cannot go ahead and order weapons without reference to the overall plans of the Armed Forces. The weapons proposals they make have to be coordinated, and the claims of the different branches balanced, in line with general policy. The overall plan has then to approved by the Party leadership.

This context has an important bearing on the momentum which, as was noted in the last section, builds up behind weapons developments. If the picture is broadened from one system to many, that momentum looks greater. There are those who argue that the political leadership's control over the acquisition process is demonstrated by decisions that are taken not to produce weapons that have been tested. It is true that some major developments have not gone forward to production, or have been deployed only in small numbers. In some cases - though not in all - these decisions have been accompanied by the deployment of other systems with similar characteristics. Stopping one system while others go ahead does suggest that the power of final decision on a specific system rests with the political leadership, but it is not strong evidence for control over the momentum of arms programs as a whole.

This is not to suggest, however, that the Party leaders are inexorably carried along by the momentum generated by the Soviet "military-industrial

complex". There is evidence that whole procurement programs have been cut back by the Politburo. 22/ Consequently it would be wrong to portray the momentum of armament plans as absolute, overriding the leadership's power of decision. But it does appear that decisions to change plans or cut procurement programs require a major exercise of political will by the Party leadership.

It is clear that the politics of weapons acquisition does exist in the Soviet Union. The need to guide a design through the stages of the acquisition process calls for considerable organizational and bureaucratic skills A Chief Designer, for example, has to deal with his military customer, his own ministry and his suppliers. It is likely that extensive informal networks are built up over time, especially in view of the long periods that people stay in their posts. One would expect to find a great deal of bureaucratic politics at this level.

The politics of weapons acquisition exists at a more exalted level too. One of the reasons for Soviet successes in weapons development has been the willingness of the Party leadership to devote time and attention to this area and at various periods individual leaders have had responsibility for specific programs. Weapons designers such as Korolev, Yakovlev and Tupolev have had close contacts with Party leaders. While the designer proposes and the Party disposes, this arrangement does mean that specific systems or programs may become the focus of leadership politics. It seems clear, for example, that strategic missile programs were a major issue in the leadership politics of the early 1960s. When a weapon system or an armament plan reaches this stage, it enters into the arena examined by Dimitri Simes and Dennis Ross elsewhere in this volume. It is through the politics of weapons acquisition at this level that wider economic considerations are brought to bear on arms and arms control policy.

The Economics of Defense.

This paper has tried to show how economic calculation enter into the Soviet weapons acquisition process. The various stages of the process have been outlined, and some aspects of the context have been discussed. It appears that economic factors are taken into account both in the selection of specific weapons and in the formulation of general arms policy. This is not a trivial conclusion, since there are those who think that economic considerations do not play a role in Soviet weapons selection and that the Soviet leaders do not count the cost of defense.

The Soviet leaders have consistently placed a very high priority on military power, and the system of economic planning and administration has been designed to enable them to implement their priorities. In the post-Stalin period, however, the priorities of the leadership have become more complex, creating a growing awareness that resources devoted to one end cannot be devoted to others. At the same time the military-technical revolution has made weapons more complex and more expensive, with a clear tendency for intergenerational costs to rise. 23/ As a result, there has been, since the early 1960s, a new concern about the economics of weapons acquisition. In 1962, for example, V.N. Bolkhovitinov published a book on the development of aerospace vehicles in which he made almost no reference to economic factors. 24/ In 1971 another Soviet author wrote that

> "in creating technical systems for defense purposes socialist society takes as its task the attainment of a given level of defense capability. The compostion and interrelationship of the factors which define defense capability are not the subject of this book. For us it is important that, in creating technical systems for defense purposes, the attainment of a given effect, the satisfaction of a given social is need is presupposed.

> It is obvious that the attainment of the necessary effect requires the expenditure of labor and resources... The interests of the development of socialist society require that the necessary level of defense capability is secured with the minimum possible outlays of social labor." 25/

Soviet studies of weapons selection now include an economic criterion in the measurement of effectiveness. This is the aspect of defense economics that has received most attention in recent years, although there has been some interest in program budgeting as well.

The economic approach to weapons acquisition has had its opponents in the Soviet Union, who have argued that defense is of such importance that it either overrides economic considerations altogether or reduces them to a secondary role. 26/ In spite of these objections, the study of defense economics has grown. It is impossible, however, to give any detailed picture of its practical influence on decision-making. The basic documents which regulate the weapons system life-cycle call for cost analaysis and it is possible that this is now given more weight in weapons section. But perhaps the most interesting point about the rise of defense economics is that it indicates a growing realization of the economic burden of defense and a recognition that in the defense sector costs must be counted.

It is true that defense economics has concerned itself primarily with low-level decisions in weapons selection and not with the optimal relationship between defense and other outlays. Moreover, interest in it has grown at a time when defense spending appears to have been rising at a steady rate. The Brezhnev Politburo has been agreed that military power is a major priority of Soviet policy and there is no evidence that serious disputes have taken place in the leadership about the level of defense spending in the last

fifteen years. 27/ This does not necessarily mean, of course, that such disputes will not emerge again, and Brezhnev's passing from the scene might well create the conditions for serious arguments about resource allocation. The growing awareness of the military burden suggests that the defense outlays might then become a focus of such arguments.

The efficiency of the defense sector relative to the rest of Soviet industry is likely to have some bearing on such arguments.Western observers offer two broad explanations for the effectiveness of the Soviet defense sector. The first argues that it is effective because the Party leaders have been willing to devote lavish resources to the building up of military power and have removed, as far as possible, economic constraints from the military effort. The second argues that the defense sector is effective not because the customer - the Ministry of Defense - creates a strong demand for its products and, by exercising a kind of consumer soverignty, encourages it to be efficient. This contrasts with the first theory which finds no incentive for it to be efficient.

If the defense sector is efficient, the Soviet military burden will be relatively light (unless inefficiency in civilian industry is the price of efficiency in the defense sector) and the state of the rest of the economy might be expected to exert relatively little pressure for a reduction in that burden. Moreover, an increase in military power might be brought at comparatively little extra cost. Conversely, if it is effective because lavish resources are devoted to it, economic problems might create pressure for a diversion of resources away from defense to civilian purposes, and increases in military power would come at a heavy price.

It is difficult to adjudicate between these two theories. It cannot be done easily by comparing the inputs to the defense sector with the outputs from

it, because it is not clear what those inputs are. Other approaches to the problem require detailed analysis which cannot be undertaken here. Nevertheless, one or two points can be made. It is true, for example, that, although it is impossible to say with any certainty what resources are devoted to it, military R&D has enjoyed high priority. This is evident in the institutional arrangements which ensure first call on scarce resources and manpower, and in the attention which the Party leaders devote to weapons acquisition. In a command economy the exercise of political authority to ensure speedy decisions and overcome obstacles may be as important as monetary allocations. At the same time, however, the interest in defense economics indicates that the efficiency of the defense sector, and in particular of the weapons acquisition process, is of concern to the Soviet leaders. In other words, in spite of its high priority, weapons acquisition has not had all economic constraints removed from it.

As to the second theory, it is true that the Armed Forces exert a strong demand for the products of the defense sector, and that they play an important role in managing weapons acquisition. The customer's powerful position in weapons acquisition derives ultimately from the priority which the Party leaders can be expected to allocate substantial resources to the defense sector. In other words, demand and supply emanate from the same source and it is hard to see, therefore, why the customer's powerful position would encourage especially efficient operation in the weapons acquisition process. Moreover, while the acquisition process is so arranged as to help the Armed Forces to acquire the weapons they want, it is not clear that those arrangements necessarily encourage efficiency. Some features of military R&D are being transferred to the civilian sector and this suggests that they are relatively effective, but the interest in defense economics indicates some dissatifsaction with the

present efficiency of the weapons acquisition process.

The Soviet interest in defense economics confirms the argument of earlier sections of the paper that economic factors do have a bearing on Soviet weapons decisions. Moreover, it does not appear that the defense sector is so efficient as to be immune from economic pressures. What resources might be transferred from the defense sector, and to what economic effect, are questions which fall outside the scope of this paper.

Conclusion.

This paper has raised more questions than it has answered, but the argument it makes can be summarized briefly. Military R&D is more effective than civilian R&D in the Soviet Union, but the two sectors are not completely isolated from each other and the technological level of civilian industry does impose constraints on the RDT&E system. Economic factors are taken into account in weapons decision-making. In the case of individual systems the documents which regulate the acquisition process require cost analyses to be made. Wider economic considerations can be brought into play through the political process. In spite of the secrecy which surrounds this process and the momentum which builds up behind weapons programs, there is a politics of weapons acquisition in the Soviet Union. The Brezhnev Politburo has been united in giving high priority to the building up of the Soviet Armed Forces. There is, however, evidence that the burden of the defense effort is recognized and this burden might become an issue in the leadership politics of the 1980s. This will happen only if political circumstances allow the issue to come to the force, and those circumstances fall outside the scope of this paper.

NOTES.

1. See David Holloway, 'Military Technology', in R. Amann, J. Cooper and R.W. Davies (eds.) The Technological Level of Soviet Industry, Yale U.P., New Haven and London, 1977, pp. 408-89. See also the CIA testimony in Joint Economic Committee, U.S. Congress, Allocation of Resources in the Soviet Union and China - 1976, Hearings before the Subcommittee on Priorities and Economy in Government, Part II, p.67; also Allocation of Resources in the Soviet Union and China - 1977, Hearings before the same Subcommittee, Part 1, pp.23-24.

2. Amann, Cooper, Davies (eds.) op.cit., Ch.2; Alexander Flax, 'The Influence of the Civilian Sector on Military R&D', in F.A. Long and J. Reppy (eds.) The Genesis of New Weapons. Decision-Making for Military R&D, forthcoming.

3. On the institutional structure of the defense sector see David Holloway, 'Soviet Military R&D: Managing the Research-Production Cycle', in J. Thomas and U. Kruse-Vaucienne (eds.) Soviet Science and Technology, published by the George Washington University for the National Science Foundation, 1977, pp.189-229; Arthur Alexander, Decision-Making in Soviet Weapons Procurement, Adelphi Paper Nos. 147/8, International Institute for Strategic Studies, London, 1978.

4. The CIA has estimated the proportions of Soviet outlays on defense (as defined in the US budget) going to the different branches as follows (per cent):

	1967	1970	1975	1977
Strategic Missile Forces	10	7	5	8
National Air Defense	14	15	12	12
Air Forces	17	19	26	22
Ground Forces	21	22	22	22
Navy	22	22	19	20
Command and Support	16	15	16	16

(Sources: Estimated Soviet Defense Spending in Rubles, 1970-75, CIA: SR 76-10121U, May 1976; Estimated Soviet Defense Spending: Trends and Prospects, CIA: SR 78-10121, June 1978)

The Strategic Missile Forces' proportions vary with the phasing of procurement programs, while the ABM Treaty of 1972 reduced the National Air Defense total, The Air Forces were the main beneficiary.

5. See Ministry of Defense (London) Release on Soviet weapons production, 1976; also Aviation Week and Space Technology, 23 January 1976, p.20.
6. See David Holloway, The Soviet Style of Military R&D, in Long and Reppy (eds.) op.cit.
7. See, for example, the extensive bibliography on socialist military-economic thought in W. Stankiewicz, Socjalistyczna mysl wojenno-ekonomiczna, Wydawnictwo Ministerstva Obrony Narodowej, Warsaw, 1972, pp.429-58.
8. Moscow, 'Mashinostroenie', 1972.
9. Ibid., pp.27-29.
10. Ibid., p. 29; and V.S. Pyshnov, a noted aerodynamicist and general of the technical services, in Voennaya Mysl', 1963, no.10, CIA FDD TRANS. NO. 10, p.6.
11. Sovetskaya Voennaya Entsiklopedia, vol.3, Moscow, Voenizdat, 1977, pp.616-6. This article is signed by Colonel-General Alekseev, the Deputy Minister of Defense for Armament.
12. Sarkisian and Minaev, op.cit., p.30.

13. Alekseev, loc.cit.

14. See Alexander, op.cit., pp.31-5 for a discussion of the review process.

15. Alekseev, loc.cit.

16. Sarkisian and Minaev, op.cit., pp.31-5.

17. Ibid., p.30.

18. V.M. bondarenko, Sovremennaya Nauka i Voennoe Delo, Moscow, Voenizdat, 1976, p.41.

19. See Igor S. Glagolev, 'The Soviet Decision-Making Process in Arms Control Negotiations' Orbis, Winter 1978, pp.767-776.

20. Quoted in Joint Economic Committee, U.S. Congress, The Economic Basis of the Russian Military Challenge to the United States, Hearings before the Subcommittee on Economy in Government, Part 3, Washington D.C., 1964, p.963.

21. On plans see Holloway, 'Soviet Military R&D', loc.cit., pp.202-3; M. MccGwire, 'The Turning Points in Soviet Naval Policy; in MccGwire (ed.) Soviet Naval Developments, Praeger Publishers, New York and London, 1973, pp.176-209.

22. See N.S. Khrushchev, Khrushchev Remembers, vol.2, Harmondsworth, Penguin, 1977, chs. 2 and 3. The failure to deploy the SS-6, the first Soviet ICBM, in any numbers is also an interesting decision. See Karl F. Spielmann, Analyzing Soviet Strategic Decisions, Boulder, Colorado, Westview Press, 1979.

23. See the statement by Maj.Gen. A. Kornienko and Capt. V. Korolev; "rapid obsolescence of weapons and war materiel, aggravated even more by its constantly increasing cost; is a typical feature of the current stage of the development of military affairs", Voennaya

Mysl', 1967, no.7, CIA FB FPD 0120/68 p.33.

24. Puti razvitiya letatel'nykh apparatov, Moscow, Oborongiz, 1962.

25. A.V. Glichev, Ekonomicheskaya effektivnost' tekhnicheskikh sistem, Moscow, Ekonomika, 1971, p.26.

26. See Bolkhnovitinov, quoted by Gilchev, op.cit., pp.37-8.

27. For an interesting analysis of the marginal transfer of defense resources to civilian purposes see John Hardt, "The Military-Economic Implications of Soviet Regional Policies" in Regional Development in the U.S.S.R. Trends and Prospects, NATO Colloquium April 25-27, 1979 Brussels (Newton, Massachusetts: Oriental Research Partners, 1979).

Mr. HARDT. Professor Holloway has provided us with useful insights into and interpretation of the historical record.

One of the important areas of decisionmaking for the Soviet Union in the military context is the Defense Council. It is important in terms of who belongs, how they decide, and what information is available to them. Mr. Anderson will give us some insights on this important institution.

STATEMENT OF RICHARD D. ANDERSON, JR.—THE DEFENSE COUNCIL, SUCCESSION POLITICS, AND SOVIET MILITARY SPENDING

Mr. ANDERSON. I'm not going to talk about the lack of available information, because there is very little. But let me go ahead and talk about the Defense Council, recognizing that I am speaking from a very skimpy data base.

There are really three subjects I want to address: The first is the Defense Council. The second is recent Soviet succession policies. The third is how these two things are likely to impact on the Soviet military burden.

First, the Defense Council. The Defense Council is a top-level Soviet organization for making defense decisions. It is chaired by Leonid Brezhnev.

Most analysts, looking at the Defense Council, have depicted it as kind of a Politburo subcommittee which has the function of making recommendations on defense policy. Because the membership of the Defense Council has included figures such as Brezhnev, Podgorny, Kosygin, Grechko, and Ustinov, analysts have thought that the Politburo would very rarely reject its recommendations.

My own view is rather different. It seems to me the Defense Council and the Politburo have actually competed over time to control defense policy, with the locus of the actual authority shifting, depending on the political fortunes of individual Politburo members.

Brezhnev started this competition between the Council and the Politburo because when he first gained power in 1964 it was easier for him to control decisions in the Council than in the larger Politburo. And once he controlled the decisions on defense policy within the Council, he could convert that into influence on Politburo decisions in other issue areas. And that provided him with some very useful political leverage.

The reason that this leverage existed was, as William Hyland was told during the SALT negotiations, even Politburo members who do not sit on the Defense Council are denied information on specific military programs and on military budgets. Without this information, of course, Politburo members have no means of mounting any kind of serious challenge to Brezhnev and his policies. And without being able to take an independent stand on defense policy issues, they had no means of forming political coalitions with influential military officials.

In addition to making policy, the Defense Council performs a day-to-day executive function. This executive function is the overseeing of the defense programs and institutions. And the Council performs this function through an instrument known as the Military-Industrial Commission. This Military-Industrial Commission apparently has the

right to coordinate both defense and civilian industry in the fulfillment of defense plans.

And in particular, it operates the industrial priority system. When materials are short or machinery is short, first the needs of the defense industry are fully satisfied, then the needs of producer-goods industries—finally, the needs of the consumer industries, which means in practice, of course, the consumer industries usually get short shrift.

Now, the control of this structure, it would seem to me, would offer Brezhnev four kinds of leverage on the Politburo:

First, he has probably been the only Politburo member to sit on all three of the principal decisionmaking committees—that is, the Defense Council, the Politburo, and the Secretariat. And thus, he is the only one able to maneuver between them.

Second, decisions in the Council could be used to influence the formation of coalitions in the Politburo, because by including certain military projects, Brezhnev could force conflicts between other members of the Politburo on whose civilian projects would have to be cut back.

Third, the industrial priority system could probably be used to frustrate certain Politburo decisions in the implementation stage, even after Brezhnev lost them in the policymaking stage.

Fourth, at least until 1976, Brezhnev was probably able to use this industrial priority system to make it easier for officials who were politically cooperative with him and harder for those who supported rivals. However, this leverage was only going to be available to Brezhnev as long as he maintained the coalition with the high command which he started to form in 1965.

As soon as this coalition split up—that is, as soon as Brezhnev took policy positions in the Defense Council which were opposed to those of the military, then the high command would form coalitions with the other Politburo members, who were Brezhnev's rivals and Brezhnev would lose control of the Council to them. And there is some evidence that this happened after 1973. And as a result, there was a transfer of control of defense policy from the Council to the Politburo. Many of these conflicts concerned SALT policy.

A few words about recent succession politics and some background:

Since the death of Mikhail Suslov in January, succession politics have begun with a vengeance. There have been the traditional signs of an anticorruption campaign and party-state conflict. Both of these are reminiscent of issues raised in 1964–65.

Party conflicts in the Soviet Union do not concern whether the party should dominate the state or the state dominate the party. What they concern is whether the party should take a more active role in state decisionmaking or whether the state should have more freedom of action.

The protagonists in this conflict have been Chernenko and Brezhnev, for a more active role for the party, and Andropov, favoring more freedom of action for the state.

One issue present in both the Malenkov-Khrushchev conflict and the Brezhnev-Kosygin conflict is so far absent in the conflict today, whether victory is possible in nuclear war.

This issue has next to nothing to do with Soviet planning, or what actions they will take in the event of nuclear war, but it has everything to do with resource allocation. When the Soviets argue that

nuclear war will result in the victory of socialism, then there is a tendency for the allocations for defense to grow quite rapidly—when the Soviets argue that nuclear war would result in catastrophe for both sides, this has a dampening effect.

In today's conflict, so far both sides have viewed the likely outcome of nuclear war as a catastrophe for both sides.

If you look at the figures on defense spending produced by William T. Lee, which are the ones—partly by reason of this analysis—I find most likely to be accurate, it shows that during 1980 Soviet defense spending, for the first time since 1965, was below planned targets.

The problem with this is that this whole "war is a catastrophe" line tends to favor the state. As William Odom has pointed out, the military has a vested interest in centralized control by party officials of resource allocations. To the extent that you decentralize it, if you allow the state more independence, then you are weakening the military's claim, you are weakening the industrial priority system.

If you say to some factory manager, "Set the prices yourself, control your own materials, control your own production decisions," this is going to mean that you can't step in and say to him, "Well, you've set your prices and laid your plans on the basis of certain allocation of materials, but we're simply taking that allocation away." You totally frustrate the whole point of decentralizing if you continue to operate the military priority system in the same way as you have in the past.

It's quite clear which side the statists are on in the discussion of how seriously the Soviet Union has to prepare for war. Tikhonov, of course, who is the head of the government, told an Indian interviewer recently, "I would not say that the world has been closer to the brink of a worldwide conflagration in the last 2 years." That, of course, is quite contrary to the line we've been hearing from Moscow about how the Reagan administration is pushing the world into a war.

On the other side, the military have been maneuvering to support the party side in this party-state conflict—at least members of the military. Obviously, it's a split institution, that does not always take the same positions.

I think it's rather likely that ultimately Chernenko is going to return to the same political strategy that was used by both Brezhnev and Kosygin, by arguing that there is a possibility of a nuclear war, and that you have to make this rapid buildup of defense spending.

The reason for doing this, of course, is not his feelings about defense spending, but simply that Chernenko, like any other Soviet politician, wants to be the successor to the General Secretary. He wants to win this conflict, and the military line is very useful to him.

From the point of view of other members in the Politburo, the thing to do would be to dismantle these decisionmaking arrangements which have been so useful to general secretaries in the past. And one action that they might take that would be very helpful in dismantling these would be to be more open in regard to military economic information.

This prohibition on Politburo members getting real access to political and economic data, which makes the Defense Council so useful to the General Secretary, if they abolish that prohibition by publishing this information, they would have a much harder time using that successfully, because the effects of his behind-the-scenes maneuvering

in this area would be much more visible. But I must say that I'm not very optimistic that this would happen.

Jerry Hough observed recently that there is no iron law of history which dictates spurts in military spending after a succession. But even so, what the Soviet pattern has been is one of a steady decline in the political strength that the general secretaries bring to the office, from Stalin to Brezhnev.

And just as a conflict with the Joint Chiefs tends to make an American president vulnerable to Congress, a conflict with the Soviet General Staff tends to make the General Secretary more vulnerable to advocates of freedom of action for the state on the Politburo. Soviet politicians are very aware of this. Therefore, I find it quite unlikely that any new general secretary would reject what has proven to be a winning political strategy in the past.

Let me just make one further observation—one corollary in this argument is that if you take the CIA's estimated growth rate in rubles of Soviet defense spending at 4 to 5 percent a year, Soviet economic growth in 1966–70 averaged just under 8 percent a year. So what the CIA's estimates imply is that for that period, as opposed to later periods, there is actually a shift in resources away from defense. The defense sector of the economy became relatively smaller.

My political argument is that Brezhnev was winning the political battle by shifting resources to defense. And for that reason, I'm much more inclined to believe these estimates which show, for the 1966–70 period, that the growth rate is 12 percent, and for the later period around 9 percent.

[The complete statement of Mr. Anderson follows:]

THE DEFENSE COUNCIL, SUCCESSION POLITICS, AND SOVIET MILITARY SPENDING

Richard D. Anderson, Jr.
Office of Congressman Les Aspin

June 1982

The Defense Council

Most analysts have depicted the Soviet Defense Council as a Politburo subcommittee which makes recommendations on defense policy. Uncertainty about the Council's powers stems from the paucity of information about the Council. The Soviets did not publish its existence until 1976; to this day the membership has not been announced, save that Brezhnev is Chairman. Because the membership has included figures such as Podgorny, Kosygin, Grechko and Ustinov, analysts have taken the position that the Politburo would rarely reject recommendations from the Council, and therefore it has been seen as an influential body.

The admittedly sketchy Soviet descriptions of the Council's activities supply a rather different picture of its relationship to the Politburo. It appears that the Council has competed with the Politburo for control of defense policy, with the locus of actual authority shifting over time as the result of changes in senior Politburo members' political fortunes and policy goals. Brezhnev originally pitted the Council against the Politburo because he apparently found it easier to control decisions in the smaller committee than in the larger one. Control over defense decisions could be converted into influence on Politburo decisions in other issue areas, and I suspect that leverage afforded by the Council was important in Brezhnev's gradual rise to dominance of the Politburo.

Brezhnev's greater control inside the Council rested on two principal foundations: his formal status as Chairman of the Council, and the composition of the Council. Brezhnev was apparently originally made Chairman of the Council because of the need for some one leader to be able to resolve differences of opinion in case of the threat of war. It is worth noting that Brezhnev has never attained the formal status of Chairman of the Politburo--even though he enjoys many of the prerogatives, and is often described by that term in Western literature. Soviet descriptions of the Politburo under Brezhnev make clear that Brezhnev has not had the right to decide in case of a split in the Politburo; instead differences are referred to an ad hoc subcommittee for resolution. A "Chairman," on the other hand, in Soviet usage is a personage with the right to issue orders, and the original descriptions of the Defense Council consistently accorded Brezhnev more stature there than in the Politburo.

The composition of the Council, never disclosed, apparently includes both Politburo members and top military officials, especially the Minister of Defense and the Chief of General Staff. (There is some dispute over this.) An important feature of the Council is that membership appears to be an attribute of persons and not of offices. Kosygin was a member, but it is not clear that Tikhonov is; similarly, on joining the Politburo in 1973 Gromyko and Andropov apparently became members of the Council although they had not been previously. Two consequences flow from the composition of the Council. First, Brezhnev has apparently been able to alter its complexion by changing the membership; and second, by maintaining the

right mix of members he may well have been able to preserve a split in the Council and thus to retain freedom of action through his right to decide controversial issues. In particular, from 1965-73 it appears that Brezhnev most often sided with the military members of the Council against Kosygin and Podgorny, who were his chief rivals for power and who were also both advocates of a slower rate of increase in defense spending at various points in this period.

William Hyland was told by Soviet officials during the SALT negotiations that even Politburo members who did not sit on the Defense Council were denied specific military information. This denial of information is the key prerogative which has made the Defense Council politically useful. Without information about defense decisions Politburo members had no basis for mounting challenges to Brezhnev's defense policies and thus no means of forming coalitions with influential military officials.

In addition to making policy the Defense Council also appears to have a day to day executive function of overseeing the execution of defense plans. Since the Council is a collective organization, in practice the executive function seems to have devolved principally on Brezhnev as Chairman and on the Party Secretary for defense, formerly D. F. Ustinov and later Ya. P. Ryabov (after Ryabov was removed in 1979, it is not clear who if anyone took on his responsibilities or whether the organization of defense administration remained the same). The principal organizational tool seems to have been the Military Industrial Commission, or VPK, which apparently has the right to coordinate both defense and civilian industry in fulfillment of defense plans. The VPK administers the industrial priority

system, which accords first claim in case of supply shortages to defense industry, second claim to heavy industry, and last claim to consumer goods industry.

Control of this structure would appear to have offered Brezhnev four kinds of leverage on the Politburo. First, he has probably been the only Politburo member to sit on all three of the principal decision-making committees, the Council, the Politburo and the Secretariat, and thus the only one able to maneuver between them. Second, decisions in the Council could be used to influence coalition formation in the Politburo, as Brezhnev could force conflicts over whose civilian projects would be cut back to make way for defense programs. Third, Brezhnev could probably use the industrial priorities to win in the implementation stage policy conflicts that he had lost in the decision stage. For example, Kosygin's effort in 1967 to increase investment in consumer industries faster than in producer industries, which include defense, was frustrated in the implementation. Fourth, while Ustinov was Secretary for defense Brezhnev may have been able to make achievement of industrial production targets easier for local officials loyal to him and harder for those who were loyal to rivals, by invoking the defense production priority.

This leverage would have been available to Brezhnev only so long as he remained the strongest supporter of military budget claims in the Politburo. If Brezhev found himself in conflict with the military members of the Council, opportunities would have opened for coalitions between them and Brezhnev's rivals on the Council. One such coalition appears to have emerged among Grechko, then Chief of General Staff Kulikov and Podgorny over SALT in 1974.

While Brezhnev could resolve differences on his own authority, I do not believe he ever had the kind of authority that enabled Stalin to decide contrary to the unanimous opinion of the Supreme High Command in World War II, as he did in the case of the proposal for a Transport Commission. When Brezhnev found himself in a minority on the Council, the issue would presumably have been referred to the Politburo. A defeat for Brezhnev on SALT policy appears to have been responsible for a change in Soviet descriptions of the relationship between the Council and the Politburo in the winter of 1977-1978, with the Politburo ascribed more authority in defense matters.

The interaction between Brezhnev's political need for military support inside the Defense Council and the Military's demand for increased allocations in return is in my view the principal cause for the extraordinary surge in Soviet defense spending after 1965. More rapidly growing defense budgets would have provided more opportunities for forcing conflicts in the Politburo and for disruption of industrial supplies at the oblast level. As a corollary, if this analysis is generally accurate it seems most unlikely that there was a significant net reduction in the defense burden during 1965-1970, as CIA's estimate of a 4-5% annual ruble growth rate would imply when contrasted against the overall ruble growth rate of almost 8% annually for the economy during 1966-1970. William T. Lee's estimate of approximately 10-12% annual growth in defense spending during this period seems politically more plausible.

The stronger Brezhnev became relative to the rump of the Politburo, the less need he had of the leverage afforded by the Defense Council and of his coalition with the military. In the early 1970s Brezhnev was thus able to move away from his commitments to the high command, especially

in his advocacy of SALT. There developed a contradiction between Brezhnev's exploitation of the opportunities to elevate himself above the Politburo through the personal conduct of summits on SALT and his ability to use the Defense Council leverage. Developing conflict between Brezhnev and the high command mirrored the pattern of relations between the first party secretary and the military leadership under both Khrushchev and Stalin, when a early period of cooperation was followed by conflict. In that Brezhnev never attained the kind of political dominance that either of his predecessor had achieved, he was never in a position to mount the kind of far reaching assault on the military that Stalin and then Khrushchev had undertaken. The growth rate of the defense budget slowed in the 1970s, according to Lee, but remained high relative to economic growth.

Defense Spending and Succession Politics

Since the death of Mikhail Suslov in January typical succession politics have broken out with a vengeance. Both an anti-corruption campaign and party-state conflict are reminiscent of issues raised in 1952-1953 and in 1964-1965. The initial target of the anti-corruption campaign was a circus official close to Brezhnev's family. This was accompanied by appeals for strong leadership at the top, which Brezhnev's stroke on his return from Tashkent has again made clear he is too ill to provide. An attack on Brezhnev is also prejudicial to the prospects for his favorite, Konstantin Chernenko, to succeed him. Brezhnev and Chernenko were only able to bring the anti-corruption campaign under control with the death, perhaps by suicide, of the professional policeman Tsvigun, who was succeeded as first deputy chairman of the KGB by two officials, the professional policeman Tsinev and the long time party apparatick Chebrikov.

After Tsvigun's death the anti-corruption campaign was re-oriented to become a weapon of intimidation against state officials in the party-state conflict. Party-state conflicts, of course, are fought between party officials over the issue of how much the party should interfere in state activities, not over whether the state will dominate the party. In this case the protagonists appear to have been Chernenko, representing the more activist role for the party, and Andropov representing greater freedom of action for the state. The prize in the contest was the appointment to the Secretariat which Andropov gained at the May Plenum of the Central Committee--thus improving his position as a candidate for the succession.

One issue that was present in both the Malenkov-Khrushchev conflict and the Brezhnev-Kosygin conflict is so far absent in the conflict today: whether victory is possible in nuclear war. As Dinerstein observes in his classic study of this issue, it has very little to do with actual Soviet planning for action in case of war. But like its counterpart in the United States, this debate has everything to do with resource allocations. In 1953-1956, when the Malenkov line was dominant, Soviet defense spending actually declined according to Lee's figures; growth began again when Khrushchev, then the advocate of preparing for victory in nuclear war, established his dominance after the XXth Party Congress and the defeat of Malenkov in the "anti-party group." A rebuff to the line that nuclear war can result only in catastrophe was associated with the rapid increase in defense spending after 1965.

In today's conflict, so far both sides have been in agreement that nuclear war would result in catastrophe. Again this line has been associated with a slowdown in the rate of growth of military expenditures. Lee's

latest figures shown that during 1979-1980 defense expenditures were significantly below planned levels. Apparently the industrial priority system was not enforced; instead a decision was taken to apply scarce materials to non-defense targets.

Chernenko's adherence to the "catastrophe" line is in my view to be ascribed to his status as Brezhnev's favorite and to lack of an independent power base of his own. As Chernenko's espousal of the party side in the party-state conflict develops a following for him, his stand may change. As William Odom points out, the military has a vested interest in centralized control by party officials of resource allocations, and reformers favoring less party interference in economic decisions formally within the state's competence are indirectly attacking the distortion of the economy for military purposes. It is already suggested which side the "statists" are on. Tikhonov, for example, told an Indian interviewer, "I would not say that the world has been closer to the brink of a worldwide conflagration in the past two years"--a direct confrontation with Soviet propagandists who claim Reagan administration policies are engendering a greater danger of war. And in an article in Novy Mir ostensibly about the succession in China but apparently aimed primarily at the Soviet situation, Fedor Burlatskii warns that a "time of troubles...has more of an inclination to come full circle..."i.e., toward reaffirmation of the goal of "national greatness, understood as the creation of a mightly military-industrial power at any price." Burlatskii's patron, of course, was the sociologist and Central Committee member Ruminatsev, and both of them belonged to the circle of intellectuals under the patronage of Andropov.

With his chief rival likely supporting less military spending, and with reductions in military spending likely to strength Andropov's power base more than his own, Chernenko is likely to see his own benefit in following the time-tested political strategy of a coalition with the military. There is already evidence that some military figures favor the party side in the party-state conflict. Army General Yepishev, long time head of the Main Political Directorate and the high command's principal political spokesman, included in his speech to the VIth Congress of Military Party Secretaries a quotation from Lenin, "We must raide the significance of party members higher, higher and higher." This was deleted from the text printed in Pravda, a sign that it was politically sensitive--as indeed it was in the midst of a party-state conflict.

As this point conflict over defense allocations remains merely incipient. Chernenko is a far less powerful figure in his own right than Brezhnev was in 1964, and if he becomes the new General Secretary one day his succession may be approved on the basis of an even more restrictive set of understandings than those imposed on Brezhnev. If the Politburo members want to avoid a recurrence of the process described by Burlatskii--"All his efforts throughout the last 15 years were aimed precisely at crushing the most important figures..."--then a critical step would be to deprive the next General Secretary of the political leverage offered by defense decision-making arrangements. There is precedent for such step in the reorganization of these arrangements which has followed every succession so far. A lightening of the defense burden would clearly go far to ameliorate the objective economic difficulties now facing the Soviet Union.

One element that would greatly aid the dismantling of these arrangements would be more openness in regard to military and military-economic information. Strict compartmentation of this data within the Defense Council offers the General Secretary powerful leverage against the Politburo. Thus Soviet politicians might find it in their own personal interest to welcome U.S. initiatives on this subject.

I am personally not optimistic, however. Jerry Hough is perfectly correct that no iron law dictates a spurt in military spending as a result of a succession. The new General Secretary is not obligated to side with the military. But the Soviet pattern has been one of a steady decline in the political strength which General Secretaries bring to the office. To a weak General Secretary the coalition with the military is more vital than to a strong one. Just as conflict with the Joint Chiefs lays a President open to opponents in Congress, conflict with the General Staff tends to lay the General Secretary open to statists on the Politburo. Soviet politicians are perfectly aware of their own internal history--which we are not--and it is quite unlikely that any General Secretary would reject what has proven a winning political strategy time and again in the past.

Footnotes

1/ On the membership of the Defense Council, see Raymond Garthoff, "SALT and the Soviet Military," Problems of Communism, vol. 24, no. 1 (January-February 1975), p. 29; Arthur J. Alexander, "Decisionmaking in Soviet Weapons Procurement," Adelphi Papers nos. 147 and 148 (London: I.I.S.S., 1978), p. 15; Hariet Fast Scott, "The Soviet High Command," Air Force Magazine, (March 1977), p. 53; and unpublished manuscripts by Sergei Freidzon. Garthoff and Alexander list Brezhnev, Kosygin, Podgorny, Grechko, Ustinov and the Chief of General Staff (Zakharov, then Kulikov, and since 1977 Ogarkov) as the core members of the Defense Council. On the basis of signatures on obituaries of ranking military officers, Scott adds Suslov and Kirilenko to this list. Since their elevation to the Politburo in 1973, Andropov and Gromyko also appear to have participated in the Defense Council. A Soviet emigre, Freidzon agrues that only Politburo members may sit on the Defense Council and that as of 1980 the membership included Brezhnev, Kosygin, Ustinov, Suslov, Kirilenko, Andropov and Gromyko. Freidzon's listing appears to be based on the assignments of these men. My own view is that the Chief of General Staff is a full member even though he is not on the Politburo and that Suslov and Kirilenko were not members (their signatures on military obituaries may have been attributable to their responsibilities in the Secretariat). Even if Suslov and Kifilenko were members, the Defense Council would still have been useful against figures like Aleksandr Shelepin and Petr Shelest', who were potent rivals of Brezhnev until 1972.

2/ On conflict between Brezhnev and Kosygin over defense allocations, see S.I. Ploss, "Soviet Politics on the Eve of the 24th Party Congress," World Politics, vol. 23, no. 1 (October 1970), pp. 62-68. On Podgorny's defeat after endorsing restraint in defense spending, see Michel Tatu, Power in the Kremlin (New York: The Viking Press, 1970, pp. 499-500.

3/ "East and West," Pravda, 15 April 1982; an interview with Ivan Vladimirovich Kovalev, who was chief of military communications lines during the war and who proposed the Transport Committee. Stalin asked the Supreme High Command, the Defense Council's wartime counterpart which is frequently discussed as historical proxy for the Council, which of its members supported Kovalev's proposal. No one did. Stalin then approved the proposal and appointed himself chairman "for the sake of authority." Reference to Stalin's far reaching powers at a time when illness had again removed Brezhnev from day to day decisions should probably be read as a call for stronger leadership.

4/ Compare the descriptions given in "Brezhnev," Soviet Military Encyclopedia, vol. 1, p. 588, and in articles published in the military press during 1976 reviewing this volume, with the description given by S.A. Tiushkevich, ed., The Soviet Armed Forces (Moscow: Voienizdat, 1978), p. 464. The Politburo's role is clearly more prominent in Tiushkevich's description than in the 1976 descriptions.

5/ H.S. Dinerstein, War and the Soviet Union (New York: Praeger Publishers, 1959).

6/ William Odom, "Who Controls Whom in Moscow?" Foreign Policy Washington, D.C.), no. 19, Summer 1975, pp. 109-123.

7/ Izvestia, June 3, 1982; the quotation is taken from "News and Views from the USSR," distributed by TASS through the Soviet Embassy Information Department.

8/ Fedor Burlatskii, "Interregnum, or a Chronicle of the Times of Deng Xiaoping," Novii Mir (Moscow), no. 4, April 1982.

9/ Speech by A.A. Yepishev to VIth All-Army Conference of Secretaries of Primary Party Organizations, Red Star, 12 May 1982.

Mr. HARDT. Mr. Anderson's statement is an interesting insight into the way of interpreting the relationship between the subject of politics and Soviet military economics.

Mr. MccGwire has been given the difficult task of looking at the Soviet presumptions relating to their military requirements in an attempt to give us an insight into the historical rationale of Soviet decisionmaking.

STATEMENT OF MICHAEL MccGWIRE—SOVIET MILITARY REQUIREMENTS

Mr. MCCGWIRE. My paper looks at Soviet perceptions of what might be called their essential defense requirements and to do so I adopt the stance of a prudent military planner sitting in Moscow. The view from there is not reassuring, and this is not just my own opinion. The U.S. Chiefs of Staff have all been asked whether they would like to trade with their Soviet counterparts, and their answer has invariably been no. This reflects hardnosed military realism. If you look at the massive problems which face Moscow, the picture is really rather depressing. One of the key differences between them and us is that they have always been burdened by defense imperatives, stemming from their geopolitical location, economic backwardness and technological lag, whereas the United States has usually had the relative luxury of defense options. Of course, the fact they have problems does not mean that their military capability is not a serious threat to the West, but the fact should affect our estimate of their intentions.

Let me start by highlighting three unrelated points, each of which have, or have had an important effect on the size and shape of Soviet defense requirements. I will then summarize the situation as I see it with regard to the various components of their defense establishment.

The first point is the Soviet Union's geopolitical location, sprawled across half the northern hemisphere, embedded in surrounding states, sharing a 4,500 mile frontier with China, and with all its traditional enemies on the Eurasian periphery alined against it. This raises very large and very really base-line demands for the territorial defense of land, sea, and air frontiers, the need for which has been repeatedly demonstrated over the last 175 years. Added to this, the Soviets have the internal problems of large national minorities within their borders, and dissident satellites as national allies.

It is hard for the United States, with 3,000 miles of sea to the east and 5,000 miles to the west, and the friendly Canadian landmass to the north, to visualize, let alone empathize with this basic Russian problem. But if we reflect on how extremely sensitive Americans are to the relatively minor threats to their south, it may help visualize what it is to live alongside an avowedly hostile China, whose population is increasing at about 100,000 people a day.

The second point concerns their perception of the threat as it relates to Soviet-United States conflict. Although Marxist dogma no longer insists that the capitalist West must inevitably attack the Soviet Union, the possibility of such conflict is inherent in the present situation, particularly when tension is high. The Soviets label such a conflict as "World War," which they define as a fight to the finish between the two opposing social systems. While they do not think it very likely

and will go to great lengths to avoid being drawn into one, the Soviets consider that they must be prepared to fight and win such a war, for two reasons: first, for the purpose of deterring its outbreak; and second, because of the catastrophic consequences of defeat, which would be synonymous with extinction.

Two equally important sets of objectives stem from this view of world war as a fight to the finish, and these—plus the threat from China—largely determine their military requirements. The first set of objectives focuses on destroying the capitalist system, namely the forces in being, its warmaking potential, and its structure of government and social control. The second set focuses on preserving the socialist system, particularly its principal seat, the Soviet Union, the aims being to preserve the physical structure of government and its capacity to operate effectively, to insure the survival of a certain proportion of the working population and industrial base, and to secure an alternative economic base to help in the rebuilding of socialist society. The fact that these objectives are used as a guide to structuring Soviet forces does not, of course, tell us how they would necessarily be used in a conflict.

The third point is that mid-1961 was the key turning point in Soviet military policy at this period, rather than post-Cuba 1962 or post-Khrushchev 1964. This dating rests on the analysis of Soviet naval developments, of the evolution of Soviet strategic rocket forces, and of the internal policy debate at this period. It is important because both the substance of the policy debate and the output of the decisions taken at this period, in the shape of changed production programs and patterns of deployment, clearly tie this shift in policy to the major defense initiatives introduced by President Kennedy in the first few months of his administration. It provides a very clear example of the action/reaction thesis, although I must hasten to add that in the paper I stress that this is only one of the forces acting to shape Soviet military requirements. Nevertheless, it would be counterintuitive for major changes in the perceived threat not to have some impact on a nation's military requirements, and in this case, they certainly did. And not without justification. In a recent interview with the Los Angeles Times, Robert MacNamara, who was then Secretary of Defense, gave it as his opinion that the Soviets had every reason to assume that the sudden upsurge in U.S. defense procurement meant that America was seeking a first strike capability.

This 1961 decision period is also important because of its relevance to the current situation. In early 1961, President Kennedy took a series of initiatives intended to enhance American security. These served as a catalyst in the Soviet policy process, resulting in the reversal of several aspects of Khrushchev's 1-year-old defense policy, including countermanding a 1.2 million reduction in military manpower, and prompted a series of new decisions whose end product is the Soviet military posture we now find so worrying. Twenty years later, it looks as if we may be about to repeat the cycle. Certainly, the crusading rhetoric of this administration is comparable to what was in style 20 years ago, although it is proving more difficult to achieve the same startling increase in military procurement. What we have to consider is whether in seeking short-term military advantages, we

may not be generating processes which will work against our long-term interests.

Let me now turn to an overview of their military requirements. I have already mentioned the baseline requirement for territorial defense, not only on land, but at sea and in the air. We can easily visualize the land frontiers, but we should also remember that for the last 200 years or so, the Russians have usually had the third or fourth largest navy in the world, which they needed to protect their four widely separated fleet areas against maritime powers who could concentrate their forces at will. The requirement to defend against air attack entered the picture in the thirties, and it is relevant that only now are they beginning to deploy a capability against the low-flying penetrating bomber, and the cruise missile will present them with a qualitatively different problem.

What then of ground forces in Europe. It is here that perhaps the greatest concern lies, and there is no question that the Soviets have considerably more forces than are needed to defend the Warsaw Pact against deployed NATO forces. But that has never been the full measure of their requirements, since the threat has always lain in the unchecked buildup of NATO forces from an undamaged North America, whose manpower resources and industrial base would inevitably prevail. Initially, therefore, the requirement was to deny America the use of Western Europe as a bridgehead, and this demanded the swift advance of Soviet forces to seize Western Europe. As the Soviet Union gradually built up the nuclear capability to attack the U.S. military industrial base, so did the importance of Western Europe as a bridgehead diminish, but this was compensated for by its rising importance as an alternative socio-economic base, from which to rebuild the socialist system. The Soviets had to assume that in a world war, the Soviet homeland would be largely devastated by U.S. nuclear strikes.

The Soviet military requirement is therefore to seize key areas of Western Europe at the outbreak of war, with the parallel requirement to destroy Western forces in being. It is doubtful if the Soviet Commander of the Warsaw Pact forces is fully confident that he can discharge these missions. He is clearly concerned about NATO's anti-tank capability, and there is the permanent worry about the speed at which he can achieve his build-up and the reliability of non-Soviet forces. He must assume that it will be NATO that initiates the use of nuclear weapons. And in the longer term there are force-multiplying options available to the West which a relatively minor shift in political attitudes would make possible.

Turning to strategic strike forces, the requirement here is determined by the number of targets around the periphery of the Soviet Union and by those located on U.S. territory, and efforts to develop a regional and an intercontinental capability have proceeded in parallel. Because the regional threat was the most immediate and the one that could most easily be countered, it was this element of the strategic strike forces which was developed first. By the middle 1960s the Soviets had about enough nuclear warheads and delivery systems to cover their targeting requirements, although the latter were mainly first generation systems, which were vulnerable to preemption and/or of limited operational effectiveness.

Although intercontinental bombers and submarine delivery systems were operational by the mid-1950's, they were vulnerable to U.S. countermeasures and by the end of that decade the Soviets were sufficiently confident in the progress of their ballistic missile programs to concentrate on developing this means of delivery. Initially, the intercontinental requirement was defined in the finite terms of area devastation, rather than open-ended point-targetting. This would allow the use of a smaller number of very large warheads, compensating for relatively poor accuracy and limiting the number of missiles required. However, the Kennedy initiatives in 1961 focused attention on the greatly increased threat from Minuteman ICBM in hardened silos and the result was a major shift in targetting requirements, resulting in major changes in the Soviet ICBM programs. The details of these changes are outlined in my paper, but the important point is that the build-up of ICBM which we saw in the sixties and seventies stems from these changes. What we see first is the interim response, where the 10–20 MT SS–9, then in development, targets the Minuteman launch control centers, and the 1 MT SS–11 is diverted from its original development path, given an increased range, and deployed in a force-balancing role as a limited counter to the Minuteman missiles. The more measured response was the development of a fourth generation of missiles, the SS–17, –18, and –19, which would be ready for deployment in 1974–75. It was the introduction of these systems as replacements for the inadequate second and third generation systems in the mid-seventies, that have prompted Western assertions that the Soviets continued their build-up after they had achieved parity.

The actual numbers of strategic launchers and warheads is now probably about in balance with Soviet targetting requirements, but a third of the intercontinental missiles are products of the interim response to the Kennedy initiatives and only the most recent models of the fourth generation, which started deployment in 1979, approach the accuracy required for hard target kill with single warheads. However, with the deployment of fourth generation systems in the intercontinental force and the SS–20 replacing the obsolete and vulnerable systems in the regional force, the Soviets have considerably improved the effectiveness of their strategic strike forces. But this does not mean that they have fully met the requirements stemming from the two sets of objectives I outlined at the beginning, and I list several of these outstanding requirements in my paper.

Turning last to maritime warfare, I will be brief since the subject is now fairly well known. Since World War II we have seen a series of major shifts in Soviet naval policy as they responded to perceived changes of threat. Immediately after the war, the threat was seen as maritime invasion, the response being mass-construction programs, with a heavy emphasis on diesel submarines. In 1954 the threat was redefined as a limited carrier threat and then redefined again in 1957–58 as the threat of nuclear strike by carrier aircraft from distance waters. These redefinitions prompted first a reliance on long range cruise missiles, which allowed the cancellation of the mass-construction programs, and then a reliance on nuclear submarines, which required the doubling of nuclear construction capability. In 1961, the problem of Polaris was added to the carrier threat and it was the perception that the U.S.A. was tilting the emphasis

from land-based to sea-based nuclear-delivery systems which prompted the Soviet navy's shift to forward deployment in the early sixties. This was only one of three approaches to countering the Polaris threat but none have been successful. Meanwhile, by 1968 it had been decided to send the national strategic nuclear reserve to sea, in submarines, operating in defended ocean bastions. This precipitated a radical change in naval operational concepts, which generated a fundamental change in the design criteria for distant-water surface units. As a result the Soviets decided to scale up the whole force, roughly doubling the size of all major units. It also generated a new requirement for sea-based air to provide air superiority over such areas as the Norwegian Sea after naval air bases ashore have been destroyed in the nuclear exchange.

Soviet requirements for maritime warfare are not only extensive but a long way from being met. The most persuasive evidence of the shortfall is that for the fourth time since the war, the Soviet navy is once again embarking on the very expensive process of restructuring its ocean going fleet. The changes this time are as fundamental as in 1954, but many times more costly.

To conclude. In no area do Soviet capabilities exceed their perceived requirements and in some areas there is a serious shortfall. The intercontinental balance is undoubtedly seen as fragile, because of the U.S. capability for making large technological leaps . . . and here we have the Soviet tortoise trying to keep up with the American hare, which ceases to be a fair contest when the hare puts it mind to the race. As I said at the beginning, the fact that the Soviet capability falls short of its requirement does not mitigate the very real threat that capability poses the West. But it does say quite a lot about the way in which we should view the military balance.

[The complete statement of Mr. MccGwire follows:]

Soviet Military Requirements

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Foreign Policy Studies
The Brookings Institution
Washington, D.C.

Soviet Military Requirements

The claim is often made that the Soviets now have more military capability than they can possibly "need", implying nefarious plans to exploit the surplus. Similar claims have been made over the last 30 years, but only recently has the charge been levelled across the board at tanks, ships and missiles. How much do the Soviets actually "need" to ensure their security? This paper explores that question. It is not concerned with the relative military balance between America and the Soviet Union, nor does it consider the very real threat which the Soviet Union's military capability inevitably poses the West. Rather, it focuses on the nature of the Soviet Union's perceived military requirements.

A nation's perception of its defense requirements is highly subjective, being determined as much by the political expectations which stem from its historical experience and current ideology, as by external factors like geopolitical location and the capabilities of potential opponents. However, in assessing Soviet perceptions, we start with several advantages. First, the external determinants are relatively strong. Second, the Soviet ideology is quite explicit. Third, there is considerable consistency in the system. And fourth we

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can analyze their continuing efforts since World War II to redress the technological imbalance, a historical perspective which throws light on the evolution of their requirements. The analytical approach is that of the prudent military planner, looking at the world from Moscow. The principal evidence is the output of their military procurement programs over the last 30 years and the way they deploy and operate these assets, since this reflects how they see their requirements.

The physical extent of the Soviet Union, coupled with the fact that it is embedded in surrounding states, presents a territorial defense problem unmatched by that of any other country, or even a group of countries such as European NATO. Concern for the security of Russia's frontiers is historically well-founded. The country has experienced repeated invasions during its history, including six major assaults during the past 175 years. The most recent was only 40 years ago, when it took the Soviets three years of hard fighting and twenty million dead to expel the Axis invaders from their territory. Meanwhile, ancestral memories of the Mongol yoke ensure that the 4500 mile frontier with China evokes visceral fears of invading hordes.

But land frontiers are not the only problem. After the Napoleonic wars, Russia increasingly found herself confronting maritime powers who used their navies to dictate the outcome of events in adjacent areas such as the Black Sea, and this generated a requirement to defend four widely separated fleet areas against powers who could concentrate their forces at will. It is not accidental that for the last two hundred years or so, the Russian navy has usually been the third or fourth

largest in the world. The naval rebuilding program the Soviets embarked on after World War II was the fourth such twenty-year program in sixty five years.

The requirement to defend against air attack entered the picture during the 1930s and received rapidly increasing emphasis after the war, when the Soviet Union was faced by the West's proven strategic bombing capability and America's atomic monopoly. As with the land frontier, the necessary response was directly related to the perimeter being defended, one that steadily increased as America acquired base rights in surrounding countries, and extended the range of carrier-based aircraft.

The traditional base-line demands of territorial defense are therefore considerable, and the post-war rebuilding of the Soviet armed forces was premised on the belief that a military invasion by the Capitalist West was in due course inevitable. The Marxist prognosis of history which predicted such an assault appeared to have been confirmed both by Western military intervention against the Russian Revolution, and by events leading up to the Second World War. It is true that this dogma was modified in the fifties to allow that an attack by the West was no longer inevitable, but that was only because it was now deterred by the Soviet Union's military capability to rebuff any such assault, implying that the country's defenses must be kept at a high level.

Nor did this doctrinal reformulation imply that the adversary relationship between the two social systems was any less intense. It meant merely that the West could now be constrained from initiating war

as a means of resolving the struggle. It would not, of course, be in the Soviet Union's interest to start such a war since immutable historical forces were working in its favor. Nevertheless, the possibility of open conflict remained inherent in the prevailing situation and, if it came, it would be a world war, which the Soviets visualize as a fight to the finish between the two social systems. There were two reasons why the Soviet Union had to be prepared to fight and win such a war, however unlikely it may have become: first, for the purpose of deterring its outbreak; and second, because of the catastrophic consequences of defeat. As nuclear weapons steadily accumulated, first on the American side and then on the Soviet's, defeat in such a war became synonymous with extinction, and victory with survival.

Implicit in the view that a world war would be fought as a fight to the finish are two equally important sets of objectives. The first focuses on destroying the capitalist system, the aims being to:

- Destroy enemy forces-in-being
- Destroy the system's war-making potential
- Destroy the system's structure of governmental and social control.

The second set of objectives focuses on preserving the socialist system, above all its principal seat, the Soviet Union, the aims being to:

- o Protect the physical structure of government and secure its capacity for effective operation throughout the state
- o Ensure the survival of a certain proportion of the working population and of the nation's industrial base
- o Secure an alternative economic base which can contribute to the rebuilding of a socialist society.

As we shall see, these objectives go a long way towards explaining the evolving Soviet military posture since the war. But two qualifications must be made. First, these objectives have served as a guide to structuring Soviet forces and do not necessarily determine how they would be used in a conflict. And second, the Soviets' espousal of the widespread military belief that effective defense depends on a war-fighting capability, does not exclude the concept of mutual nuclear deterrence.

In terms of these two sets of objectives, the heavy demands for air defense are obvious enough, although it is worth noting that only now are the Soviets deploying the capability to counter the low-flying bomber, and the cruise missile will present them with a qualitatively new defense problem. The full scope of the demand for ground, strategic strike and maritime warfare forces are perhaps less obvious. But before turning to justify the requirement for these major components, there are a couple of lesser examples which illustrate

rather well the implications of the two sets of objectives.

One is the deployment of anti-ballistic missile systems, which in the USA were intended for the defense of the Minutemen fields, but in the Soviet Union were assigned to the defense of Moscow. In the Soviet Union the first priority was to protect the physical structure of government, so as to ensure the continuation of the state. The other example involves civil defense, which in the Soviet Union has the limited objective of ensuring the survival of a certain proportion of the nation's economic potential, human and material, in which case something is better than nothing. In America, civil defense has the demanding objective of making nuclear deterrence more credible by reducing civilian casualties to an "acceptable" level, something which is hard enough to define and even harder to achieve.

It is also necessary to describe a major "fault" in what has otherwise been a fairly steady evolution of Soviet defense policy since the Second World War, partly because crucial programming decisions were taken at this period and partly because it highlights the existence of two somewhat different bodies of Soviet opinion as to how to meet their military requirements, elements of which have persisted since the mid 1950s. In January 1960, Khrushchev announced the results of a thoroughgoing defense review, which included the formation of the Strategic Rocket Force (SRF), its designation as the primary arm of the nation's defense, and a reduction in the strength of the armed forces by 1.2 million men (about one-third the existing force) over the next couple of years.[1] In the main, this was part of an attempt to replace

manpower-intensive conventional forces with nuclear weapons but, given the known trend of Khrushchev's ideas, this could also be seen as a tilt towards something akin to the Western concept of nuclear deterrence. By October 1961 this new trend had been reversed, the reduction in forces had been rescinded, and Marshal Malinovsky's speech at the 22nd Party Congress clearly indicated a return to the traditional military verities. This double shift in policy illuminates the perennial tension between those who espouse the traditional verities of deterrence through a war-fighting capability, both nuclear and conventional, cost what it may; and those who believe that nuclear weapons can dispense with the need for large forces, and can meanwhile serve as an effective deterrent at the strategic level.

The reversal of Khrushchev's policy has been firmly dated to the first six months of 1961, and the surrounding debate clearly ties it to the defense initiatives taken by Kennedy on assuming office.[2] These included the doubling of Minuteman ICBM production, accelerating the delivery of Polaris submarines and more than doubling their building rate, accelerating the development of the Polaris A-3 and the Skybolt missiles, and increasing bomber alert rates. Other measures included increases in military assistance, in the special forces, in the procurement of conventional weapons for the army and, perhaps most ominous, improvements in Civil Defense, with sharp increases predicted for the future. Knowing that the "missile gap" was illusory, the Soviet leadership could only be alarmed by the implications of the American weapons program.[3] Equally important in terms of Soviet threat

perceptions was the crusading rhetoric of the new Administration, with its willingness to go any place, pay any price, and the detached logic of the tough-minded academic strategists who where thinking the unthinkable and developing theories of limited nuclear war.

To a large extent, it is the results of the Soviets' re-espousal of traditional verities that worry us today. Of course much of the present military posture stems from the earlier defense review orchestrated by Khrushchev, particularly the restructuring of research and development. But the heightened sense of threat prompted by the Kennedy initiatives appears to have prompted a thorough-going reappraisal of what was involved in fighting with nuclear weapons. A whole series of consequential policies were developed, including major changes in weapon programs and in patterns of deployment.

Another major source of Western worry is the Soviet continuous procurement process, which is a byproduct of their centrally planned economy. It involves the fixed allocation of facilities and resources to defense production, where the output of various types of equipment runs continuously at the normal replacement rate, with improved variants being introduced at regular intervals. This applies to ships, aircraft and armored fighting vehicles, as well as to individual weapon systems. What tends to be referred to in the West as a "relentless build-up" is often just the steady process of product improvement, starting from an unsophisticated technological base in the 1950s, and they have yet to catch up fully. In the case of ground forces, the adverse impression is accentuated by the retention of superseded

equipment in forward areas, reflecting the Soviet approach to combat logistic support. A similar procurement process in compressed form can be seen when the Soviets are introducing a new weapon concept or have to restructure existing programs, as for example, in the case of certain warships and strategic missiles. This leads to further Western misapprehensions, since few appreciate that at the initial stage of applying a new concept, it is Soviet practice to deploy systems that have very limited operational effectiveness. This allows practical evaluation and development, and in the event of conflict, something at hand is better than nothing.

Ground Forces in Europe

The Soviets have considerably more forces than are needed to defend the Warsaw Pact against a land attack by deployed NATO forces. But that has never been a full measure of the threat, or of their requirements. Until at least the early 1960s, the major threat in the event of war with the West was the potential buildup of US forces in Europe from a largely undamaged North American industrial base. To counter this threat, the Soviets had to move rapidly on to the offensive, so as to deny America the use of Western Europe as a bridgehead into which it could pour the output of its fully mobilized industrial capacity and so go on to victory. It so happened that a thrust to seize Europe also observed the doctrinal tenet that offense is the best means of defense. And in the 1950s, this threat to "hostage" Europe may have been seen as a counterpoise to the US atomic monopoly.

As the Soviet Union steadily acquired the capability to ravage America's industrial facilities, so did the importance of preventing Europe's use as a bridgehead diminish, although the requirement would persist as long as war remained conventional. At the same time, however, Western Europe was becoming increasingly important to the Soviets as an alternative economic base from which to rebuild the socialist system, since it had to be assumed that Russia would be devastated by US nuclear strikes.

Paralleling these evolving reasons for advancing into Europe was the strictly military objective of destroying the enemy's forces in being. Of course, the way of achieving this would need to be significantly different if Western Europe was needed as an alternative socio-economic base. The concept of operations would have to limit the extent of devastation through selective weapons use, restricting military operations to essential areas, and using the diplomatic tools of bribery, blackmail and coercion to their fullest extent.

Details of the Warsaw Pact posture have altered over the years, although the rejection of Khrushchev's slimmed-down force structure ensured that whatever else, the incorporation of nuclear weapons into the evolving operational doctrine would not result in compensating reductions in men or equipment. Nevertheless, the forces have adjusted to take account of new conclusions about nuclear war, of changes in NATO doctrine, of the possibility of a protracted conventional phase, of new tactical concepts, and of the availability of new and more numerous weapons systems. But the overall objective of seizing Western

Europe has remained the same.

This is a demanding requirement. In 1977 a spokesman at SHAPE assessed that the Soviets were only then approaching the capabilities demanded by their operational concepts. The general upgrading of Soviet forces has continued since then, but there have also been improvements on the side of NATO, and it is most unlikely that the Soviet Commander-in-Chief of the Warsaw Pact forces is fully confident that he has sufficient resource to discharge his mission. Western assessments of Soviet offensive capabilities make favorable assumptions about the working of the Warsaw Pact logistic system, which are likely to seem overly sanguine to Soviet planners. The latter will be viewing with concern the development of new "assault breaker" conventional weapons intended to disrupt second and third echelon forces, and they must also assume that it will be NATO that garners the advantages of initiating the use of theatre nuclear weapons. In their future projections they will also have to take account of potential force multipliers such as fortifications, more responsive reserve forces, improved command arrangements, changed concepts of operation, and the availability of France for logistic support, all of which are readily available to NATO, given the necessary political decisions. And finally, they are faced by the unknown of how their Warsaw Pact "allies" will act in the event of war.

Strategic Strike Forces[4]

The Soviet requirement for strategic strike forces is determined by the number of targets around the periphery of the Soviet Union and by those located on US territory, and efforts to develop a regional and an intercontinental capability have proceeded in parallel. The most important strategic targets are those related to the nuclear threat against Russia, but the category also includes major military formations and facilities, and key elements of America's administrative and socio-economic infrastructure and its military-industrial base.

In the early post-war years, the regional threat was both the most immediate and the one which could most easily be countered, and the figures in Table 1 (which are extracted from a forthcoming Brookings study), show how the build-up in Soviet regional forces roughly matched the growing number of targets they were faced with. By the early 1950s, some 1300 regional range conventional bombers were in service with the long range air force (LRAF), these being replaced progressively by aircraft having a nuclear delivery capability, with land-based missiles taking over part of this role from the end of the decade.

By the mid-1960s the Soviets had sufficient warheads to cover their regional targeting requirements, with one half of the delivery vehicles being bombers and the other being missiles. The latter comprised some 700 SS-4 MRBM and SS-5 IRBM plus 100 SS-N-4 and SS-N-5 SLBM all members of the first generation of missiles, which were

Table 1 : Regional Strategic Strike Capability

	1950	1955	1960	1965	1970	1975	1980
Soviet Weapons							
Delivery Systems	750	1320	1580	1718	2059	2219	1968
Nuclear Warheads	0	324	1034	2085	2299	2467	2943
Opposing Forces							
Strategic targets			1150-1400			2850-3300	
Nuclear Delivery Systems	115	529	847	1155	1068	1202	1255

Source: Robert Berman and John C. Baker, The Development of Soviet Strategic Forces, The Brookings Institution, 1982 (forthcoming) Tables 3-1, 3-2, C-3 and C-4.

vulnerable to preemption and/or of limited operational effectiveness. In the normal course of events one would have expected these missiles to have been superseded towards the end of the 1960s, and the replacement of the MRBM/IRBM by the SS-20 in the late 1970s was long overdue.

The intercontinental requirement was much more demanding and was addressed by developing three types of nuclear delivery vehicle: the submarine, the bomber and the ballistic missile, with the initial submarine delivery system being the torpedo. As an immediately available system, the submarine torpedo provided the means of breaking America's atomic monopoly, while at the same time disrupting the reinforcement of Europe from east coast ports. Intercontinental bombers and submarines were operational by the mid-1950s, but both were

very vulnerable to U.S. countermeasures. By the end of the decade the Soviets were sufficiently confident in the progress of their ballistic missile programs to discontinue development of the other two means of delivery and to concentrate on the development of ICBMs.

The evidence suggests that the initial intercontinental requirement was defined as a capability for area devastation, rather than point targeting. This reflected the disposition of targets within the USA, where 80% of the population was concentrated within 300 miles of the coasts, including most military installations, which were predominantly soft. Unlike the open-ended nature of a point-targeting capability the requirement for area-devastation was finite and would allow the use of a smaller number of very large warheads, compensating for relatively poor accuracy and reducing the number of missiles required. Thus we see the progressive development of ever larger missiles and warheads: the SS-7 and SS-8 (1953-62) at 5-6 MT; the SS-9 and SS-10 (1956-66) at 10-20 MT; and the testing in 1961 of warheads in the 50-70 MT range. The latter would probably have been carried by the Proton missile (1958-69) which had the capacity to deliver 35-45 MT in the first version and 45-55 MT in the second, but the change in targeting requirements caused it to be switched to the space program.

The Kennedy initiatives in early 1961 focused attention on the greatly increased threat from Minutemen ICBM emplaced in hardened silos, and evoked the standard Soviet procedure for handling unforseen requirements: an interim response, extemporising as best can be, coupled with a more measured response, where new systems are designed

specifically to meet the new requirement. The interim response took two forms. It so happened that the SS-9 would have some capability against a hardened silo, but it would have been extremely costly to produce these large missiles in the quantity required to counter to Minuteman, whose final numbers were uncertain, but were then being talked of in thousands. The SS-9 production rate would, however, allow the fairly rapid deployment of some capability against Minutemen Launch Control Centers (LCC), each of which controlled ten missiles. Berman estimates that the SS-9 which were deployed in 1966 would have destroyed 28-33 of the 100 LCCs, and by 1971 the fully deployed force of 288 SS-9 would have had a fair certainty of destroying all the control centers.[5]

There remained the requirement to provide some kind of direct counter to the Minuteman force, and this was met by diverting the SS-11 from its originally intended role and increasing both its range and its rate of production. High production rates were feasible for a missile with a throw weight only one-tenth that of the SS-9, and the first SS-11 became operational in 1966 with almost 1000 being deployed by 1971. The missile was not sufficiently accurate to be an effective counter-silo weapon, but besides its "force balancing" role, the SS-11 complicated US problems by its very existence and had some capability to degrade Minuteman's performance.

Concurrent with these adaptations of the SS-9 and SS-11 programs, development was put in hand of the fourth generation SS-17, SS-18 and SS-19 ICBM systems, which were designed to meet the reformulated

targeting requirements and would be ready for deployment beginning in 1974-75. It was the introduction of these systems in the second half of the 1970s as replacements for the SS-7, SS-8, SS-9 and about half the SS-11, that underlie Western assertions that the Soviets continued their missile buildup even after they had achieved parity.

The build up of the Soviet intercontinental strategic strike capability, including bombers and submarine launched missiles, is shown in Table 2, and it can be seen that until quite recently the Soviet capability fell significantly short of their targeting requirements. There are a couple more points to be made. The SS-13 solid-fuelled ICBM which was under development 1958-67, may originally have been intended as the counter to the much more modest Minuteman force that was programmed initially. Because it was potentially mobile, the SS-13 may also have been intended to serve as the primary component of the national strategic reserve, but it appears to have suffered serious technical problems, and only 60 were deployed, all in fixed silo launchers. This failure, coupled with continued difficulties in developing satisfactory long-range solid-fuel missiles appears to have prompted the decision in about 1967/68 to put the major element of the strategic reserve to sea in submarines, initially in the hump-backed Delta and then in the purpose designed Typhoon, and these units would operate in defensible home waters.

Table 2 : Intercontinental Strategic Strike Capability

	1950	1955	1960	1965	1970	1975	1980
Soviet Weapons							
Delivery Systems	0	0	149	434	1256	1582	1696
Nuclear Warheads	0	0	294	381	1403	2015	6156
Opposing Forces							
Strategic Targets	366		789			2165	
Nuclear Delivery Systems	520	1309	1809	2157	2271	2159	2016

Source: Robert Berman and John C. Baker, The Development of Soviet Strategic Forces, The Brookings Institution, 1982 (forthcoming) Tables 3-1, 3-2, C-5 and C-6. The number of strategic targets in the early 1950s and 1960s derives from Table 10-3 of an earlier draft.

The other point concerns the SS-11. There is reason to believe that this missile was originally developed as a variable range system for use against strategic naval targets in regional waters out to about 3000 n.m.[6] It also had the potential for a more general regional role and it became an interim successor to the SS-4 and SS-5 systems, for deployment towards the end of the 1960s. SALT I foreclosed this option, since the SS-11 was counted in the ICBM account. This explains the appearance of the SS-20 as the belated replacement for SS-4 and SS-5; it is a regional range missile which uses two stages of the SS-16, another unsuccessful solid-fuelled ICBM, whose potential mobility had been sacrificed to SALT II.

The actual number of strategic launchers and nuclear war heads is now probably about in balance with Soviet targeting requirements. But a third of the intercontinental missiles are products of the interim response to the Kennedy initiatives, and these third generation systems are sub-optimal. Of the fourth generation intercontinental missiles, only the most recent models which started deployment in 1979 approach the accuracy required for hard target kill with single warheads. For regional systems, the original requirement is being reduced by the transfer of targets to the care of Frontal Aviation, but new targets such as cruise missile launchers and US facilities in the Middle East are being added. Meanwhile one third of the regional launchers are bombers, three quarters of them aging Badger and Blinder.

Undoubtedly, with the SS-20 replacing the obsolete and vulnerable SS-4 and SS-5 in the regional force, and the deployment of fourth generation systems in the intercontinental force, the Soviets have considerably improved the effectiveness, flexibility and survivability of their strategic strike forces, and in numerical terms are probably about where they want to be. But this is not to say that the Soviets have fully met the requirements which stem from the two sets of objectives identified earlier. Among those requirements which would still appear to be outstanding are: a fully-mobile purpose-built replacement for the SS-20, to increase this component's flexibility and reduce its vulnerability to preemption; a replacement for the variable range SS-11 in the regional role, to include a variant with terminal guidance for use against maritime targets; and a replacement for the

SS-11 in the intercontinental role and the continued upgrading of missile accuracy as necessary to meet hard target requirements. The Soviets may also see the need for an intercontinental bomber for post-strike reconnaissance and attacks on mobile command posts and/or their sources of replenishment. Looking to the near future, the Soviets will need to respond to the MX missile when it is ultimately deployed, and may want to use intercontinental range missiles against Trident, if they manage to solve the target location problem. Meanwhile, the Soviets have yet to acquire a fully secure and effective national strategic reserve.

Maritime Warfare

The requirement which the Soviets have had the greatest difficulty in meeting is that of maritime defense. Since the end of World War II, the Soviet Union has faced a steadily evolving threat from the sea, which has generated large but continually changing force requirements. Initially the threat was seen as amphibious assault; the Baltic gave access to the lines of communication with the Western front; the Black Sea would allow the invaders to bypass the traditional defense in depth, and the rivers would provide access to Russia's industrial heartlands. To protect against this threat, the Soviets embarked in 1946 on a 20 year naval construction program to build 1200 submarines, some 200 escorts, 200 destroyers, and about 36 cruisers, 4 battleships and 4 aircraft carriers. All but 180 of the submarines were intended for defense of the four home fleet areas.

The threat of maritime invasion was downgraded in the post-Stalin defense review, to be replaced by the more limited threat of attack on coastal targets by carrier aircraft. This prompted the decision to place primary reliance on long range cruise missiles to be carried by small to medium surface ships, diesel submarines and aircraft, and this in turn allowed the cancellation of the mass construction warship programs, and the transfer of shipbuilding resources to the merchant and fishing fleets. The new concept of operations was predicated on engaging enemy carrier groups within range of shore-based air cover, but by 1958 this key premise had been overtaken by increases in the range of carrier borne aircraft. This would allow US carriers to launch nuclear strikes from the Eastern Mediterranean and the southern reaches of the Norwegian Sea against targets deep inside Russia. To meet this threat it was decided in 1957/58 to place primary emphasis on nuclear submarines, which would be able to outflank the West's surface and air superiority. The necessary hull/propulsion units could be made available by withdrawing them from the strategic delivery mission, which would now be solely the responsibility of the rocket forces. This precipitated further cancellations, and other major changes in the naval building program, including plans to double nuclear submarine production to 10 boats a year, with deliveries due to begin in 1968.

During this post-war period, Soviet efforts to develop a counter to the maritime threat posed by the West were continually thwarted by technological advances, which rendered program after program obsolescent before the units had even entered service. Of the 23

important classes of submarines and major surface ships whose construction was decided on in the mid to-late 1940s, only five of the earlier surface types ran to plan. By the middle 1950s, all programs had been radically altered. Nor did the decisions taken in 1954 and 1957/58 fare any better, and there is a continuing picture of cancellations, adaptations and expedients. The 1961 reversal of policy produced further fundamental changes.

One aspect of the Kennedy initiatives which evoked particular comment in the Soviet Union was the apparent shift in emphasis from land-based delivery systems to sea-based ones. Given the publicity about Polaris' invulnerability this led the Soviets to conclude that the U.S. intended to withhold these missiles from the initial exchange in order to influence the outcome of the subsequent war. Sea based systems would now have a triple potential: as part of the initial exchange; as the core of the West's strategic reserve; and most serious of all, as the means of denying the Soviets the use of Europe as an alternative socio-economic base. Two requirements flowed from this analysis: to balance the Polaris capability; and to develop a counter to sea-based systems, the primary objective of which would be to deny the West the option of withholding them.

There were three ways of directly countering Polaris: area exclusion; trailing; and ocean search/surveillance. The last two would require the development of new systems (e.g., the Alpha class high speed, deep diving submarine for trailing), but a start could be made on the incremental process of excluding Polaris from the more

threatening sea areas. This explains the navy's shift to forward deployment in the early 1960s, which took place in two stages. The initial response (lasting five years) extended the Soviet outer maritime defense zone to the 1500 n.m. circle from Moscow, which covered the threat from carrier strike aircraft as well as the early Polaris systems, and took in the Norwegian Sea and Eastern Mediterranean. The interim response, starting in 1967/68, began the slow process of consolidating the newly established defense zones, while extending the area of naval concern to encompass the 2500 n.m. circle of threat; this included the eastern half of the North Atlantic and the northern half of the Arabian Sea.

As originally planned, it was probably hoped that ten years would be sufficient to develop a range of measures which, beginning in about 1972/73, would allow some kind of final response to Polaris along all three lines of attack. These hopes were unduly optimistic. The first Alpha SSN was in fact ready for sea trials by 1971, but had serious technological inadequacies. The problem of developing non-accoustic means of searching large sea areas was found to be much more intractable than had been hoped. And as more antisubmarine systems became available to the Soviets aboard new Soviet surface ships, submarines and aircraft, it must have become increasingly apparent that these traditional methods had inherent limitations against the Polaris submarine. Meanwhile, other developments had prompted yet another shift in the navy's operational priorities.

As we have seen, the inadequacies of the SS-13 solid-fuelled ICBM led to the decision in 1967/68 to send the strategic reserve to sea aboard nuclear submarines, and this raised a new requirement to ensure the security of this force. SSBNs had been forward deployed on regular patrols since at least 1964, and the Soviets would have been well aware how vulnerable these submarines were to US counter measures. To compound the problem, at about this same period the American press was reporting that the US navy intended to develop two new classes of attack submarine designed for operations against Soviet SSBN, and these would enter service at about the same time as the seaborne strategic reserve would be ready to deploy aboard the Delta class SSBN. This led to the concept of operating the SSBN force in defended ocean bastions in the Greenland and Barents Seas and in the Sea of Okhotsk and NW Pacific. For this to be possible, the planned range of the SS-N-8 missile had to be almost doubled so as to allow strikes against the USA from Soviet homewaters. This involved lengthening the missile which necessitated in turn the improbable humpbacked characteristics of the Delta class SSBN. The Delta provides yet another example of an interim application, with the purpose-built Typhoon planned to enter service some ten years later.

The shift in operational priority to protecting the SSBN bastions generated a fundamental change in the design criteria for distant-water surface units. Previously, the emphasis had been on the capability to weather a preemptive attack long enough for them to be able to discharge their primary mission of striking at Western carriers and

Polaris submarines, after which they were expendable. Now, the security of the SSBN bastions had to be ensured for the duration of a protracted war. Surface ships, therefore, had to be capable of the sustained operations needed to gain and maintain command of a large sea area such as the Norwegian Sea, and this required long endurance, large magazine loads, and an underway replenishment capability. Establishing command would be facilitated by seizing key stretches of coast, and in the Pacific this could involve the Japanese side of the two southern straits which give access to the Sea of Okhotsk, and might even extend to the whole northern coast of Hokkaido. In the Norwegian Sea, the requirement could include key islands as well as stretches of the Norwegian coast.

To meet these new requirements, the Soviets decided that they would have to scale up the whole surface force, roughly doubling the size of all major surface types. The traditional destroyer-sized unit of about 3,500 tons (Krivak) was redesignated as an escort toward the end of the seventies. The new-construction destroyer types which began delivery in 1980 (Sovremmeny and Udaloy) are about 8,000 tons, larger even than the previous generation of light cruisers. The new-construction light cruiser class is expected to be 12,000-13,000 tons, while the Kirov-class heavy command cruiser (or battle cruiser) is over 20,000. There was a similar scaling-up of amphibious new construction. This represents a major increase in the allocation of resources to naval shipyards, and the Kirov program required the return to the navy of shipyard facilities which had been in civilian use since

the mid-fifties.

These new classes appear to have been included in the Ninth Five-Year Plan which was approved in the spring of 1971, but, despite these substantial increases, the navy still did not consider that they would be sufficient to meet the new demands being placed upon it. The in-house argument would have focused on the specifics of the threat to the Soviet SSBN. The direct threat would come from U.S. nuclear-powered attack submarines, but the SSNs' success would depend on the suppression of Soviet ASW defenses by supporting U.S. surface forces. The Soviet navy had to assume that U.S. carrier groups would be deployed in support of their SSN, whereas Soviet shore-based aircraft would cease to be available after the initial nuclear exchange. Without this air component, there would be no certainty that the Soviets would be able to prevent the carrier groups from penetrating the outer defense zones. It could be assumed that U.S. carriers would seek to establish command of the surface and the air, denying the use to Sovet ASW forces, that they would harry the defending SSN, and they might even become directly involved in hunting down Soviet SSBN. If the Soviet navy were to prevail against this kind of force, it would need a comparable capability, including effective sea-based air.

Presumably, it was the inherent plausibility of this scenario that allowed the Soviet navy to win at least part of its case, and it seems that by mid-1974 authority was given to go ahead with the design of a large air-superiority carrier, which would enter service in the second

half of the eighties. It may also have been at this stage that the second of the new destroyer-sized classes was authorized, in order to allow for task specialization between classes.

This brings us through to the present, and as we enter the eighties we see the Soviet Union embarking on yet another attempt to reshape its navy to meet changing requirements. The underlying theme, however, remains the same, and the allocation of resources to naval construction reflects Soviet perceptions of the threat of assault from the sea. After World War II, we saw first the mass-construction programs designed to meet a misperceived threat, which was incorrectly inferred from the capitalists' war-inflated navies and from a Marxist prognosis of history. This was followed by savage cuts in shipyard allocations when the likelihood of seaborne invasion was realized to be low. Then we have the heavy investment in nuclear submarine construction facilities, responding to the new and correctly-perceived threat from carrier-borne strike aircraft and to the need to oppose them in Western-dominated waters. The 1961 period not only added Polaris to the immediate problem, but saw a more complex formulation of threat as the Soviets thought through the implications of war fighting with nuclear weapons and of sea-based systems being withheld from the initial intercontinental exchange. And then in 1968, it was decided to rely on sea-based systems as the primary component of the national nuclear reserve, generating a qualitatively new requirement to ensure the integrity of home waters in the north and the Pacific.

These naval requirements all stemmed from the threat of war with the West, but by the end of the sixties there was the added concern about the growing possibility of war with China. In such an event the Soviets had to assume that the Trans-Siberian railway would be cut and that the Far Eastern Front would have to be supplied by ship, either via the Red Sea or out through the Persian Gulf. These shipments would require protection from the Chinese submarine force (the third largest in the world), and the threat of attack could reach back to the Arabian Sea. This increased the strategic significance of the Indian Ocean, more than compensating for the shift in emphasis away from developing the means to counter Polaris in the area.

This overview demonstrates that Soviet requirements for maritime warfare are not only extensive, but a long way from being met. The Soviet navy has the capability to secure command of its home fleet areas and to support army operations along the coastal axes. It also has the amphibious forces to assault the Baltic and Black Sea exits, adjacent stretches of the Norwegian coast and key parts of Hokkaido. With considerable effort, it has developed a significant capability against U.S. aircraft carriers operating within strike range of the Soviet Union, although the effectiveness differs between areas and, in most of them, depends heavily on the continuing availability of shore-based aircraft. The Soviets may also have some capacity to strike carrier groups with land-based missiles, but this is still a long way from being a world-wide capability. Soviet attempts to develop an effective counter to Polaris have so far been unsuccessful

and the Trident will present a greatly increased problem. The Soviet navy is not in a position to establish command of the Norwegian Sea and the NW Pacific, which are the outer defense zones of the SSBN bastions, hence the sea-based component of the national strategic reserve can not be considered secure against enemy attack. Meanwhile, the need to protect these SSBN bastions with submarines mean that relatively few are available to attack Western sea lines of communication.

The most persuasive evidence of the shortfall between the Soviet Union's naval capabilities and its perceived requirements is that for the fourth time since the war it is embarking on the very expensive process of restructuring its ocean going fleet. The changes this time are as fundamental as those decided on in 1954, but many times more costly.

Conclusion

This brief review suggests that in no area do Soviet capabilities exceed their perceived requirements, and in some areas there is a serious shortfall. The Strategic Strike Forces are probably seen as being roughly adequate at this moment, although the SRF would prefer to have the improved missile accuracy which presumably is available in the fifth generation missile systems now waiting in the wings. The intercontinental balance is undoubtedly seen as inherently fragile, because of the U.S. capacity for making large technological leaps. The Soviets can have no certainty what the development of outer space and new approaches to ballistic missile defense may portend. Meanwhile they have yet to develop a fully secure way of deploying their

strategic reserve, and they could well be having second thoughts about Typhoon.

In the area of national air defense, the Soviet system was originally optimized against the high-altitude bomber and only in the last few years have they begun to deploy some capability against low-level penetrating bombers. At best, it will be several years yet before the system is fully effective against these aircraft, and they are now faced with a much more extensive threat from the cruise missile, which will not be vulnerable to these same countermeasures. On the naval side, the Soviets have recently embarked on yet another restructuring of their open-ocean forces, reflecting a completely new set of requirements which they are a long way from meeting.

On the ground, China will always be a worry because of sheer numbers, and the 4500 n.m. frontier ties down a very large number of forces. In the West, despite NATO poor mouthing its own capability, it is doubtful if the Commander of the Warsaw Pact forces is fully confident that he can seize Western Europe at the outbreak of a war, even if everything runs smoothly. He is clearly concerned about NATO's anti-tank capability, and there is the permanent worry about the speed at which he can achieve his build-up and the reliability of non-Soviet forces. He is also faced with the possibility that a sharp deterioration in East/West relations could induce the relatively minor changes in political attitude within NATO that would allow them to introduce a number of force multipliers within a relatively short period of time.

All in all, therefore, the Soviet Union does not have more capability than it thinks it needs. Is the problem, then, that its perceived (or subjective) requirements are too extensive, and that objectively it could make do with less? Again, the answer must be no. To the prudent military planner sitting in Moscow, the Soviet Union is indeed a beleagured state. Its traditional enemies on the Eurasian periphery are now all aligned against it, while the United States seeks to use its intercontinental power to tighten the strings of containment. The combined military capability of these avowedly hostile states is daunting.

Perhaps, then, the Soviets are unreasonable to base their broader military requirements on the possibility of war with the West? Again no, unless it has been unreasonable for the West to have done likewise, as is evidenced by US procurement and deployment policies over the years. The main difference between the two sides is that the Soviets have been both more explicit about what they were doing and more systematic in doing it. This is not to say that they have given overriding priority to this contingency and, in general, their response has been both measured and constrained by existing patterns of production. Exceptions to this rule include the rapid buildup of intercontinental strategic missiles, starting in the mid 1960s, but this was in response to an even more rapid buildup of Minutemen.

Three points stand out from this review of Soviet requirements. First is the durability of the two sets of objectives which stem from the Soviet definition of world war. Second is their readiness, if

changed circumstances require, to reformulate radically the requirements stemming from these objectives. And third is the willingness to invest resources in moving towards meeting such new requirements, even when they appear impossibly daunting. The resulting picture, however, is not that of a remorseless process, working to some master plan, but of an evolving one which is buffeted by different forces. The internal forces stem from new technological opportunities and/or changes in operational concepts, while the external ones derive mainly from changes in threat perception. In recent years, changes in requirements have all worked to increase demands, which could only be met at the expense of the domestic economy. But it is relevant that in earlier years, changed requirements also worked the other way, as when naval facilities were released to civilian ship construction in the mid 1950s and when they set out to cut military manpower by more than one half in the 1955-61 period. Given the necessary change in requirements, a similar redeployment of resources is entirely possible in the future.

To conclude. The Soviet Union does not have more military capability than it needs, and in many important respects its capability falls short of its minimum essential requirements, which are not symetrical with the USA's.

This does not, of course, diminish the very real threat which that capability poses to the West, since one nation's security is indeed its neighbor's insecurity. However, this aphorism reminds us that one important element of the Soviets' requirements analysis can be

influenced directly by America, namely their perception of threat. This does not rest solely on calculations of relative capabilities, but reflects broader judgments about the level of hostility in the world at large and about US intentions in particular. Khrushchev is said to have been influenced by his belief that Eisenhower was "a reasonable man", while Brezhnev held similar ideas that one could do business with Nixon and Kissinger; in both cases these perceptions appear to have fostered tendencies in Soviet policy that have worked to America's long term advantage. By contrast, the dramatic initiatives and high flown rhetoric which were a feature of the first six months of the Kennedy administration generated Soviet responses which can now be seen to have been against American interests. We have yet to perceive what the Soviets make of the Reagan administration, which has provided rhetoric enough, but relatively little action, although its efforts to set in train a major build-up of U.S. military power can hardly be ignored. We can only hope that, twenty years after Kennedy, a more secure and more experienced Soviet Union will await more concrete evidence of US long term intentions before moving to restructure its requirements.

Footnotes

1. Khrushchev had previously cut back the Soviet armed forces by over 2 million men between 1955 and 1958.

2. Identification of 1961 (rather than 1962 or 1964) as a key turning point and decision period in Soviet defense policy, first emerged from the analysis of Soviet naval developments and the reasons underlying the navy's shift to forward deployment in the first half of the 1960s. The hypothesis was strongly supported by a preliminary analysis of Soviet strategic weapons policy, which identified a change in targeting requirements at this period, from area-devastation to point-targeting. See my "Soviet Naval Capabilities and Intentions", "The Turning Points in Soviet Naval Policy" and "Soviet Strategic Weapons Policy, 1955-70" in (respectively) The Soviet Union in Europe and the Near East, Royal United Services Institute, London 1971, M. MccGwire (ed.) Soviet Naval Developments (Praegers 1973) and Soviet Naval Policy, (Praegers 1975). The hypothesis was essentially confirmed by John McDonnell's analysis of the internal Soviet debate between 1959-61, which tracks how Khrushchev's new defense policy steadily lost ground between February and July 1961, when the decision to reverse key elements appears to have been taken. ("Khrushchev and the Military Industrial Complex : Soviet Defense Policy 1959-1961"; July 1979, Chapter VI of an uncompleted Doctoral Dissertation). This dating is supported by Raymond Garthoff's much earlier analysis of the 1961 Berlin crisis, in which he identifies a series of Soviet responses from early July onwards. (Soviet Military Policy, Praegers 1966,

pp. 115-16). Further confirmation that 1961 was a key turning point in Soviet defense policy is provided by Berman and Baker's comprehensive analysis of the development of Soviet strategic rocket forces; see note 4 below.

3. In a recent interview, Robert McNamara gave it as his opinion that this must have been the Soviet perception, and that furthermore, the US Air Force was in fact pressing to acquire a first strike capability. (Los Angeles Times, 8 April 1982, p. 1, interview by Robert Scheer.)

4. This section is based on the study by Robert Berman and John C. Baker, The Development of Soviet Strategic Forces, The Brookings Institution, 1982 (forthcoming).

5. Berman and Baker, Table C-7.

6. Berman and Baker, Appendix C.

Mr. HARDT. I take it you would not expect to be comfortable as a Moscow military planner, Mike.

Looking at the economic perspective from the Moscow point of view, Mr. Kaufman is now going to lead us through an assessment of the economic relationship from the Soviet perspective.

STATEMENT OF RICHARD F. KAUFMAN—PERSPECTIVES ON SOVIET DEFENSE AND THE ECONOMY

Mr. KAUFMAN. I want to raise the following question about the Soviet leadership: How do they view the military balance, the state of their economy, and the tradeoffs that must be made as between defense allocations and the rest of the economy?

We need to ask ourselves whether wishful thinking, old prejudices, fears and anxieties, and current policy objectives, may be interfering with a dispassionate assessment of both the weaknesses and strengths of the Soviet military establishment and the Soviet economy.

Of course, it is not possible to look at military-economic questions from a Soviet perspective with any assurance of certainty. But it is possible at least to make plausible interpretations based on the available literature and statements by Soviet policy leaders.

THE MILITARY BALANCE

Western analysts agree that the Soviet military establishment has been growing in size and strength and that its annual costs exceed U.S. military expenditures, measured in dollars or rubles. It is also agreed that the growth of the Soviet economy has been slowing and that the military burden has contributed to this and other economic problems.

The official U.S. view is that Soviet strategic forces are already superior to those of the United States, and that the balance of conventional forces in Europe favors the Soviet Union and the Warsaw Treaty nations over the United States and NATO.

The U.S. administration also apparently believes that the Soviet Union will soon have to choose between an economic crisis, brought about largely by its military buildup, or a slowdown in military spending. Some officials believe the Soviet economy has already entered the early stages of a crisis.

Soviet officials disagree with nearly all of these premises. They argue that Soviet military size and strength have grown in some respects in order to catch up with the United States, as in the area of strategic forces, but that military expenditures have not increased. They maintain that military parity exists in strategic forces between the Soviet Union and the United States and in theater nuclear and conventional forces between NATO and the Warsaw Treaty countries.

The Soviet government acknowledges the economic slowdown and the fact that military spending is a burden which diverts resources from the civilian sector, but it insists that economic growth will continue, albeit more slowly than in the past, and that even a greater military burden can be tolerated if necessary.

The Soviet argument about the level of its military expenditures lacks plausibility. It would not have been possible for the Soviet Un-

ion to have increased the size and the strength of its military forces without allocating more resources to the military sector. No amount of budgetary ledgerdemain or a subsidization can get around the fact that more resources cost more.

The pace and consequences of the Soviet military buildup can be reasonably debated, not the fact that it has taken place. Nevertheless, it can be argued, as Moscow does, that Soviet military strength has caught up with but has not overtaken U.S. military strength, that a rough balance exists between the NATO and the Warsaw Treaty countries, and that the Soviet economy will continue growing modestly despite the heavy military burden.

Attempts to assess Soviet military trends should begin with the recognition that some prior assessments have been incorrect as to size and capabilities. For example, in the 1960s many analysts believed the cost of Soviet military activities had risen throughout the 1950s and that the emphasis on strategic forces had given rise to long-range bomber and missile gaps in the Soviet's favor.

The alleged military gaps were found not to exist, and the latest revised estimates by the CIA show a downward trend in Soviet military costs from 1951 to 1960. But this can be considered ancient history. More recently, Soviet defense costs have been rising, according to intelligence estimates. The greater allocation of resources for defense by the Soviet Union over the past decade is used by U.S. officials to make the point that Soviet military capabilities exceed those of the United States. But the cost estimates do not make this point.

According to dollar cost estimates, Soviet military activities cost $1.7 trillion during 1971 to 1980 compared to $1.2 trillion for the United States, a difference of about $500 billion. Aside from the questions about the accuracy and validity of dollar measurements, such global cost estimates and even more detailed breakdowns can be misleading as to the results in terms of military capabilities.

For example, the dollar costs of the Soviet strategic forces were much more than U.S. outlays for strategic forces during 1971 to 1980, but a large portion of the Soviet effort went into peripheral attack forces for which the United States has no counterpart and strategic defense for which the United States spends relatively little.

Soviet peripheral attack forces are targeted against Western Europe and China. Strategic defenses respond mostly to the U.S. bomber threat. The costs of Soviet intercontinental strategic forces, long-range land- and sea-based missiles and bombers, exceeded U.S. spending for those activities but by a greatly lesser margin than indicated by the disaggregated estimate.

Further, Soviet costs rose in the first half of the decade and then declined, while U.S. outlays declined in the first half and then rose. In view of the U.S. lead in strategic forces at the beginning of the decade, the allocations trends, when examined closely, do not refute the Soviet assertion that, at present, there is parity with respect to strategic forces between the two superpowers. The allocations trends by themselves do not answer the question, Are the Soviet strategic forces superior to those of the United States?

The Soviets assert that an approximate balance was struck in the quantity and quality of strategic arms by the mid-1970's, a balance that

was repeatedly scrutinized and affirmed by both sides during the SALT II negotiations.

The large Soviet allocations for strategic forces beginning in the 1960's was meant to catch up with the United States and achieve such a balance. The SALT II Treaty was signed in the summer of 1979. "How," the Soviets ask, "could the Soviet Union in 1 or 2 years have achieved superiority in strategic arms, which require years and years to produce?"

"No new facts about Soviet strategic forces have come to life," the Soviets say, "since the SALT II negotiations to suggest that the long-held conclusions about parity are wrong.

Soviet officials could go further. The last annual posture statement of Defense Secretary Harold Brown, presented in January 1981, seems to concur with their assessment. In a section on the strategic balance Secretary Brown concluded, "Essential equivalence, as indicated earlier, still characterizes the overall balance."

The difficulties of assessing relative strategic capabilities are well known. Soviet officials argue that at the signing of SALT II, one side had 2,500 delivery vehicles and the other side had 2,300. By our count, as of January 1981, the Soviets had 2,500 to our 2,200. To go one step further, in 1981 we had 9,000 force loadings compared with their 7,000. Such quantitative comparisons are not very useful.

A more comprehensive analysis would have to take into account megatonnage, throw-weight hard-target kill capability and other specific attributes. Military analysts also employ dynamic measures which are considered more sophisticated but limited because, as Secretary Brown said, "they are scenario-driven and they cannot quantify a number of hard-to-quantify factors."

An examination of the allocations trends for general purpose forces is even less helpful in assessing the military balance in Europe. The dollar cost of the Soviet land forces, tactical air forces, naval forces, and mobility forces, which comprise the general purpose category, was greater than U.S. expenditures in the decade of the 1970's. But the margin is entirely attributable to the fact that Soviet ground forces have about three times as many men as do U.S. ground forces.

Allocations were more evenly distributed in the other general purpose activities, U.S. outlays exceeding the Soviet dollar costs of tactical air forces and the Soviet costs somewhat exceeding U.S. outlays for naval and mobility forces. The allocation trend followed a pattern within the decade similar to the trend for strategic forces. The dollar costs of Soviet general purpose forces rose in the first half of the decade, while U.S. outlays fell. In the second half U.S. outlays increased at a faster pace than the increase in Soviet costs.

In addition, the portions of the Soviet and U.S. allocations for ground forces to be weighed in the European balance cannot be isolated with an adequate degree of precision. For one thing, large portions of the forces on both sides are deployed elsewhere for non-European contingencies. About 25 percent of Soviet ground forces are located at the border with China. It is worth noting that the buildup against China proceeded much more rapidly during 1971 to 1980 than did the buildup against NATO.

Soviet forces are also involved in a war in Afghanistan and deployed elsewhere along their non-European borders. Much the same

can be said about U.S. forces deployed in numerous areas around the world.

Complicating the equation is the fact that it is conceivable that at least some of the non-European forces of both sides could be deployed to Europe under certain circumstances. More importantly, both sides have allies who would be involved in the European conflict and who must be involved in the military balance.

This fact, more than any other, gives credence to the Soviet argument that there is a balance of general purpose forces between the NATO countries and the Warsaw Treaty countries. The Soviets stress the modest advantage of NATO manpower, numerical strength, compared with the Warsaw Treaty nations. This comparison shows all the NATO countries combined have larger regular armed forces, larger ground forces, and more ground forces in Europe than do the combined Warsaw Treaty countries.

The Soviet Defense Ministry asserts that the numerical comparison of the combined military manpower of the two sides are the most significant ones because of the roughly equal opportunities for equipping the forces and because of the differences in their structures and organizations.

Although the number of divisions and armaments are asymmetrical, these do not upset the general balance. While the Warsaw Treaty countries have a somewhat greater number of combat aircraft, NATO has superiority in combat capabilities of ground support aircraft and the number of helicopters.

With regard to tanks, the Defense Ministry cites statements by former Defense Secretary James Schlesinger to the effect that NATO's antitank weapons can be a sufficient counter to the Soviet tank threat. By the Defense Ministry's reckoning the NATO countries have 16,000 tanks in their armed forces. This, together with the 1,500 U.S. tanks and 6,500 West European tanks stored in depots in Europe, gives NATO 24,000 tanks, as against 25,000 in the Warsaw Treaty countries.

The United States, of course, takes a different view. In his 1982 recent posture statements, Defense Secretary Caspar Weinberger states that with respect to overall military capabilities the more meaningful comparison of the Western and Eastern alliances is of military investment. This comparison shows that the military investment programs of the Warsaw Treaty nations have exceeded those of NATO plus Japan since 1973 and are currently about 15 to 20 percent larger.

This comparison is not conclusive or even persuasive, for several reasons. For one thing it excludes U.S. investment for Vietnam while presumably including Soviet investment for Afghanistan.

Second, the comparison is made in dollars, and the 15-to-20-percent differential is not much greater than the CIA's margin of error of 10 to 15 percent in its dollar estimates.

A more complete comparison would also be made in ruble costs. A ruble cost comparison would probably show a significantly similar disparity, if not rough equality.

Secretary Weinberger does not say in his posture statement that the military balance in Europe actually favors the Warsaw Treaty countries, but he does come close to such a judgment by saying that the Warsaw Treaty ground and tactical air systems are much stronger and

better prepared to sustain conventional combat, and the Atlantic Alliance has lost its compensating advantage in nuclear arms.

The Soviets argue that when United States-forward based nuclear weapons and the British and French nuclear capabilities are taken into account, there is an approximate balance of medium-ranged nuclear weapons in Europe.

The Soviets acknowledge that both its and the U.S. Navies have increased their combat capabilities in dollar terms, as mentioned earlier. The Soviets allocated somewhat more for naval activities in the decade of the 1970's than did the United States, but the difference is so slight that it is not very meaningful.

Again, a comparison in ruble terms would probably show rough equivalence. The Soviet Defense Ministry seems to concede that the U.S. Navy is stronger in terms of striking power and that the West has an overall advantage.

The United States and NATO navies have 25 aircraft carriers versus 2 in the Soviet Navy designed principally for antisubmarine warfare. The Warsaw Treaty countries have an edge in submarines, but the NATO countries have almost three times the number of major surface warships, and U.S. naval aviation is two and a half times as strong as the Soviet Naval Air Force in terms of numbers of aircraft.

STATE OF THE SOVIET ECONOMY

The usual Western formulation of the Soviet Union's economic dilemma is to show that there has been a long-term slowdown in growth from the rapid expansion of the 1950's when growth as measured in the West averaged 6 percent annually. In the 1960's annual growth averaged about 5.2 percent, and in the 1970's it was under 4 percent. The slowdown has occurred in industrial production, the capital stock, and consumer standards. This, many Western analysts conclude, shows the Soviet economy is deteriorating.

Three factors are cited to explain the slowdown: One, the inherent inefficiency of central planning; two, demographic and geographical trends which are increasing costs of production; and three, the heavy military burden. The dilemma is that government leaders are reluctant to adopt "systemic reforms" that involve decentralization of authority. Nothing much can be done about the demographic and geographical trends whereby growth of the labor force is slowing and extraction of raw materials is becoming more expensive, and the benefit of reduced defense spending would be modest and not realized in the short term.

Nevertheless, Westerners reason, Moscow must choose between adaption of reforms and defense cutbacks, or risk a further slowdown with possible destabilizing results.

As in the case of military trends, U.S. analysts have been mistaken in past attempts to forecast future Soviet economic performance.

Perhaps the low point was reached in the late 1950's and early 1960's when many American experts seemed to agree with Moscow claims that it would soon overtake the United States in industrial production, and dire predictions were being made in the West of an economic cold war gap. Such errors suggest the weakness inherent in the art of economic forecasting. Again, this can be considered ancient history.

Soviet officials acknowledge the slowdown in economic growth and most of the other problems discussed in the West. They believe the United States presently exaggerates Soviet problems and that CIA analyses are often incorrect. They also argue that U.S. economists often view problems in the Soviet economy out of context, ignoring what is occurring in the West and in the United States.

The Soviets have resigned themselves to the likelihood that most of the goals for industrial production and agriculture will not be met this year for the second year in a row. Their attainment by 1985 also seems questionable. Steel production is down partly because of the declining quality of iron ore, and the machine building and transportation sectors are experiencing difficulties.

Agriculture is a special problem. Officials attribute much of the failures to bad weather. Privately, economists admit that the lack of infrastructure, including farm to market roads, inadequate equipment, and inaccessibility of giant processing facilites causes serious inefficiencies. These matters were the subject of a party plenum on May 24, 1982, but it apparently adopted no major new initiatives.

Despite these problems and the general slowdown in growth, the most important fact, Soviet officials say, is that there is growth. Official Soviet statistics show national income increased by 3.2 percent in 1981—a 2 percent gain in real GNP as measured by U.S. economists.

Much of the expansion is taking place in the energy sector. Natural gas production increased by 7 percent and oil production increased by 1 percent. The increase in oil production is a source of some satisfaction in Moscow circles not least of all because of the CIA's earlier forecast that Soviet oil production would fall during the first half of the 1980's. Soviet officials expect oil production to increase modestly through 1990.

Construction of gas pipelines is proceeding rapidly and the new pipeline to Western Europe is expected to be completed as planned by the end of 1984. Substitution of natural gas for other fuels to produce electric power also may be moving ahead faster than has been anticipated in the West.

U.S. efforts to impede Soviet and East European trade with the West is viewed as a mixed blessing in Moscow. The Soviets see some long term advantages in what they view as U.S. quixotic behavior which stamps us as an "unreliable" trading partner. But they would rather have the trade.

Economists in Moscow point out that the Soviet economic performance compares favorably with economic performance since 1979 in the United States and the industrialized West.

Soviet GNP growth shows an improvement over 1979, when it was less than 1 percent, while in the United States there has been no growth since that year. Soviet economic growth for the period 1971 to 1980 averaged just over 3 percent per year, about the same as the average annual growth for all the OECD countries and about the same as for the United States.

Moscow has other reasons to be encouraged by comparisons with Western economic performance in the past decade. The Soviet economy was insulated from the shocks caused by oil price increases and boycotts. In fact, the Soviet economy benefited from them. The Soviet

economy has not suffered from recession nor the high rates of inflation or unemployment experienced in the West.

Soviet specialists on the United States write about the crisis in the American economy and the efforts by the Reagan administration to protect U.S. firms from its economic competitors while at the same time hoping to halt "the persistent tendency toward slow growth and decline in labor productivity, to recoup world markets, and to take revenge against the Japanese, West Germans" and other foreign competition.

Although there is some inflation in the Soviet Union, uncertainty about the correct level of inflation highlights the fact that due to official Soviet secrecy, there are major areas of uncertainty about the Soviet economy.

One dark corner of the Soviet economic landscape concerns Soviet foreign economic assistance. Some U.S. analysts estimate that Soviet economic aid in the form of trade assessments to its Eastern European allies totals as much as $20 billion annually. Soviet economists put the figure at about $7.5 billion.

Soviet prospects for earning the hard currency to pay for food and other imports appear to be good. The slowdown in productivity growth is a real problem for the Soviet economy. Planned economic expansion depends largely on improvement in this area.

But this problem is as baffling to economists in the West as it is to those in the East. Many U.S. economists believe increases in capital investment are necessary to improve productivity growth. Others are not so sure.

Edward F. Denison conducted an in-depth inquiry for the Commerce Department into the causes of the slowdown in productivity and economic growth in the United States, at the conclusion of which he states: "No single hypothesis seems to provide a probable explanation of the sharp change after 1973."

Official perspectives are always difficult to define, and doubly so for a government as secretive as the Soviet Union.

Soviet officials maintain that a military balance with the United States and the West exists in all major areas. Although aware of their problems and limitations, they are generally pleased with the working of their economic systems. They acknowledge the harmful effects of the military burden, but rationalize them as the price that must be paid to maintain the military balance.

Soviet officials and economists speak openly of the high economic costs of the military burden, and they are aware of the difficult tradeoffs that must be made between civilian investment, defense, and the consumer sector. From their perspective the same difficult tradeoffs must be made in the United States.

If the Soviet professed assessments of the military balance and its economy are correct, U.S. officials may be overestimating Soviet military capabilities while underestimating the strength of the Soviet economy.

Mr. HARDT. There seem to be several threads that come through these various presentations.

One is that there is no single factor that has influenced Soviet military economic decisionmaking. And certainly if there are a multi-

plicity of factors, the single dominant factor is not the balance with the United States.

Second, that information and the limitations on information are, indeed, critical to an understanding of the Soviet development and decisionmaking in military, economic, and political affairs, and that a greater availability—improved availability of information would not only have utility in international dialog but also in domestic decisionmaking.

I'd like to invite the panelists to comment, first, on the presentations of the other panelists and then, after that, on comments and questions from the rest of the assembled group here.

I would ask you to each state your name as you make your comment so that we can keep track of who you are and relate it to the comment.

Also, please keep your comments or interventions brief so that we can have a dialog.

Mr. Holloway, I wonder if you would like to make some initial comments?

Mr. HOLLOWAY. I would be happy to make a very brief comment.

I think what struck me was that the different presentations, although there may be great differences in detail in the analysis, tended to dovetail fairly well. I got two themes:

One is the stress on politics and the decisions being influenced, both by conventional factors and domestic political factors.

The second is the kind of quantities that have to be explained as long as we're actually dealing with *estimates* of Soviet military expenditures.

I have read the various discussions on the validity of the CIA estimates and the criticisms that have been made. On the one hand, they're too high. On the other, they're too low. They underestimate the rate of growth, and they overestimate the rate of growth.

I think that causes a very severe problem of analysis because, in trying to explain the CIA's estimate of the rate of growth in military expenditure, one is really trying to explain something that may vanish within 10 years if there is a revision.

So, if the rate of growth is boosted for the late 1960's—which I think, with Mr. Anderson, tends to fit the political decisions better, and the rate of growth then would be slower for the 1970's—then, you know, you have something different to explain.

One is always trying to examine and analyze something. But I'm afraid it's going to evaporate. And one may look rather silly if one is completely missing information or explaining something that doesn't seem to exist. I think that uncertainty must influence all the analysis on the question.

Mr. HARDT. You will notice the paper for this afternoon of the Central Intelligence Agency is entitled "Estimate." That is an appropriate point to keep in mind.

Mr. Anderson.

Mr. ANDERSON. Actually, I really think I was about to say the same thing Mr. Holloway was saying—since he said it better than I would have.

Mr. HARDT. Very good.

Mr. MccGwire.

Mr. MccGwire. I never understood the emphasis on the comparatives costing of defense, unless it reflects the American fixation on dollar value rather than military effectiveness.

Even if the Soviets were spending half as much as the Americans but were still able to meet their requirements because they were geostrategically better located, does that mean we should relax? Alternatively, if they have to spend considerably more than us, because of unfavourably geopolitical circumstances and because of their industrial inefficiency, and yet they are still unable to meet their essential military requirements, does that mean that we should consider the threat greater? Comparative costing is, to my mind, a phony argument, and costing their effort is only useful, to my mind, as an indicator of trends. But even then, I think it's got a lot of defects.

Mr. Kaufman. As I tried to point out earlier in my opening remarks, the major utility of cost estimates has to do with establishing the size of the Soviet defense sector, which is useful for purposes of economic analysis and even is a precondition for economic analysis of the Soviet Union.

There are two specific uses for comparative cost estimates. One is to be able to make valid international economic comparisons. Of course, dollar or ruble outlays do not necessarily improve capabilities. This is as true of health, education, and agricultural investment as it is of defense.

Comparative estimates of resource allocations for defense can also be useful when disaggregated to illuminate trends and relative priorities for various categories of investment.

There has been a tendency to try and find more in the cost estimates than is in them and to therefore misuse these estimates, which is unfortunate. But I would hope that analysts from fields outside economics would not advocate throwing out the baby with the bath water. There is a value to cost estimates, although they can become counterproductive if they're used for purposes for which they're not intended.

Mr. Hardt. In your discussion, Mr. Holloway, you seem to imply that you felt the Soviet leaders were developing capabilities to respond to U.S. capabilities.

Would you elaborate a bit more on this question, because it relates to the general question of how does one see the interaction of decisionmaking in NATO, the Warsaw Pact, in Washington, in Moscow, in terms of the factors that have influenced the decisions for new programs, new levels of outlays, or variations in levels of outlay?

Mr. Holloway. I think the word is "interaction." Certainly, I think the Soviet Union, when it makes its decisions, is often responding to changes in the environment, either technological changes—and I would say particularly technological changes because, by and large, the Soviet Union has lagged technologically behind the United States. It also, I think, responds to political changes. I don't think that it implies a passive policy.

This may be behind your question. I think it's not a passive policy. It can be quite active politically. But in the structure of its forces, it may be responding to new threats or, indeed, sometimes to new opportunities.

But if you take the general problem of action and reaction or interaction in the arms race, it seems to me at the most general level that there are certain points where what the United States, in particular, and what the West, in general, does is crucial to the kinds of decision that the Soviet Union must make. I think those points are probably not very great in number. I think that 1945–46 was one.

I think, again, at a more specific level, that what the U.S. did in developing thermonuclear weapons was crucial to the Soviet Union, that it affected strongly their program to develop those weapons. I think the same point is true for 1960–61, when the Kennedy administration's strategic build-up changed the nature of the problem that the Soviet strategic forces had to deal with. I think, again, there is a response and an interaction at the time of the ABM decision. I think the Soviet decision was very much governed by fears of what the United States was doing and might do.

And I think now that one could argue at the present, too, there is a sense in which the key factor in Soviet decisions is what the United States is doing. I don't think that's always true. I think it's very difficult to judge. But my guess would be there are certain key turning points in the history of Soviet-American strategic composition, when what the United States does is actually of vital importance for understanding the Soviet decision.

Mr. HARDT. Let me ask a related question, to bring in another aspect of this to the table.

That is, having been posted in NATO as a British officer and having developed a perspective on how NATO planners view the Warsaw Pact, as contrasted with how Washington planners view their military needs, is there a lack of symmetry? What is the perspective on the Warsaw Pact side? Is there a counterpart operation? Or is it uniquely a decision process centered in Moscow? And to what extent does that lead to a different kind of interaction?

Mr. MCCGWIRE. My answer is I don't know. But I will make a guess. Within NATO, to a very large extent the decisionmaking process is dominated by American perspectives because it is the most important partner. And most of the different military staffs, national and NATO, have to a large extent been inculcated with the same way of thinking. They're coming at the problem from the same point of view.

I would expect that somewhat the same would apply in the Warsaw Pact, although I would have thought that the opinion of individual Pact members would count for less.

I would like to go back to the question of action/reaction. I think it's really more useful to think about the Soviet's objectives. And to the extent that they take note of American actions or anybody else's actions, it's the extent to which those actions impinge upon achieving those objectives.

For example, the 1954 decisions were not the result of American actions. They were the result of a reassessment of the threat, which had one of the most far-reaching effects on Soviet defense that can be imagined, especially on the production side. Comparably far-reaching effects, although working in the opposite direction can be seen with the 1967–68 decision. Again, we have here a major decision to change the whole shape of the Soviet Navy, not because of any American initiative—although it is true that we happened to be initiating a

new submarine program at that stage—but because they made a major change in the way they proposed to deploy their strategic reserve.

So, in those cases, it was the Soviets who initiated the action on the basis of internal developments and reassessments. The 1961 decisions were different and they were largely a response to our initiatives. And I think that in many ways we are now in a similar period. Because the Soviets are on the brink of deciding whether or not they've got to go ahead with the testing and deployment of their sixth generation missile programs, the follow-on programs they would have started developing at the beginning of the 1970's.

And if they decide the West isn't going to go forward with arms control and wants to embark on an arms race, then they will have to go that way. I think it very much boils down to that at this particular stage, and that is certainly action/reaction.

On the question of costs, we used to argue that it would not be cost effective for the Soviets to go for a small number of very large missiles to deal with the American threat. The point is that cost was not the critical factor for them. Their problem was the mass production of fine-tolerance items such as would be required for a large number of smaller missiles, and they decided to go for a smaller number of large heads to produce the same kind of answer.

This goes back to the earlier question about everything being costed. I don't think money is always the question. It is the question of how best you achieve the objective given the constraints of the Soviet industrial system. And this tends to produce different answers to those we come up with.

Mr. HARDT. You mentioned that 1961 was a very important time for decisions and indicated that right now in 1982 they are at a similar decision point. Why?

Mr. MCCGWIRE. Because it seems to me that they are now, and have been perhaps for the last two years, poised on the brink of introducing their sixth generation of strategic missiles. As a result of their continuous procurement process, we would expect those systems to be ready for flight testing and development. I think that whether they go ahead or not will be affected by how they read U.S. intentions, and whether the United States is prepared to accept parity as it has been defined by SALTs I and II.

Mr. WHELAN. The point I was going to make is the difficulty in this response and counterresponse. I go back to the period of 1960 and 1961, and I don't think we ought to let the Soviets completely off the hook on this, because if you map the events from 1958 to 1960, they were very intense. This was the period of Khrushchev's missile diplomacy, the diplomacy of threat. This was also a period of tremendous Soviet exertion in the Third World.

You will recall his January 6th speech of 1961, in which he laid out his strategy for the Third World. Well, the Kennedy administration came in, of course. They felt very defensive, seeing this Soviet threat in the context of the other, larger events and perceiving this in conjunction with what was happening in Cuba and then the immediate mounting of another Berlin crisis, the second one, in June 1961.

When you live through periods such as this, you can't disassociate yourself from the intensity of the fear of threat that we experienced, and especially when the Berlin Wall was erected. Coinciding with this

was the Soviet success in their space operations; and the coupling of this success with the threats that Khrushchev very cleverly associated with it in carrying out his missile diplomacy, at least in its use for political purposes. So that when you had a Kennedy reaction, as it was in September and October, it makes sense. There was good reason to fear the Soviet threat and prepare for it.

This is how the Nation felt. It is how the West had felt. And I think one has to keep this in mind when you try to pattern the problems of response and counterresponse.

Mr. MccGwire. But nothing you have said has undermined the analysis that they were responding to certain acts. We are not talking about rights and wrongs. We are not talking about whether America should or shouldn't act. But from their point of view the sudden change in threat took place well before Berlin, the warhead tests, even Vienna.

The first 3 months of 1961 they saw a massive buildup of strategic forces, and an increased allocation of resources to Polaris. As I mentioned, Mr. McNamara has said he has no doubt that the Soviets thought that America was going for a first strike and that the USAF was in fact advocating such a policy.

I am not talking about rights and wrongs. I am saying from their point of view it would have been difficult for them to have read that any other way. Nor are we saying that the policy shift in 1961 made them any meaner or less mean than they would have been if they had stayed with the 1960 Khrushchev defense review.

What we are saying is that the Khrushchev defense review was going in a certain direction, a policy slanted toward deterrence, which relied heavily on nuclear weapons. The 1961 reversal not only put them back on the old track, but from our point of view achieved the worst of both worlds: strong nuclear and strong conventional forces. We don't happen to like the end product. That is why I am saying that we must analyze past history, go back into what really happened in the past, looking for cause and effect, in order to see whether we are not perhaps creating the same kind of problems in the future. That is all.

Mr. Kaufman. I would also like to comment on Professor Whelan's remarks by noting that although the U.S. military initiatives in the early 1960's may have made sense, because that is how the Nation felt, the question is whether the objective facts supported that subjective feeling.

There was an apparent failure of military intelligence and military analysis in that period, which may have reacted more to the bluff and bluster of Khrushchev's public statements and personality than to the objective reality of what was taking place in the area of Soviet defense allocations and Soviet military activities.

If one goes back and reads the congressional debates in the 1950's and the early 1960's, what you see are assertions based on allegations of what the Soviet military buildup was all about: a buildup in airwings, a buildup in missiles and intercontinental ballistic missile capability, and a buildup in bombers.

The question we should ask ourselves is whether a similar process may be taking place at the present time. Have we become so obsessed with the idea of a Soviet military buildup, which is defined mostly in terms of resource allocations than it is in clear analysis of relative

military capabilities, that a misperception is distorting current policy initiatives in the same ways that it distorted them in the early 1960's?

Mr. WHELAN. Well, I think one of the things that is interesting now is the fact that Brezhnev and the current leadership, as I read their statements in these last years, have been far more restrained in what they have said and far more intent on what they are doing, which is quite different from the Khrushchev period. I think one has to look at matters of perception. One may have been aware of these certain things, you see, that you are talking about, but when you look at the international scene, the thrust of Khrushchev's offensive, beginning in about 1956, it was one that we generally perceived as a threat.

And I think there is a distinction with what we are dealing with today. We don't have this type of leadership. We have one where you can make the analysis that we are talking about and feed it into the debate so you can very rationally debate it out. I don't think this was quite possible in the period of 1956 up to 1961, indeed up to the Cuban missile crisis.

Mr. HARDT. I would like to draw the distinction more sharply between military intelligence and more properly, disclosure of military intelligence. There could be a failure of understanding in the public media and still not a failure in military intelligence. There is a distinction, and there may have been a distinction at that particular time. This raises the question of the public's need to know and how this relates in both countries to a necessary debate and negotiations.

Now, as Mr. Anderson has pointed out, it is very important what role the Defense Council plays in keeping even members of the Politburo from having enough information so that they could know enough to engage in meaningful debate. Now, that is partly speculation, and it is partly based on inference but it is a very important factor in their internal decisionmaking process. And if it is also true that many of the people making decisions do not have access to their own information, as well as ours, accurately, it is increasingly difficult for us to have a good negotiating dialogue. By the same token, we have limits on the amount of information that we can prudently make available in a public dialogue.

So, there are problems in information availability on both sides.

Yes, Mr. Holloway.

Mr. HOLLOWAY. Can I come back to the initial question? I think part of our tendency to use that kind of model of decisionmaking springs from the fact that too little historical work has actually been done to investigate how the decisions have been taken and how they have been affected, and I think in the action-reaction model, though you didn't actually use that word, there is some notion of equilibrium and some sort of automatic stimulus response pattern, which I think is quite misleading.

I think that for some major decisions in the Soviet Union what the United States has done is crucial. That is not to say that all major decisions are taken in that way. Moreover, the kind of response the Soviet Union might make to something that the United States does is very much conditioned by their objectives, the fears, their way of doing things, so that it is not by any means an automatic reaction.

I thing this leads me back to Mr. Anderson's paper, because there is a kind of encapsulation of decisionmaking. Mr. Whelan mentioned the

point that at the time of the missile gap scare, American attitudes were much influenced by the general political climate to which Khrushchev very foolishly contributed with his threats and bluffs. Mr. Anderson says, "Well, the outcome of the decisions in Moscow was very much influenced by the flow of information." Who has access to information? Who needs to build alliances? And where are they in their internal politics? It may be in fact that decisionmaking on each side is at some points ready to respond to what goes on, on the other side. But an awful lot of the time it is really self-absorbed, and what is going on, on the other side can be ignored, can be manipulated, or taken some note of, but it is not actually a decisive factor.

Mr. HARDT. When you criticize the interactive process, and you yourself have done a historical study of the Soviet decision to go ahead on nuclear development, how would you highlight that assessment? In other words, how would you answer your own question based on your own study of the Soviet decision to proceed with nuclear development?

Mr. HOLLOWAY. First of all, when Stalin learned that work was going on the bomb, he could see it as a small program. When the bomb was tested, he just made the decision that this is something the Soviet Union, too, had to have. To explain why they reacted you have to know a lot about the internal Soviet politics. In other words, this is not a black box that you can say, "To this kind of stimulus it always responds."

Mr. ANDERSON. I would like to fill in on this statement. He said the Soviets reacted to the fact that we had a bomb before we exploded it. It can be shown that they had an atom bomb project starting in the late 1930's, which was frustrated by World War II. So this is not a real good case of reaction.

There are obviously reactions. I can start with the political process, not the decisionmaking process. You have to understand, of course, that the decisionmaking process is embedded in a larger political framework, partly historically motivated and partly politically motivated, with political and military objectives in mind that we are talking about. And the political process sort of plays off on this.

Well, I think they are tied basically to two kinds of action-reaction cycles that set in at that point. One of them is—suppose the United States demonstrates a new technology like MIRV——

Mr. HARDT. Or like cruise missiles, which Mr. MccGwire mentioned.

Mr. ANDERSON. Yes. This tends to happen here rather than there, because on most things we are technologically ahead. So we tend to be the one that initiates technologies, and they tend to be the one that is reacting.

Now, that opens a political dimension—an issue that you can capitalize on somewhat in politics. You say, "Listen, we buy this agreed set of strategic objectives that reflects a certain political constellation." Those objectives are going to be frustrated if we don't respond to this American initiative. Our internal political constellation will change possibly. And so, you know, let's do something about it."

Now, of course since everybody is trying to win in this political process, right, therefore, people are looking around for these things, and if we don't have something that poses a threat—the favorite idea is to invent a threat. This is what happened in the missile gap. John

Kennedy was looking for an issue where he could show that the Republicans weren't taking care of national security. The debate is more behind closed doors, but the same sort of process happens in the Soviet Union.

So, there are these two sets of different ways people can react. The U.S. develops a new technology, and that opens up the political potential or somebody takes something that the other side has done more or less independently and invents it as something to react to.

Mr. HARDT. Mr. Kaufman.

Mr. KAUFMAN. What Mr. Anderson has just said I think underlies the heavy responsibility that the community of analysts has, to look very closely to see whether their work is completely objective or may have been somehow bent to fit policy objectives of the government.

I would also argue that the intelligence community, particularly the leadership of the intelligence community, has a special responsibility here. And if we look yet again at that period of the late 1950's, we can find an appearance by Allen Dulles, who was then the Director of the CIA, before the Joint Economic Committee in 1959, in which he lent even more weight to the idea that Soviet economic expansion was threatening to overtake the U.S.

Only a year or so later American economists were reporting a slowdown in economic growth that had taken place in the decade of the 1950's in the Soviet Union, particularly in the latter half of that decade.

Mr. HARDT. I might add historically that a summary of those hearings which wound its way into book form was called the "Cold War Economic Gap" and figured in the election campaign of that year.[1]

I am particularly aware of it, having been one of the authors of it. [Laughter.]

Let's bring Wayne Hall into this.

Mr. HALL. All of the comments so far seem to portray an image of the Soviet Union and its defense decisionmaking as a policy which looks around the world and perceives threats and develops its force structure to counteract those threats.

Am I to infer from that that the members of the panel see no perspective whatsoever that would state that the Soviet leadership sits in the Kremlin and decides whether they have the opportunities where a military power can serve forward outreaching political goals?

Mr. ANDERSON. The answer to your question, of course, is no, at least from me.

They do, obviously, see opportunities. Again, if you focus on the internal politics and the internal decisionmaking, the way I do, politicians tend to operate on the greater pain principle. It's not advantages/disadvantages as much as it is more pain/less pain. And they always go for less pain.

What happens is that things happen in the outside world, and information about it comes in through intelligence and diplomatic services. And they say, "Well, where's an advantage? Where's the political advantage in this?"

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[1] J. Hardt, D. Stolzendach, and Mr. Kohn, "The Cold War Economic Gap, A Threat of Western Inferiority" (New York: Praeger, 1961).

In order to be able to take political advantage of such things, they've got to have forces which are structured to be able to take advantage of them. And so, everybody in the Soviet leadership sort of says, "Well, I have more capability to exploit opportunities in the outside world, and that gives me more capability to exploit domestic political opportunities, because more and more situations can be brought to bear."

In my article in "Problems of Communism"—the article was on Poland—creating a military capability against Poland, which was relatively easy to generate because of decisions that have been made in the past, served some people's political purposes and was prejudicial to others; that was the nature of the debate going on over there.

It's also true that if you're engaged in this constant struggle for internal domination and look at other people as objects of subjection, and look at people who are outside the political arena as being essentially tools to be exploited in this political struggle, that your attitudes toward the outside world are framed and shaped by this, and you begin to look at Angolans and Ethiopians in the same way that you look at metal workers in Magnitogorsk, as essentially tools. And you want to be able to take advantage of those.

Mr. HARDT. To add to that question, Mr. Hall, much has been made by many analysts of the statements of Khrushchev, that the Soviet Union was a great power and a global power. Subsequently, there have been many references to other statements, made by Gromyko and others, saying that they would have the capability to have influence on any action or any development anywhere in the world.

Now, flowing from that presumably has been the notion that the military being one of the major ingredients of Soviet power, that being a global power, thrusts them into a position where they have been far less in a position of arguing defensiveness, as they could perhaps have earlier when they considered themselves more explicitly a Eurasian power, endangered by hostile encirclement. At the same time from the same order of battle one might argue that an apparent defensive mode might better be considered proper action for offensive use. Especially when one speaks of force deployment in far-flung lands, such as Angola, Cuba, or Vietnam, there is a tendency to think of those involvements more in the context of opportunities or offensive use of military capability.

Let me add comments from Mr. Krauthoff.

Mr. KRAUTHOFF. I would like to just go back to when we were talking about Soviet military perceptions, to what was said by Mr. MccGwire about the emphasis on costs and his being rather critical of that in a way. Far be it from me to argue with him, because I thought his presentation was excellent, as were the others.

But I just want to wonder out loud, as a member of the Joint Economic Committee staff, if part of that over-focus on costs isn't the fault of the economists who love to have solid numbers that they can manipulate and use on their computers, and are very easy to compare and examine? And having said that—then point out that we're in an extremely mushy area, where this is almost defensible because what Michael would like to have is, indeed, the same as most planners—that is, an evaluation of what quality product you're

actually getting, to which costs may be, as he suggests, totally irrelevant. But this is very difficult.

Even in our own country—I don't think we know what some of our more sophisticated systems are worth from any objective quality evaluation.

And Peter Grace, who is one of the leading spokesmen of the business community these days—because of the job President Reagan gave him of evaluating what's wrong with the government—he keeps talking about the fact that an alarmingly high percent of the personnel in the armed services can't work much more than a copying machine. I mean, that's slightly overstated perhaps. But he has some pretty alarming numbers on ability deficiencies in operating our sophisticated weapons systems.

So, what good are some of our very modern chip-directed systems, if the people who are going to operate them can't run the rather elementary Bell helicopter?

Then following along the same line, you get into what Mr. Kaufman said about productivity and the difficulties of evaluating even that in this country, on which we have series going back 10, 15, 20 years, and we are generally agreed on what we're trying to measure. You get, again, this mushy area involving the person's dedication or the commitment in the government to a goal—a lifestyle, if you will—which brings in, again, the Japanese success story. I don't want to get into that. But, you know, it's very difficult to measure the Japanese miracle.

So, it would be nice to know what the Soviet's commitment to their system is today. They don't have polls. They have our polls of what we think of our system. But polls of their own would shed some light on their erratic buildup. As Michael said, of course, wherever you are, it looks pretty glum. But over here, you're certainly left with a lot of questions as to our real military capability. I am sorry that I've been very rambling, but I was trying to bring in threads of difficulties in perceptions that I think we're doing a very good job to address. But it leaves some tough problems.

Mr. HARDT. We have just a few more moments before we break.

Perhaps I could ask several of you to make additional comments, and then we will, per force, break.

Mr. HOLLOWAY. If I might, two brief comments.

One is that these statements from Gromyko and others about there being no problem in the world that can be solved without Soviet participation go all the way back to something Molotov said in 1946, when he said, "There is no problem in the world that can be solved without Soviet participation, and Comrade Stalin's involvement is the best guarantee of a successful conclusion." The Soviet view is that the victory in the war made them a global power, and gave them some kind of right to structure the post-war global order, which, of course, they did manage to do.

The second point is that this question of threat and opportunity partly depends on the analysis. Military planning documents always start with the threat, not the opportunity. Weapons, of course, play some kind of role. If you build your Navy in a particular way, then it performs some kind of mission.

Politically, however, they do, of course, see opportunities. Victory at the end of the war was an opportunity in Eastern Europe.

I tend not to think that there's been a great shift from defensive policies to offensive policies. There's been a shift in relative capabilities, which makes the Soviet Union a more important actor on the international stage.

But I think you know these things are very difficult to handle and actually to give any kind of objective meaning to.

Mr. HARDT. Mr. Anderson.

Mr. ANDERSON. Actually, what I'd like to make some comments about is the Soviet Union as an actor on the international stage and not so much on military economics.

Mr. Holloway has traced this back to 1946. In 1917 or 1905, the Bolsheviks thought they were going to restructure the world order. And during the 1920's and 1930's, they made quite definite efforts to do just this.

The activities in Ethiopia are quite reminiscent of what they did in both China and Spain. And I don't really see this as that large of a change. It's largely been a change in military capabilities.

One of the things we have to do is not buy this idea that the Soviets have these very extensive power projection capabilities.

For any area that's not contiguous with the Soviet Union, they actually have quite limited power projection capabilities, and they've never used them. Even for areas contiguous with the Soviet border, that power projection into Afghanistan—putting 85,000 men into an area that's next to their border, whereas we put 500,000 men into an area that's 10,000 miles away. That's an extremely misleading comparison. They have to do it by railroad line, whereas we have to do it by sea. And as we all know, it's much cheaper to move the ball park over by sea than over a railroad line. So we actually had the advantage.

So, I would agree with Mr. Holloway's general point, it's not the fact that the military balance or comparative level of Soviet capabilities has changed so much since the end of World War II as the fact that their policy has. It's something that we focus on because that's the threat that they represent to us.

The Soviets have always believed that they had available to them a series of roads—subversive actions, economic actions, political advice, military involvement where they can stage it—which are available to them to affect politics throughout the world, with the possible exception of Latin America. They've been using these things for the entire course of their existence.

Mr. MCCGWIRE. Speaking of more general matters, your point about more information—I really question whether this is the basic problem either with us or the Soviets. Isn't it far more a question of attitudes?

Picking up on Joe Whelan's point, let me stress that in 1960–61, I was absolutely gung ho. I was cheering Senator Kennedy on. I was right behind what was happening. The point is that, having now looked back at what it was we did and the effects it created, which I can now analyze historically, I ask myself, "Was what we did in our interest?"—so, we come back to this question of attitudes.

I saw a study recently which looked at Western assessments of the Russian threat right back to the 1830's. Invariably, the threat was seen as massive, and equally invariably, come the next war involving Rus-

sia, the assessment was shown to have been highly exaggerated. I can show you an article in an 1807 British naval journal which discusses the Russian threat to Malta in terms which could have been republished in any of our more alarmist journals in the 1970's.

Until we address this question of our inately hostile attitude toward Russia, and consider whether this attitude, described by George Kennan as "visceral anti-Sovietism" is justified by the objective facts of the contemporary situation, then I think that we will never be able to escape from this compulsion to over-estimate the threat.

On the question of Soviet overseas involvements in peacetime, which a good point, what I look for here is whether they have any surplus of capabilities over their essential military requirements. And I don't see any. As I point out in my paper, their basic requirements for the security of the state are very large, and there is no disposable surplus.

For example, the fact that they sent their navy forward in the 1960's was not because they were out there to make friends and influence people. We tested that hypothesis and it wouldn't fly. It was there because they were out there developing the operational infrastructure they needed to support their war related plans. Of course, there are other peacetime spinoffs from their particular definition of world war which leads them to develop a worldwide infrastructure. You must develop and prepare distant theatres of operations, in peacetime, but the political utility is a spinoff.

Another point is that I don't think they have the same perception as we do of the utility of projecting military forces outside their national security zone, particularly as regards the coercive use of force. Our attitudes and perceptions in this regard stem from 400 years of expansionist maritime history. They have a very different historical experience.

A final interjection about this relative costing of defense effort. I really come back to the question of whether this information is used or misused? I'm just not sure. It tells us some things. But people spend a vast amount of effort on this, and I think that if I was running the CIA, I would take those people off relative costing and put them on more useful jobs.

Mr. WHELAN. I just wanted to make the brief comment, going back to the point that John made about secrecy of information—and this doesn't relate to the Soviet side but to our side.

As I was telling Mr. Hall earlier this morning, I had seen the play in Washington a couple of years ago by Tom Stoppard, that dealt with freedom of the press. There's a line in it that says, "Information is light." We know there are limits to what information you can get and information you can disseminate.

But the important thing is that in the whole area of Third World studies over the last 10 to 15 years, there has been a large cadre of specialists emerging in this country and in the West who have studied Soviet involvement in the Third World.

One of the basic sources for this study has been the reports that the State Department first put out at the end of the 1950's and early 1960's, and then CIA eventually taking over the task. These reports, giving very important statistical data and making very important generalizations, have been essential to the study of Communist involvement in the Third World. Very recently I was told that these reports are no

longer available. This, to me, is a tremendous deficiency, because it goes precisely back to the point that Michael was making in his comments about 1960–61, when we reacted as we did. We reacted in many ways, out of ignorance.

Well, today, with respect to the Third World, a key area in our relationship with the Soviet Union, we have the data, at least until recently; we have the people analyzing these problems. So, if anyone tells you, in a voice of alarm, "The Russians are coming! They've succeeded here. They've done this and that," then, on the basis of really scholarly analysis, you can make an assessment of the threat. You can balance off successes and failures on which you can make a judgment and have influence on policy, not only in Congress but in the scholarly community generally. With the shutting off of this vital information on Communist involvement in the Third World, it will not be possible to carry on these studies with the same degree of efficiency and service to our foreign policy interests.

So, I am just going back to the point on accessibility of information, only this time relating to our side.

Mr. HARDT. Would you like to make any closing comments?

Mr. KAUFMAN. A high degree of emotionalism has always surrounded the Soviet Union in the U.S. dialogue—an emotionalism, by the way, that goes back even before the revolution of 1917—one can read in the history of the 19th century about American farmers and their anxieties over Russia's dumping grain on the world market, which Russia had a habit of doing whether she had a surplus or not.

I am not convinced that our analytical capabilities and our ability to be objective with respect to the Soviet Union have progressed so far that we can afford to ignore lessons of the not-so-distant past and that we should not update Mike MccGwire's excellent question, "Was what we did then in our interest?" and ask "Is what we're doing now in our interest?"

Mr. HARDT. We should also not lose sight of the fact that the Soviet Union is a super power, with very considerable capabilities, and it's a revolutionary power, albeit with some assuaging of their revolutionary ardor. And in that sense, it is much more significant to us than Russia used to be.

Mr. KAUFMAN. I'd just like to add, John, that we, too, are a revolutionary power.

It is two days after July 4th.

Mr. HARDT. We will reconvene in the Whittall Room of the Library of Congress at 2:00 o'clock.

[Whereupon, at 11:40 a.m., the workshop was recessed, to reconvene at 2 p.m., this same day.]

AFTERNOON SESSION

Mr. KAUFMAN. We're ready to begin now with the second session of the Workshop on Soviet Military Economic Relations.

Much of the discussion this morning set the stage for the questions that the panel this afternoon will address, questions both about the measurement and the burden of Soviet defense allocations.

There were some rather serious challenges to the validity of initial measurement estimates, particularly the dollar cost estimates. And

there was also presented a Soviet perspective on the state of the Soviet economy and its prospects, which contrasts somewhat with the more pessimistic assessment that one finds in the Western literature.

Our panelists are very well qualified to respond to those questions and discuss those comments.

Paul Welsh, who will be the first speaker, is presently branch chief of analysis of NATO-Warsaw Pact activities for the CIA.

He is accompanied by Michael Martin, presently a senior analyst at the CIA.

Paul Welsh will be followed by Frank Doe, a specialist at the Defense Intelligence Agency on Soviet military spending and trends in strategic defense and economics.

Daniel Bond is presently the director of the centrally planned economies project for the Wharton Economic Forecasting Associates here in Washington, D.C.

Stanley Cohn has worked in the vineyards of economic analysis of the Soviet Union, long and well, for many years, and is presently professor of economics at the State University of New York at Binghamton.

So, Paul, if you're ready, you may proceed.

Panel II. Measurement and Burden of Defense Allocations

STATEMENT OF PAUL WELSH—THE ESTIMATED COST OF SOVIET DEFENSE ACTIVITIES, 1965–80

Mr. WELSH. Let me open my remarks this afternoon with some clarification comments on issues that were raised in the morning sessions. I will then summarize the paper that we prepared for the workshop.

The CIA has long been in the business of trying to measure the burden and size of Soviet defense activities. This effort started in the 1950's, in response to U.S. policymakers asking for intelligence on the Soviet Union's ability to expand and sustain its military forces.

This analysis has been pursued consistently since that point in time. And I want to emphasize that despite the comment that Mike McGwire made—that he could see the reallocation of these costing resources to some more useful task. I want to make the connection that the military economic work that we do is an integral part of the intelligence community's work on Soviet military forces and analysis of Soviet military intentions—that, in fact, the material required to cost the Soviet defense effort, whether it be in dollars or rubles, requires an explicit understanding of the physical size and makeup of the Soviet military and that the data base that we utilize to estimate Soviet defense expenditures is the broadest compilation of estimates of Soviet military forces that exists in the Western world. It is an all-source data base: It is based on all the assets of the intelligence community. It is reviewed annually. And it is open to public criticism through our participation in unclassified forums such as this workshop.

As previously mentioned, the work essentially is not self-initiated, but in response to numerous and varied requests from policymakers, both in the executive branch and within the Congress. It's an integral

part of the U.S. participation in the NATO Alliance. In fact, other than the United Kingdom, we're essentially the only practitioners of some aspects of this work.

I want to leave you with the understanding that the military-economic estimates are essentially grounded in a physical understanding of Soviet forces. They are not derived independent of a physical understanding of Soviet forces, but are derived by identifying what's going on in those forces and then assigning costs to them, and finally aggregating those costs.

This morning Mr. Kaufman noted that in 1960 the United States believed that the Soviet Union led the United States in the deployment of long-range missiles and bombers—the so-called missile and bomber gaps. Subsequent intelligence analysis showed this was not the case and Mr. Kaufman suggested that our understanding of current Soviet forces on defense activities could be as misleading as our 1960 understanding was. Over the ensuing 20 years the intelligence community has devoted a great deal of effort ensuring that we understand better the status of military forces in the Soviet Union in 1980 than we did in 1960. And I think in large part that's a matter of public record, that this understanding is much more complete.

Mr. KAUFMAN. Mr. Welsh, this might be a good time for me to reiterate the ground rules we stated this morning. In order to encourage full and candid discussion, everything said in these proceedings are off the record until approved for publication.

Mr. WELSH. All right.

Let me summarize the paper that we prepared for the workshop. I have already covered the points that this is analysis long underway, something that we've been at for 20 to 30 years. Also, the point was made that there's a dearth of Soviet official information on defense, the one defense budget estimate that the Soviets present annually being the only defense information released.

Given this situation, the Central Intelligence Agency, the so-called "building block" embarked on an approach in the 1950's to estimate Soviet defense costs. This approach attempts to identify the major physical components of the Soviet military forces over time, that is, both looking at the past as well as projecting into the future. By physical identification I mean estimates of the order of battle for major weapons programs, estimates of production levels for major weapons systems, estimates of military manpower, and estimates of the technical characteristics of the primary weapons systems in the Soviet inventory.

To this physical description we have applied estimates of ruble costs, as well as dollar costs. I will discuss the differences in the application of those two military-economic measures shortly.

Basically though it's a very simple approach. It's only complex insofar as it's difficult for us to collect information on Soviet defense activities. This is where we rely on the all-source intelligence communitywide network to collect the material that we need for this approach. We then put prices on each of these activities. I am not going to spend any time describing how we assign those prices—this has been described in previous public discussions. Once you go through this process, you have aggregate estimates of Soviet defense spending, but you also have subaggregates, that is, defense cost esti-

mates by major resource categories—research and development, investment, and operating. We also derive estimates of Soviet defense activities that can be arranged by military services—that is, spending for strategic rocket forces, spending for the air defense forces, spending for the land forces, and so on and so forth.

You also can aggregate Soviet defense costs according to U.S. rules. The most typical example is by U.S. mission structure—that is, take U.S. rules that define strategic forces and then aggregate the dollar costs of Soviet forces in the same manner. There are several subaggregate estimates that we produce using this approach.

Let me mention that we also pursue one other approach that we primarily use as a check on our direct cost or "building block" method. This is the residual approach. Most frequently practiced by Bill Lee, this approach attempts to estimate aggregate Soviet defense spending by using the economic material that the Soviets release and developing a defense residual estimate through a process of careful examination of Soviet economic statistics.

We use this approach and the resulting aggregate estimate as a check on our building-block method to see if there's a disparity in the results of the two approaches that we should examine and explain.

With the direct cost approach, the only item that is not estimated in a building-block manner today is research and development. That estimate is derived from Soviet aggregate statistical data and then moved from rubles into dollars with a ratio.

Let me talk a bit about the purposes of the defense economic estimates. The ruble estimates are intended to provide us with an understanding of the impact of defense programs on the Soviet economy. We use constant prices to reflect real changes in these measures, excluding the effects of inflation.

Basically, we're trying to gain insight as to how the Soviets see their defense effort.

One of the principal manifestations of that is an estimate of burden, defense as a share of GNP that was alluded to this morning. There are other uses that we make of the ruble estimates—they can be used to examine how resources are being distributed between conventional and strategic forces, for example, or by military service, ground forces spending versus that of the air forces.

The dollar estimates are intended to provide a basis for comparison with U.S. defense programs. They measure what it would cost, using prevailing U.S. prices and wages, to produce and operate a military force of the same size and with the same weapons inventory as that of the U.S.S.R.

The dollar estimates are frequently used to describe Soviet spending. We have been very careful over the years to make the point that they are not an estimate of Soviet spending. The rubles estimates are used for discussions of Soviet spending. The dollar estimates are used to determine the cost of Soviet defense activities, and we have carefully chosen our terms for describing these estimates.

One of the major objectives of the dollar estimate is to produce a magnitude measure—using dollar inputs—to determine the size of Soviet defense programs.

They also can be utilized to establish trends in defense activities over time. The debate as to whether they are a useful surrogate for

effectiveness is something that we frequently encounter, and we caution our consumers that the dollar estimates should not be used alone as a measure of the relative effectivenes of U.S. and Soviet military forces. They are just one of many possible input measures. Other measures, such as quantity and quality of weapons, morale, and training of troops to name just a few, are needed to assess relative capabilities.

Let me quickly run through the current estimates to update the public record.

In ruble terms, for the 1965 to 1980 time period, essentially the beginning of the Brezhnev era, we estimate Soviet defense spending—in real terms—that is, measured in constant 1970 rubles—has increased at a 4-percent annual rate; and that for calendar year 1980 estimated Soviet defense spending is some 70 billion rubles, approximately four times the amount of the announced Soviet budget for that year.

In burden terms, we are currently estimating that defense represents about 12 to 14 percent of Soviet GNP, up from 11 to 13 percent in the late 1960's and for most of the 1970's.

The increase in defense as a share of GNP in the current period is principally due to the slow growth in the Soviet economy.

In dollar terms for the 1965 to 1980 period we estimate that the cost of Soviet defense activities was some 10 percent greater than that of the United States. And that's with Vietnam in the U.S. figures.

If you look at a period that is not so heavily influenced by Vietnam—that is, the 1970 to 1980 period—dollar costs of Soviet defense activities are some 30 percent greater. In calendar year 1980, we estimate the dollar costs of Soviet defense activities, at some $195 billion, were about 50 percent greater than comparable U.S. outlays.

Dollar estimates can also be made by resource category. And if you look at investment costs for the 1965 to 1980 period, the Soviet investment in dollar costs terms is 30 percent greater than that of the United States. In the 1976 to 1980 time period it is about 80 percent greater, although U.S. investment has risen in real terms since 1976.

Cumulative operating costs over the 1965 to 1980 period are essentially the same. Taking a quick look at two of the missions—strategic forces—here's an example of where the dollar figures can be misleading. In the 1965 to 1980 period they calculate and show that Soviet dollar costs are two and a half times that of the United States.

One of the reasons for this is heavy U.S. investment in strategic forces, during the first half of the 1960's. For a more proper perspective the comparison would need to be extended. We have done this on a classified basis and provided the results to our consumers.

The general purpose forces using these same dollar terms are 20 percent greater over the 1965 to 1980 period.

Our dollar estimates have been criticized for failing to account for the so-called index number problem. The index number effect, common to all international economic comparisons, will tend to overstate the size of Soviet defense activities if dollars are used and overstate the size of U.S. defense activities if rubles are used.

We have acknowledged this problem in both our classified and unclassified work. This is also an example of where over the years we've responded to outside criticism—this time from the Joint Economic Committee—of our work. In the middle 1970's the Joint Economic

Committee suggested it would be useful to examine these comparisons in ruble terms in an attempt to gauge the actual impact of the index number problem.

We have pursued that suggestion and we believe we can do it in sufficient detail today to provide a measurement of the index number effect in the defense sectors of the two countries. The current results are as follows: The ratio is 1.5 to 1 for the calendar year 1980 in dollars; if you do the same comparison, assume the same physical force structure—no change, except in the currency base to rubles, then the ratio is 1.3 to 1.

Now in index number terms that's a fairly small spread. We believe that spread is correct because we think the defense sectors of the two countries are much more alike than are, say, the civilian sectors of the two economies.

We have examined this ruble comparison, not because U.S. policymakers have asked us for ruble comparisons—it would not mean much to people who are working regularly in dollars, but rather to get at the question of: Are the dollar estimates so biased by the index number effect as to be not useful as a measure of defense activities?

We believe as a result of this analysis that Soviet defense activities, measured in dollars or rubles, are larger than those of the United States.

Again, we're talking only about a measure of size. It doesn't say, nor do we intend to imply, that the Soviets have a more effective defense program. Rather, in our work it is a piece of material that we can provide consumers that have to participate in the defense debate that says: We've examined the index number effect and here are the results. We are going to do this work on an annual basis. If new material becomes available, we will try to incorporate it. We will also attempt to participate in forums like this where our procedures and information can be discussed.

Let me end with a statement about the confidence we have in our estimates. We believe that in the aggregate, the dollar and ruble estimates—recognizing that they are analytical constructs that are within 10 to 15 percent of the dollar or actual ruble amount for the period of the 1970's.

Given the magnitude of these defense estimates, when you apply that range to a $200 billion figure, you see we have considerable latitude. You're talking about $20 or $30 billion one way or the other. These are very large numbers.

Our confidence in the aggregates and the trends are greater than they are in individual years or in the sublevels of aggregation. We have the most confidence in our estimates of military manpower costs, because the components of our military manpower estimates are the most easy to see, count and define. We have the lowest confidence in the estimates of research and development costs.

[The complete statement of Mr. Welsh follows:]

The Estimated Cost of Soviet Defense Activities 1965-80

Office of Soviet Analysis
Central Intelligence Agency
Washington, DC 20505

Introduction

The Soviet Union treats information on its defense spending as a closely guarded state secret. The Soviets report only a single-line entry for defense in their published state budget, and this figure is obviously only a fraction of their actual expenditures.

Consequently, analysts both in and out of the US Government have developed their own estimates of the true cost of Soviet military activities. All such estimates, however, are necessarily based on analytical constructs that are subject to errors and limitations.

There are two principal methods to estimate how much the Soviets spend on defense. The first relies on deriving implicit defense costs from published Soviet economic statistics. This is the approach that most nongovernmental researchers have taken to the problem. The second method, used only in the intelligence community because of the mass of data needed to apply it, is the building-block approach, in which we identify and enumerate the physical elements of the Soviet defense effort over time and apply direct cost factors to them. Though any methodology is uncertain, we find the building-block approach more reliable and useful, and use the analysis of available Soviet statistics to make rough

checks on our estimates.

The estimates presented in this paper were derived using our building-block methodology. Apart from incorporating the best judgments of the Intelligence Community on the nature and size of the Soviet defense effort, our estimates offer a detailed series that allows us to address a number of key intelligence questions that cannot be dealt with as usefully as with other methodologies. These include the comparison of US Soviet defense activities expressed in a common currency, not only in total but also in terms of the individual components of the defense efforts of each country; the organizational, functional, and geographic distribution of Soviet military resources; the cost and resource implications for the Soviets of alternative force levels, for example, the costs associated with SALT and MBFR agreements and the incursion into Afghanistan; and finally, the burden of defense on the economy of the USSR expressed in real resource terms, that is, in constant ruble prices.

Description of Building Block Methodology

The costs of all Soviet defense activities except RDT&E are developed by identifying and listing Soviet forces and their support apparatuses. Our model contains a description of about 1,100 distinct defense components—for example, surface ships,

ground force divisions, and air regiments—and our latest estimates of the order of battle, manning, equipment inventories, and new equipment purchases for those components. This reflects contributions from analysts throughout the Intelligence Community and is the best available data base of qualitative and quantitative information outside of the USSR.

To detailed estimates of physical resources, we apply appropriate ruble or dollar prices. For the ruble estimate we are able to estimate RDT&E, construction, personnel, a portion of O&M, and much of procurement directly in rubles. The remainder is calculated in dollars and converted to rubles using carefully-constructed ruble-dollar ratios. The dollar estimates use prevailing US prices except for RDT&E which is calculated in rubles and then converted to dollars.

Purposes of Dollar and Ruble Estimates

The dollar and ruble estimates serve different purposes. Our ruble calculation is intended to provide an estimate of the level of and the real trend in the annual Soviet resource commitment to military forces. We use ruble prices to reflect as accurately as possible the relative prices of military programs and activities within the Soviet economic system. The principal purpose of this estimate is to assess the impact of defense programs on the Soviet

economy and, conversely, the impact of economic factors on Soviet defense activities. We use constant prices so as to reflect real changes in these measures, excluding the effects of inflation.

The ruble estimates provide insights on the resource constraints confronting the Soviet planners, and on the priorities they assign to the elements of the defense effort. Because our estimates are cast in terms of Western military force and spending concepts, however, they do not precisely duplicate data that Soviet leaders would see. Soviet data would incorporate different definitions and price concepts. Thus, Soviet discussions of defense spending are cast in somewhat different terms, but Soviet planners clearly share our judgments that their defense effort has had a substantial impact on their economy, and that this effort is likely to increase.

The dollar estimates, on the other hand, allow US policymakers to make comparisons between US and Soviet defense activities. Such comparisons are frequently made in purely physical terms but comparisons of physical units are complicated by differences in the design and performance of different types of equipment. Comparing the order of battle of the Soviet tactical air forces with that of the US tactical air forces, for example, has only limited meaning. Using cost as a common denominator resolves some of these difficulties. While any currency could be logically used, we place our primary emphasis on dollars since they are more familiar to US policymakers.

Specifically, the dollar cost of Soviet defense activities measures what it would cost, using prevailing US prices and wages, to produce and operate a military force of the same size and with the same weapons inventory as that of the USSR. We then compare these estimates with US defense outlays.1/

US defense expenditures and our estimates of the dollar costs of Soviet defense activities therefore serve as measures of the annual flows of resources devoted to defense. Such measures can be used to compare the overall magnitudes and trends of the defense activities of the two countries in terms of resource inputs. They have an important advantage over many other input measures, such as the numbers and types of weapons, in that they permit aggregative comparisons. Dollar cost valuations, for example, take into account differences in the technical characteristics of military hardware, the number and mix of weapons procured, manpower strengths, and the operating and training levels of the forces. But dollar valuations still measure input rather than output and should not be used as a measure of the relative effectiveness of US and Soviet forces.

1/ For US-Soviet comparisons, we include the following US activities and their Soviet counterparts: national security programs funded by the Department of Defense, and defense-related activities of the Department of Energy, the Selective Service, and the Coast Guard. We exclude retirement pay, civilian space and civil defense programs, the costs of Soviet railroad, construction, and internal security troops, and military assistance (except for the pay and allowances of uniformed personnel.)

To state one country's activities in terms of another country's currency will exaggerate somewhat the size of the first country's effort. This phenomenon--called the index-number problem--has been the basis of some criticism of our attempts to compare Soviet and US defense costs in terms of dollars. In order to assess the impact of the index-number problem on our dollar comparisons of US-Soviet resource commitments to defense, we also make comparisons in ruble terms although in less detail than the dollars. (The methodology used to estimate the US in rubles is discussed later in the text.)

Estimates of Ruble Defense Spending since 1965

The dominant feature of Soviet defense spending over the last 15 years or so has been the persistence of its growth. Since 1965, the growth has averaged about 4 percent--about the same as that for the overall economy--and in 1980 we estimate total Soviet defense expenditures, defined to match Soviet concepts of defense activities, at slightly over 70 billion rubles in constant 1970 ruble prices.2/ During this period the Soviets expanded and

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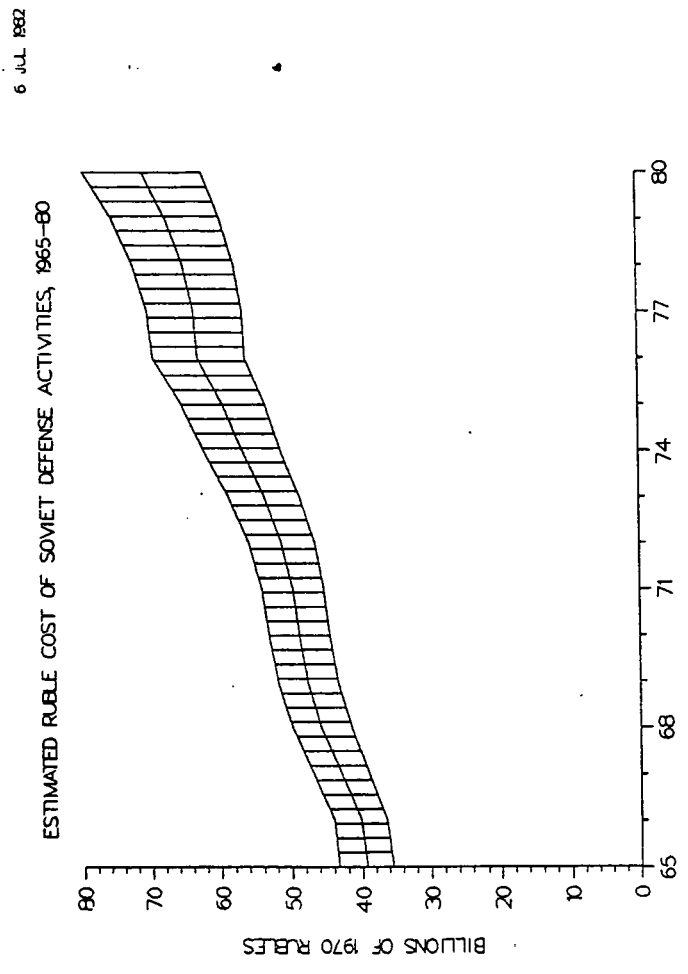
2/ The United States and USSR use different definitions of what activities constitute defense, with the Soviets using the broader concept. If Soviet defense activities are defined to match US rules, the resulting "narrow" estimate for 1980 is about 65 billion rubles.


6 JUL 1982
ESTIMATED RUBLE COST OF SOVIET DEFENSE ACTIVITIES, 1965-80
BILLIONS OF 1970 RUBLES
80
70
60
50
40
30
20
10
0
65
68
71
74
77
80

modernized their military forces and enhanced their capabilities to engage the West over a broad spectrum of conventional and nuclear conflict. Over most of the period, the defense share of GNP was a relatively constant 11 to 13 percent. By 1979, however, the share had increased to its present 12 to 14 percent, because of declining economic growth.

This 15-year commitment of resources to the Soviet defense sector has paid substantial dividends in political prestige and military power, but it has drawn scarce human and technical resources and raw materials from the economy. In specific sectors that are keys to economic growth—machinery, fuels, power, and chemicals--the Soviet military requirement has been even higher than the one-eighth share that defense takes from the economy as a whole.

If defense spending grows at its historical rate of about 4 percent per year and economic growth continues to decline, the defense share of GNP could increase by 2 percentage points by 1985 and by 4 percentage points by the end of the decade. This would drastically reduce the extent to which additional resources could be allocated to investment and consumption in the civilian economy.

While the Soviet perception of the threat argues for more military spending, deteriorating economic growth demands more resources for investment. The problem is that current trends in economic growth will no longer permit the Soviets to have it both ways. Despite these pressures, we have no indicators of a

slowdown in the military effort.

Dollar Cost Comparisons Since 1965

For the 1965-80 period, the estimated dollar costs of Soviet defense activities were 10 percent higher than comparable US outlays. Since 1969 (after the peak of US involvement in Vietnam), however, cumulative Soviet costs have been almost 30 percent higher. Moreover, in 1980 the Soviet dollar costs were 50 percent higher—about $195 billion compared with US outlays of about $130 billion.

The trends in the defense activities of the two countries were markedly different during the period. The estimated dollar costs for the Soviet Union grew at an average annual rate of over 3 percent from 1965 through 1980. The overall pattern, like that of the ruble estimates, was one of continuous growth throughout the period, although growth rates fluctuated somewhat from year to year--a result of the phasing of major procurement programs. In contrast, the US growth rate over the entire time span was negative. US outlays peaked in the late 1960's, reflecting costs related to the Vietnam War, then fell steadily until 1976. Since then they have increased an average of 3 percent a year.

Resource Comparisons

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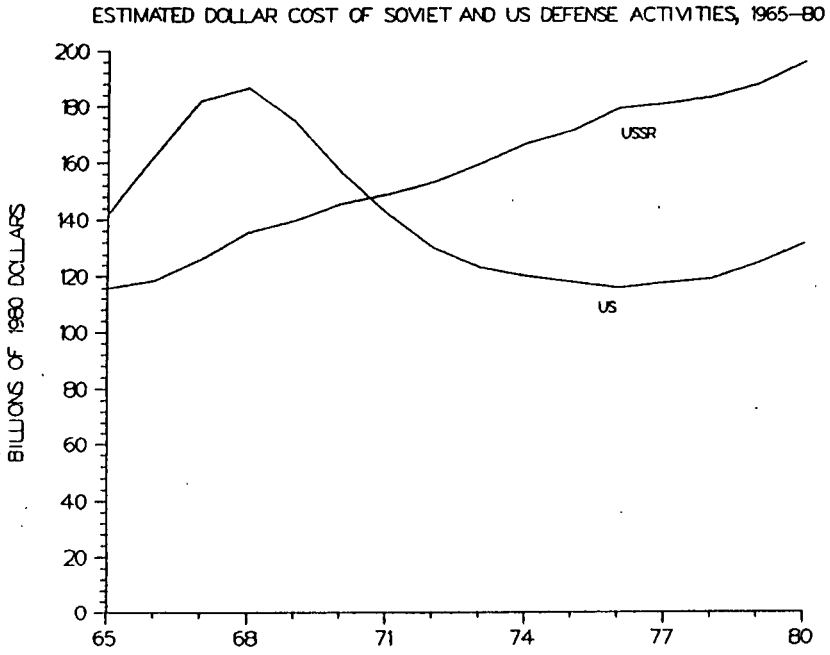
ESTIMATED DOLLAR COST OF SOVIET AND US DEFENSE ACTIVITIES, 1965–80
BILLIONS OF 1980 DOLLARS
200
180
160
140
120
100
80
60
40
20
0
65
68
71
74
77
80
USSR
US

Soviet and US defense activities can be compared in terms of major resource categories- investment, operating, and research, development, testing and evaluation (RDT&E).

The investment category covers the dollar cost of the procurement of equipment (including major spare parts) and the construction of facilities. Investment costs represent the flow of equipment and facilities into the defense establishment; they are not an indication of the size of the force in any given year.

The estimated dollar cost of Soviet investment has exceeded its US counterpart every year since the late 1960's. Like total defense costs, Soviet investment measured in dollars showed an upward trend but displayed cycles in annual growth rates that were related to the phasing of major procurement programs- especially those for missiles, aircraft and ships. The difference between the two countries' costs grew from 1970 until 1976 as US investment decreased, and by 1976 the estimated Soviet dollar costs were more than twice the US costs. For the overall period the dollar cost of Soviet investment was about 30 percent more than that of the United States.

The operating category includes the costs associated with operating, training and maintaining current forces, including personnel costs. These costs are directly related to the size of the forces and to the level of their activity.

At the beginning of the period, US outlays for operating were higher than Soviet dollar costs for this category, primarily

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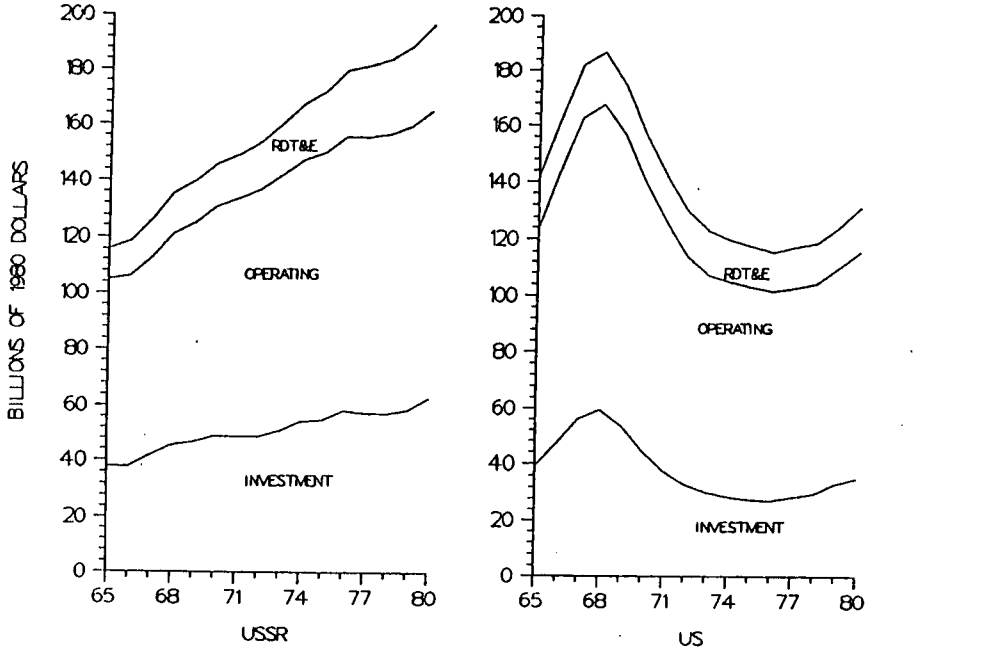
EST. SOVIET AND US DEFENSE ACTIVITIES BY RESOURCE CATEGORIES, 1965-80



because of the Vietnam War. The Soviet costs surpassed those of the United States in the early 1970's, however, and continued to grow while US outlays fell. By 1977 US operating outlays had begun to grow again as increasing O&M costs offset a decline in military personnel costs. For the entire period the two countries' operating costs were approximately equal.

The RDT&E category covers a variety of activities, including exploring new technologies, developing advanced weapon systems, and improving existing systems. Although we are less confident in our estimate for RDT&E than we are in our estimates for the other categories, we nevertheless believe that the Soviet military RDT&E effort is large and that the resources devoted to it have been continually growing. US RDT&E costs, on the other hand, steadily fell after 1967 and have grown only gradually since 1977.

Military Mission Comparisons

Comparisons of Soviet and US defense activities also can be made by using US accounting definitions to array defense outlays by the missions they are assigned to support. The missions- strategic, general purpose, and support- follow guidelines in the Defense Planning and Programming Categories (DPPC) issued by the Department of Defense in 1981. These comparisons exclude RDT&E costs.

The strategic forces include all forces assigned to

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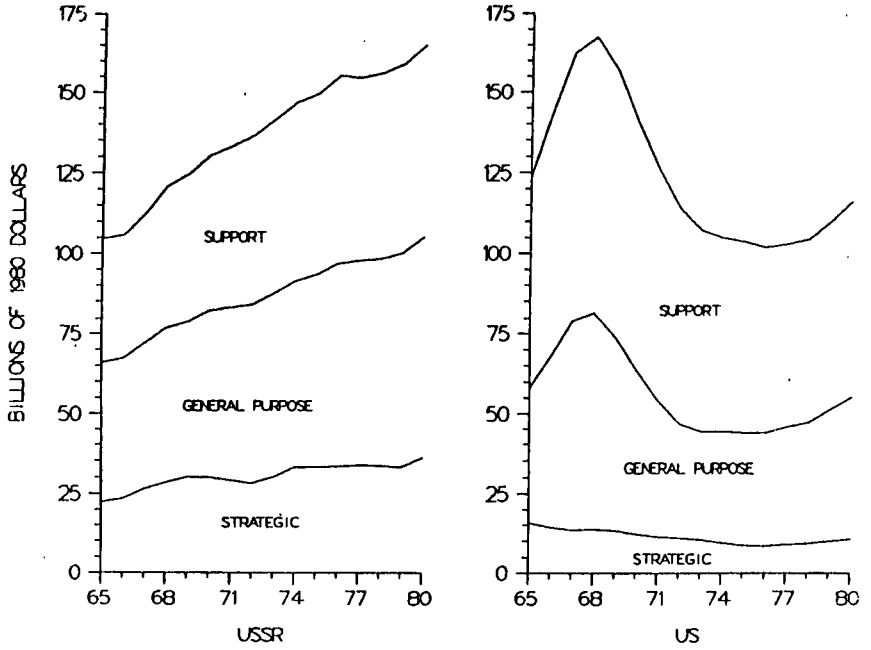
EST. SOVIET AND US DEFENSE ACTIVITIES BY MILITARY MISSIONS, 1965-80



intercontinental attack, strategic defense, and strategic control and surveillance, including nuclear weapons deployed for these purposes. It also includes Soviet peripheral attack forces, for which there currently are no US counterparts.

Measured in dollars, the level of Soviet activity for strategic forces was over two and a half times that of the United States over the 1965-80 period. The deployment of third- and fourth-generation ICBMs and, in the 1970's, of ballistic missile submarines accounted for a significant share of the Soviet strategic forces. In contrast, the United States placed more emphasis on strategic bombers and submarines, with ICBMs accounting for a smaller share of US outlays.

The general purpose forces include all conventional forces-land, tactical air, naval, and mobility (airlift and sealift). The estimated dollar costs of Soviet general purpose forces exceeded comparable US outlays by over 20 percent over the 1965-80 period, and in 1980 were over 50 percent greater. The Soviet dollar costs grew steadily over the period. US outlays fell from 1969 to 1973 but showed increases all other years of the period. The overall growth rate was very small, however.

Within both the Soviet and US general purpose forces, land forces accounted for the greatest share, but the Soviet dollar cost for these forces have surpassed US outlays almost every year of the period. By 1980 they were about two and a half times comparable US outlays, and cumulatively they were almost twice as

great. The estimated dollar cost of Soviet naval forces were approximately equal to cumulative US naval outlays. On the other hand, US tactical air costs were 70 percent higher than the dollar cost of these Soviet activities, because of US involvement in Vietnam and because US aircraft carriers and their associated aircraft are included.

The support forces include the logistic, training, administrative, base-operating, and other support activities required by the combat forces. In the late 1960's the estimated Soviet costs were only half those of the United States, but they have grown steadily and since the mid-1970s have been approximately equal.

Ruble Cost Comparisons

The index number problem—mentioned in the introduction—refers to the inevitable difficulty in comparing economic activity in any two countries. To make such a comparison, the activities must be measured in common terms—specifically, they must be stated in a single currency. Since either currency can be legitimately used, no unique result is possible in such an economic comparison.

A meaningful comparison is still possible, however. The direction of the index-number bias in any single comparison is

easy to identify, and the two complimentary comparisons (in each of the two currencies involved) provide a logical range within which a meaningful difference lies.

As a result of differences in resource endowments, dollar comparisons of US and Soviet defense activities tend to inflate the size of Soviet costs relative to those of the United States. Manpower is relatively expensive in the United States. Therefore, the relatively high dollar wages somewhat exaggerate the size of Soviet defense activities, which are more manpower-intensive than those of the United States. Comparisons can also be made in ruble terms, using Soviet price and wage data to cost US defense activities. In the Soviet Union, capital goods are relatively expensive. Such ruble comparisons, therefore, exaggerate the level of US activities, which are capital-intensive, relative to the Soviet level--the reverse of the distortion that occurs in dollar comparisons.

Procedures for Estimating the US in Rubles

A ruble estimate of US defense activities measures what it would cost, in constant 1970 rubles, for the Soviets to produce and man a military force of the same size and with the same inventory as that of the United States and to operate that force as this country does. To maintain consistency with the dollar estimates, we have used the same definition of national security

activities that we used in the dollar-based comparisons.

For practical reasons, in calculating the cost of US defense activities in rubles we could not use the direct costing method we use in calculating Soviet activities in dollars. Instead, we calculated four major resource categories—research and development, procurement, construction, and O&M—by applying ruble-dollar ratios. Personnel costs—the fifth major resource category—were derived directly because of the availability of Soviet pay and allowance data.

For the most part, deriving ruble costs of US defense activities was accomplished by applying ruble dollar ratios to detailed dollar cost figures for US spending by resource category. Procurement, however, presented a special problem.

There are a few items in the US weapons inventory—the F-15, for example—that the Soviet defense industry could produce only at extremely high cost because the quality or technology of the system is beyond present Soviet capabilities. To bring the ruble price for these items up to an appropriate level, we either adopted the ruble-dollar ratio appropriate to a Soviet weapon system of a later generation (which is higher) or increased the basic product group ratio by 20 percent. (The 20-percent differential is derived from a study of merchant ships.) This adjustment was applied to an entire procurement account if there was in that account at least one weapon system in which the United States has such an advantage. Thus, this increase in ruble price

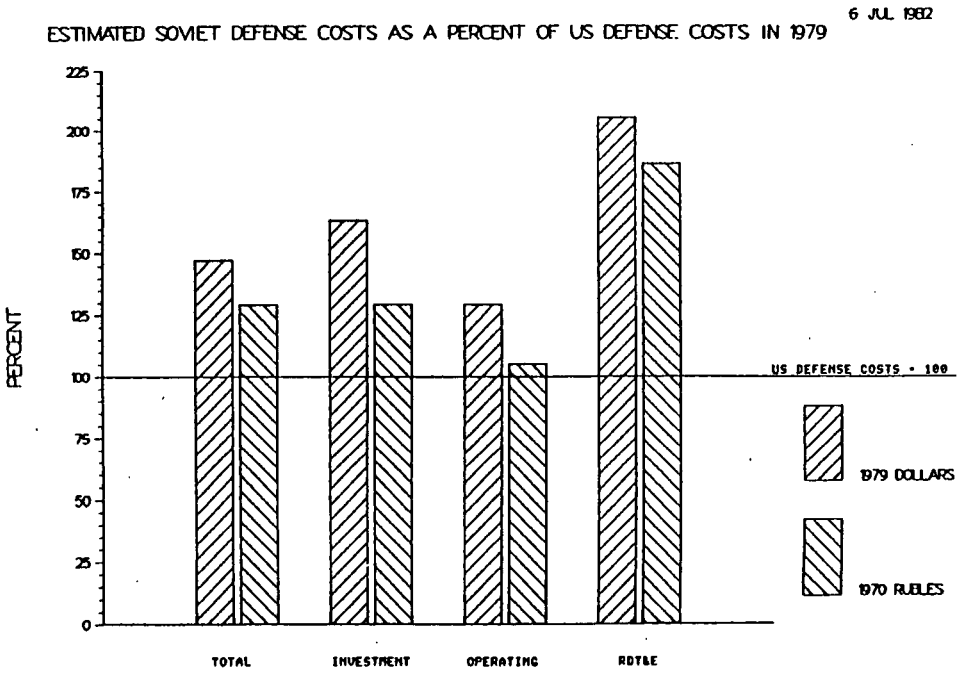
tended to overstate US ruble procurement costs.

Results of Ruble Cost Comparisons

Whether measured in dollars or in rubles, Soviet defense costs exceeded US spending by a considerable margin in the late 1970s. Total Soviet defense costs in rubles were 30 percent greater than those of the United States in 1979, and measured in dollars they were 50 percent greater. That is, the Soviet lead in total defense costs measured in dollars is 1.15 times the lead measured in rubles. The cause of this rather narrow spread is that the two armed forces operate with similar equipment-manpower ratios.

Confidence in the Estimates

In the aggregate, we believe that our total dollar valuation is no more than 10 to 15 percent in error for any year in the decade of the 1970s. Our estimate in ruble terms is at least as reliable as the dollar estimate. We are confident that these expenditures have been increasing in real terms. We think it unlikely that the real growth in total expenditures is significantly higher or lower than the 4 percent average that we estimate.


6 JUL 1982
ESTIMATED SOVIET DEFENSE COSTS AS A PERCENT OF US DEFENSE COSTS IN 1979
PERCENT
225
200
175
150
125
100
75
50
25
0
US DEFENSE COSTS = 100
1979 DOLLARS
1970 RUBLES
TOTAL
INVESTMENT
OPERATING
RDT&E

Overall, we are more confident in our estimates for the higher levels of aggregation that for the lower levels. Moreover, we place more confidence in data that represent multiyear trends, because the historical estimates are constantly improved as information becomes available. Our confidence in estimates of current expenditures levels is lower as they are based on the least data. We have the most confidence in our estimate of Soviet military personnel costs; the least in our estimate of Soviet RDT&E.

Mr. KAUFMAN. Mr. Martin, did you want to add anything?
Mr. MARTIN. No, I'll participate in the questions.
Mr. KAUFMAN. Mr. Doe, please proceed.

STATEMENT OF FRANK DOE—UNDERSTANDING THE SOVIET VIEW OF MILITARY EXPENDITURES

Mr. DOE. Most of the current analyses of Soviet military spending, such as the one Paul just described, do a great deal to help us understand "our" understanding of Soviet resource allocation, but what we really need is the Soviet perspective. It is, after all, their perspective that determines what their actions are going to be. For myself, this is the key intelligence question: What are the Soviets going to do in the 1980's, particularly with constrained economic resources? In the paper I began providing some view of what it is that the Soviets historically have looked at when they examine their own resources allocation trends.

Of course, as Paul said, the Soviets publish only one military figure per year, their defense budget. In the early years, pre-Korean War, probably, that was a very reliable figure. They included all the things that you would expect to find in a normal defense budget—expenditure on weapons, operation and maintenance, personnel costs, and probably some research and development.

Then the Soviets began to disguise their true military outlays by removing items from that defense budget. By the 1970's, it at best encompassed only the pay and allowances of their military personnel, probably their operation and maintenance expenditures, and perhaps some of their military construction activities.

By the peak of the Soviet announced defense budget in 1972, it was clear that you could not use that number to judge the size of the Soviet defense effort any longer. The issue became even more complex when their announced defense budget began to decline in the face of ongoing increases in manpower, larger weapons procurement quantities, and the development of a worldwide naval force. We need to figure out what it is that they are really looking at. The paper on General Secretary Brezhnev's desk, when he discusses the military, could not conceivably be the announced defense budget.

In the paper I provided some possible explanations for why that defense budget began to decline from the peak in 1972. However, we don't really know what it is that their military budget people are using in the official defense budget accounting.

It is clear that their military activities, and the costs associated with those activities, have been increasing fairly steadily, at least since 1965.

It appears the Soviets are really looking at the "estimate" of expenditures that they've been compiling throughout their military budgeting history. The "estimate" covers all the things that you would expect in a normal military budget. I included in the paper an unclassified partial view of the kinds of things that are in that Soviet budget.

It is this perspective that I believe Minister of Defense Ustinov and Mr. Brezhnev would have. This would be the budget that they would be looking at when they decide what quantities of resources to allocate for various functions in their annual military review.

The most detailed breakout that we've ever had from the Soviets on how they actually reviewed the military budget pertains to the World War II period. Table 4 breaks out their "estimate." These are the figures that Stalin was looking at during the Second World War. As I said earlier, this covers most of the normal military-related outlays which you expect a rational leader to be looking at.

There are a number of other activities that the Soviets have considered at one time or another to be military-related. They sometimes use a very broad definition of their military activities, such that when they are assessing the impact of their military efforts on their economic system, they may throw in a long list of other items

This was particularly true during the Second World War period, and I've included a number of sources for what may have been included. During the war itself, academic researchers and Ministry of Defense economic analysts included things like the quantity of resources invested in plants that produce military equipment. This would be an add-on beyond what you would normally include, and in a sense, that is double counting. You are already capturing most of that in amortization included in the cost of weapons.

Among other activities could be the loss of property during the occupation of the U.S.S.R., the cost of civil defense efforts such as air-raid shelters, and the evacuation and relocation of enterprises. This is probably most peculiar to the Soviet Union during World War II; something like 1,100 defense plants were moved a couple of thousand miles to the east, and the chief of Gosplan viewed that at the time as a military cost.

The listing of categories by the then-chief of Gosplan also raised the issue of opportunity costs, that is, how much economic output was lost as a result of being occupied by the Germans. So there is sometimes an opportunity-cost concept in the Soviet view, including what could have been produced that was not. You can find citations that include apparently most of Soviet scientific outlays as a military cost. There is great stress in the current Soviet literature regarding the necessity to continue scientific and technological progress, and most scientific outlays could be included in this effort.

Of course, there is also aid to Soviet client states abroad. There's one interesting citation regarding the International Bank for Economic Cooperation, which is an East European bank. Their obligations are in some sense military-related.

An additional activity would be the setting aside of larger quantities of materials of various types—food or fuel or various kinds of metal, machine tools, perhaps aircraft, as state material reserves. Or again, you can find citations for a large number of additional kinds of things.

However, at the end of the process, it appears that what Brezhnev is looking at when he goes yea or nay, in some sense, on next year's Ministry of Defense allocation, would most likely be the "estimate" that includes procurement, personnel, operations and maintenance construction, and at least part of their research effort.

That definition of military activities is largely consistent with the one that the intelligence community currently uses. The question then becomes, once you know what they're talking about, how do they view the relationship to their economic aggregates?

In the United States we talk about GNP. There's great interest in the rising share of the GNP apparently being allocated to the military. The Soviet Union doesn't have a concept called GNP. They use national income or net material product and their state budget.

There are frequent citations where Soviet writers in the last 50 or 60 years have been measuring their military effort as a share of national income, as a share of the total state budget, and in some cases as a share of their industrial output.

So the question right now would be, what might we expect Brezhnev to see? If he were looking at the economic impact using these measures, a first vital point is that he would be looking at the ruble values in current prices. The Soviet budgetary system works exclusively in current prices. There has never been an *ex ante* defense budget in anything but current prices. We want to be sure that we're looking at the right prices.

National income and the state budget, in most cases, are in current prices, as well. The concept of a constant price base or real growth, in the Western economic sense, is not really used in the Soviet military budget system.

In the paper, I look back at 1970, which is a very convenient year to use; it is what the CIA uses for all their economic data, both GNP and industrial growth series, as well as military spending. We need to at least nail down what the expenditure level was in the Soviet definition of "military activities." It turned out that one Soviet writer provided a very nice assessment, something like "nearly 20 percent" of the national income being allocated to the military in peacetime.

I have, rather cavalierly, taken his number and provided a range of estimates. It's a rough range. It's not well refined. It's rather difficult to talk about this subject on an unclassified basis, but it turns out that everyone appears to agree that Soviet military outlays in 1970 were something approaching 50 billion rubles in current prices.

The Soviet perspective on burden, as a result of that, would yield two figures. Roughly one-third of the state budget in that year, and something approximating 18 percent of the national income.

During the 1970's, Soviet military efforts obviously increased, as did the costs. The question then is: By the current price criteria, what range of ruble spending levels would Brezhnev and Ustinov be looking at?

Again, you look at the number in current prices that would be consistent with their other economic data. So, again rather cavalierly, extrapolating these 1970 budgetary shares and national income shares to the more current time period—say, 1981—the Soviet military spending total in 1981 rubles was something on the order of 90 to 100 billion. This is significantly higher than that of other estimates. As Paul has explained, the intelligence community approach for our official estimates is to use 1970 rubles, constant prices, and eliminate the impact of price changes. This 90 to 100 billion rubles would include the impact of higher prices.

This range is not unreasonable. It is supported by a widely known American scholar of the Soviet economic system, Dr. Abraham Becker of the Rand Corporation. He conservatively estimates Soviet military spending at 85 billion rubles in 1980, in current prices.

Mr. KAUFMAN. Mr. Doe, could you indicate what shares of the state budget and the national income that 1980 estimate refers to?

Mr. DOE. Between 29 and 32 percent of the Soviet state budget and 18 to 20 percent of national income, roughly.

The most important thing about this kind of an approach is the insight that it may give us into what future Soviet actions would tend to be. A normal Western government, confronted with a rising burden, and that's what these ruble figures imply, would be expected to take some action to ameliorate the burden on the economic system.

We could visualize what would happen in the United States if our military burden level rose from the current rate of 6 percent to 12 percent. We would expect there would be some action.

In theory, at least, if the Soviet economic system drops to zero growth, presumably it would happen in the Soviet Union, too, but not quite in the same manner, of course. But as of the moment, we haven't seen any cuts. We have seen a rising burden; Brezhnev would see there is a rising burden. But we haven't seen any reduction in the rate of growth of military spending.

Without some change, the Soviets will eventually have to reassess their economic priorities. This will occur in the context of a current ruble price estimate of military outlays. And it will be consistent with the Soviet view of their economic growth. It will not necessarily be in accordance with our understanding of how one ought to measure Soviet growth, the real rate of growth, in their defense expenditures.

A final point: Last month the President called for the Soviet Union to release the details of their military budget. That's not very likely to happen. However, if it did, it would look something very similar to what is included here for World War II as table 3. It would have that kind of structure, with the numbers that I have indicated, in the 90 to 100 billion ruble range for 1981.

[The complete statement of Mr. Doe follows:]

UNDERSTANDING THE SOVIET VIEW OF MILITARY EXPENDITURES

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CONTENTS

TABLES

1. INTRODUCTION

Analysis of military expenditures must reflect the perspective of those who make resource allocation decisions based on these expenditures if it is to be significantly more than an interesting academic exercise. In the Soviet case, the leadership's true perspective on the economic impact of defense is denied to both the citizens of the Soviet Union and Western analysts. There are few details on the Soviet military budget available in the public domain. This paper is a preliminary attempt to present some of these details. These provide some idea of how the true Soviet military budget would look if the Soviets ever made it public.

2. THE PUBLISHED SOVIET "DEFENSE" BUDGET

The Soviet Union has generally made available a yearly "Defense" budget figure (table 1). For the years prior to 1950 the activities covered by the defense budget were fairly similar to those included in a Western defense budget; weapons procurement, construction, operations and maintenance, personnel, and some research-related costs. The Soviets have never made perfectly clear where military research and development (R&D) appears in their budgeting system, though some R&D outlays have apparently been included in the "Defense" budget at various times.

During the 1950s, the Soviets began to disguise their true military outlays by removing some major activities from the published "Defense" budget. By 1970, it is likely that the official figure included only personnel, operations and maintenance, and perhaps some construction activities.[2]

The official "Defense" budget peaked in 1972 at 17.900 billion rubles and began to decline as shown in table 1. This decline is contrary to observed

Table 1

Announced Defense Budget of the Soviet Union, 1918-1982
(Billions of Current Rubles)

1918	15.589	1950	79.4; 82.9
1919	39.003	1951	96.4; 93.0
		1952	113.8; 109.0
1920	132.741	1953	110.0; 105.0
1921	NA	1954	100.0; 100.0
*1922/23	.2281		
1923/24	.4024	1955	112.1; 107.359
1924/25	.4181	1956	103.0; 97.0
		1957	97.0; 91.0
1925/26	.5694	1958	96.3; 93.630
1926/27	.651	1959	96.1; 93.726
1927/28	.765		
1928/29	.880	1960	96.1; 92.987
1929/30	1.046	@1961	9.255; 12.40 (Revised); 11.5947 (Actual)
**1930T	.434	1962	13.41; 12.6448
1931	1.2884	1963	13.89; 13.8688
1932	1.2962	1964	13.29; 13.2801
1933	1.4207		
1934	5.0191	1965	12.79; 12.7802
		1966	13.43; 13.4033
1935	8.1858	1967	14.5
1936	14.8827	1968	16.700
1937	17.4810	1969	17.702
1938	23.2		
1939	39.2	1970	17.854
		1971	17.854
1940	56.8	1972	17.900
***1941	70.9; 83.0	1973	17.8537
1942	108.4	1974	17.650
1943	125.0		
1944	137.8	1975	17.430
		1976	17.43
1945	128.2	1977	17.23
1946	73.6	1978	17.20
1947	66.3	1979	17.20
1948	66.3		
1949	79.2	1980	17.124 (Plan)
		1981	17.054 (Plan
		1982	17.050 (Plan)

See footnote one for *, **, ***, @.

trends in procurement, manpower, and operational activities, and can be explained in a variety of ways:

- The Soviets simply invent a number and use it to advance their political goals, such as military budget reduction by the West;
- The Soviets have continued to remove activities from the "Defense" budget;
- The Soviets are using a statistical quirk in their budgetary accounting system to reduce the overt "Defense" budget while keeping their accounts balanced.

This last possibility is intriguing but currently unprovable. The Soviet budgetary system makes provision for "special" budget-supported entities to retain the revenues earned during the course of their activities and reduce the amount of funds received directly from the budget by the amount of that revenue.[3]

Soviet military unit commanders calculate a financial plan for each six month period, including the receipt and expenditure of money through the unit's monetary fund.[4] This flow of money includes nonbudgetary revenues originating outside the unit itself. When the unit receives the funds, it usually credits them directly against the unit account at the State Bank (Gosbank). See table 2 for a partial list of nonbudgetary revenues available to military units.

In normal civilian budgetary institutions the funds received would be returned directly to the budget under Division 12, Paragraph 20 as a budget revenue, and in some cases the Soviet Ministry of Defense (MO) follows suit.[5] It appears, however, that the majority of such nonbudgetary revenue is retained within the MO, directly reducing the amount needed to be allocated from the budget. While it is not possible to estimate the amount of such nonbudgetary revenue, the total could conceivably be large enough and grow rapidly enough to

Table 2

Sources of Ministry of Defense Revenue Outside of the State Budget

1. Profits of the military trade (Voyentorg) system.
2. Profits on military farm output.
3. Military farm exemption from turnover tax causing increased profits.
4. Khozraschet military units paying for MO barracks property and furniture.
5. Fines for damage to state property (replaced or repaired at retail prices).
6. Sale of fuel to children's parks, young pioneer camps, Voyentorg, military construction detachments.
7. Sale of military-produced food at retail prices.
8. Payments by servicemen and their families to sanitoria and rest homes.
9. The value of economized food credited to the unit monetary fund.
10. Civil employees' payment for food in mess halls.
11. Kitchen farm output paid for by MO, with funds going to military unit.
12. Fifty percent of the value of kitchen farm output by military units stationed abroad being retained.
13. Unit monetary fund being credited with balances of budgetary funds remaining at end of year.
14. Voluntary or withheld contributions to the "Defense Fund."
15. Personal funds and taxes.
16. Food supplies, fuel, and other supplies and services to be paid for by the consumers.
17. Internal sources of economy (below normal consumption of fuel yields credits for the following year).
18. Bonus for return of special packaging material to industry credited to the nonbudgetary fund.
19. Penalties levied on suppliers for nonfulfillment of contracts.
20. Military units credited with 20 percent of value of construction work.

Table 2 (Continued)

21. Centralized military outlays reduced by the amount of captured food, fodder, and fuel.

22. Medical supplies from civilian organizations, Red Cross, and Red Crescent.

23. Disciplinary fines.

24. Personnel released for discipline violations paying the unit for the cost of unused clothing.

25. Fines received by unit from boot manufacturere for premature boot wear.

26. Fines for lost clothing at retail price, or twice wholesale price.

27. Harvest work revenue.

28. Construction troops' revenue.

29. Military freight handlers paid by civilian transport organizations.

30. Payments to military tourist bases.

31. Payment for dental work by families of serviceman, workers, and employees of the MO.

32. Furniture rental by servicemen stationed in the Far North.

Sources: Most of the Soviet texts listed in the footnotes plus Soviet publications such as Krasnaya Zvezda (Red Star), "Voyenizdat," Moscow, a periodical meant for Soviet military personnel.

more than offset the increasing costs of the activities covered by the "Defense" budget. If this technique has actually been used since 1972, it could explain the trend in the official "Defense" budget.

3. **THE MINISTRY OF DEFENSE ESTIMATE**

Like all Soviet budgetary institutions, the MO prepares an estimate (smeta) of expenditures for each calendar year.[6] In the period prior to 1950 the official "Defense" budget was comparable in scope to the MO estimate. As mentioned above, the coverage of the "Defense" budget narrowed after that time, but the MO estimate has evidently remained unchanged. An abbreviated version of the MO estimate structure, broken down by Soviet budgetary classifications, is shown in table 3. The Soviets use the estimate as both an ex ante and an ex post budgetary document. The expenditure levels are apparently always expressed in the actual current prices of the respective years so that the outlays can be compared to the other economic aggregates used in the Soviet resource allocation process. The actual estimate structure and amounts for the period 1941-1945 are shown in table 4. Figures similar to these for recent years are compiled and utilized within the Soviet leadership, but they have not been revealed.

4. **OTHER DEFINITIONS OF MILITARY SPENDING**

As shown above, the "Defense" budget consists of a narrow definition of military activities while the MO estimate includes a fairly comprehensive set of activities. There have been indications that even broader categories of military-related items may be included in the "true" Soviet perception of defense.

Some insight into the broad Soviet definition of military expenditures can be gained by examining data from the World War II period. Retired Colonel G. S. Kravchenko's figures on the distribution of national income (roughly equal to

Table 3

Structure of the Estimate of the Soviet Ministry of Defense[7]

Paragraph	Article	
1		PAY ALLOWANCES
	1	Staff personnel of construction organs and navy personnel
	2	Wages for Authorized Blue- and White-Collar Workers
	3	Some navy personnel expenses
	5	Pay of military education personnel
2		FOOD SUPPLY SERVICE
	6	Food from kitchen farms, minor repairs of related equipment, receipt of funds for food sold
3		REWARDS
	8	Rewards given to servicemen for disciplinary activities
4		CLOTHING SUPPLY SERVICE, BATH AND LAUNDRY FACILITIES
	9	Clothing supply for military units
	11	Soap, soda, bath and laundry employees' wages
5		BILLETING OPERATION SERVICE
	12	Communal expenditures, public utilities
	13	Fuel procurement, receipt of funds from paying customers
	14	Barracks inventory acquisition and repairs, fire-fighting equipment
	15	Barracks maintenance, operation, and routine repair
6		MAJOR CONSTRUCTION OF ALL TYPES, MAJOR REPAIR OF BARRACKS AND PUBLIC UTILITIES
	17	Defensive construction
	18	Major construction and repair of barracks and other buildings

Table 3 (Continued)

Paragraph	Article	
7		MEDICAL EXPENDITURES
	21	Medical expenditures on offices, blood supplies, and treatment and dental prostheses
	22	Maintenance of Sanitoria and Rest Homes
10		UNSPECIFIED WORKERS AND EMPLOYEES RECEIVING CLOTHING AT NO COST
	25	Same as paragraph 10
13		MILITARY TRANSPORT SERVICE
	29	Military and civilian travel
		Subarticles
		A Travel to meetings and seminars B Transport of cargo more than 50 kilometers V Transport of cargo more than 50 kilometers
	31	Road transport operations
16		SUPPLY OF TECHNICAL MEANS OF PROPAGANDA AND POLITICAL-EDUCATION PROPERTY
	43	Repair of equipment; newspapers and magazines
18		PROCUREMENT OF ARMAMENT AND COMBAT MATERIEL AND MEDIUM AND MAJOR REPAIR OF ARMAMENT IN CIVILIAN ENTERPRISES
20		TECHNICAL PROPERTY OF BILLETING OPERATIONS SERVICE
	62	Same as paragraph 20
	66	Bath and laundry equipment for medical services
	69	Clothing for budgetary bath and laundry establishments
21		PRODUCTION-OPERATIONAL EXPENDITURES OF CENTRAL AND DISTRICT WAREHOUSES AND REPAIR OF ARMAMENT IN KHOZRASCHET M.O. ENTERPRISES

Table 3 (Continued)

Paragraph	Article	
22		MAINTENANCE, PRESERVATION, AND MILITARY REPAIR OF ARMAMENT MATERIEL BY THE TROOPS
	112	Maintenance of Childrens' Establishments (Medical Service)
29		FUEL SUPPLY SERVICE (unspecified activities)
	114	Same as paragraph 29
30		SUPPORT OF FAMILIES OF DISPLACED OFFICERS
	115	Same as paragraph 30
32		UNSPECIFIED WORKERS AND EMPLOYEES RECEIVING CLOTHING AT NO COST
	119	Same as above
35		REPAIR OF MILITARY KITCHEN EQUIPMENT BY DISTRICT REPAIR ORGAN
	155	Same as paragraph 35

Table 4

Total Explicit Soviet Defense Spending: 1941-1945*
(billions of current rubles)

	1941	1942	1943	1944	1945	1941-45
Peoples Commissariat of Defense: Total	72.3	100.9	116.7	127.8	117.8	535.5
Pay and Allowances	13.6	24.6	30.2	32.6	44.8	145.8
Other Wages	.7	1.1	1.6	2.0	2.4	7.8
Clothing, Food, Fuel	23.5	28.5	29.9	31.6	24.7	138.2
Military Transport	1.7	2.2	4.5	5.5	4.9	18.8
Armaments & Combat Materiel	(24.2)	(34.0)	(39.6)	(44.3)	(31.6)	(173.7)
Artillery and Ammunition	10.1	15.2	17.0	19.4	13.0	74.7
Air Armament	8.5	9.5	12.6	12.0	9.5	52.1
Armored Equipment	3.7	7.1	4.6	5.7	5.4	38.0
Vehicles and Tractors	**	**	3.3	5.5	2.6	*
Other Armament and Supplies	1.8	2.2	2.1	1.7	1.1	8.9
Subtotal	63.7	90.4	105.8	116.0	108.4	484.3
Other	8.6	10.5	10.9	11.8	9.4	51.2
Peoples Commissariat of the Navy: Total	10.7	7.5	8.3	10.0	10.4	46.9
Explicit Defense Spending: Total	83.0	108.4	125.0	137.8	128.2	582.4

*Derived from Finansovaya Sluzhba Vooruzhennykh Sil SSSR v Period Voyny, "Voyenizdat," Moscow, 1967.

**Included in Armored Equipment.

gross national product minus services) to the "needs of the military" are shown in table 5. The distribution indicates that one segment of military spending, probably all material inputs utilized by the military forces themselves, was aggregated under "outlays on conducting the war," while "personal consumption by servicemen," largely food and clothing, was differentiated from that concept. Both categories were included in national income as the "fund of military expenditures" during the war. These outlays are believed to correspond to material goods financed through the estimates (smety) of expenditures of the Commissariats of Defense and Navy. A third category of military outlays was also identified by Kravchenko, the "fund for expanding production in Departments I (producer goods), II (consumer goods), and the military sector of the economy." This indicates that investments in fixed and working capital at enterprises producing military goods of all kinds were considered to be "military" outlays when judging the economic impact of the war. Such investments could very well still be included in a broad Soviet definition of defense.

There are additional activities that could also be classified as defense spending. When N.A. Voznesensky, the Chief of Gosplan, analyzed the economic cost of the war, he included the following categories in his listing of losses:

a. direct loss of property due to military occupation;

b. direct war expenditures;

c. financing of war-related construction;

d. financing military production;

e. civil defense costs (air-raid shelters, and so forth);

f. evacuation and relocation of enterprises;

g. war-related pensions of all kinds;

Table 5

Definitions of Military Outlays in National Income
(percent of Soviet National Income)

		1942	1943	1944
1.	Outlays on Conducting the War (potrebleniye sredstv vedeniye voiny)	29	33	24
2.	Personal Consumption by Servicemen (lichnoye potrebleniye voyennosluzhashchikh)	11	11	11
	----------	—	—	—
3.	Subtotal	40	44	35
4.	Expenditures on Expanding Military Production (raskhodi na rasshireniye voyennogo proizvodstvo)	17	14	17
	----------	—	—	—
5.	Total	57	58	52

Rows 1-3: G.S. Kravchenko, Ekonomika SSR v Gody Velikoy Otechestvennoi Voiny 1941-1945, Ekonomika, Moscow, 1970, pp. 125, 228.

Row 4: Calculated.

Row 5: G.S. Kravchenko, Voyennaya Ekonomika 1941-1945, Voyenizdat, Moscow, 1963, pp. 221-223.

NOTE: There are numerous Soviet citations of similar figures, but the definitions are inexact and the numbers are inconsistent. Kravchenko's data appear most credible for three reasons: greater detail on military outlay subcategories; clarity of definition of activities covered; and the use of the word "exact" (utochnenniy) in describing the figures in the 1970 text, indicating possible exposure to more detailed data than were available to previous researchers.

h. loss of national income due to cessation of production and loss of lives; and,

i. other expenditures.[8]

This listing adds civil defense, some pensions, opportunity costs and possibly the costs of industrial dispersion, hardening, and relocation, to a possible broad Soviet concept of military "burden."

In more recent Soviet military-economic literature, a great deal of stress has been placed on the scientific-technical revolution in military affairs. For example,

> Soviet science ... is accelerating technical progress and the technical revolution. This is of paramount importance for the defense of the nation since the defensive potential can only be based on continuous technical progress.[9]

Such stress may indicate the possibility that scientific efforts in general are considered to have a military-related function, and thus constitute a military outlay in a broad sense. In the context of the state budget, this would include all outlays under the "Science" line item, budget-financed research in educational institutions, and the value of military prototypes financed from the "National Economy" account.

Activities related to foreign countries may also be included in the broad Soviet definition of defense. The following relates to the World War II period.

> The Soviet Union in turn conveyed a large amount of weapons and combat equipment to Polish and Czech troops, to the People's Liberation Army of Yugoslavia, and to partisans in countries in Central and Southeast Europe, who conducted a fierce struggle against the fascist German invaders.[10]

Similar shipments to foreign countries during the current period could be viewed by the Soviets as defense outlays.

An interesting citation that could indicate the inclusion of foreign economic and military aid of various kinds in the broad defense total is provided below, pertaining to the 1970s:

> Socialist countries can grant each other mutual financial credit aid to strengthen their national defense and the defense capability of the world socialist system as a whole. The resources of the International Bank for Economic Cooperation and of the International Investment Bank for CEMA members can play a significant role in financing the United Armed Forces.[11]

In addition, repayment of loans dating from wartime periods could be considered a defense-related activity. A Soviet scholar specifically identified such a connection during World War II.[12]

To what extent such activities would be viewed by the Soviets as specifically defense-related is unclear, as is the precise degree of their inclusion in the broad definition of defense during World War II or in more recent periods. The Soviet definition could be very broad, indeed. The broadest Soviet definition of defense spending that seems at all reasonable could include an extremely wide range of activities. Some of the additional possibilities are enumerated below:

a. All state material reserves;

b. All civil defense activities;

c. All KGB and MVD activities;

d. Merchant fleet intelligence activities and Aeroflot mobilization capability;

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e. Wages paid to reservists during military call-ups;

f. All costs related to the military retail trade system;

g. Veteran hospitals and service programs funded by the appropriation to "Health;"

h. Ministry of Defense tourist bases and sanatoria;

i. Civil space.

Even though the potential military activities list is very long, it appears most likely that the definition normally used by the Soviet leaders to examine the costs of the Soviet military is the MO estimate. This was clearly the case during the Second World War.[13] The longer list of military activities would be more likely to be used by academic and government officials, not the Soviet leadership.

5. SOVIET MEASURES OF BURDEN

The Soviets use at least two aggregates when comparing their military effort to the economy. Most commonly, defense outlays are given as a percentage of the entire State budget, which is roughly equivalent to the sum of the US federal, state, and local budgets.[14] Of course, Soviet commentators now use the "Defense" figure rather than the MO estimate when making such comparisons.

Probably more importantly, the Soviets also calculate the share of national income allocated to the military as shown above in line 3 of table 5.[15] Unfortunately, in the years since the Second World War, the figures published use the "Defense" budget rather than the MO estimate in this comparison as well.

There are very few recent Soviet statements regarding their perception of the military burden. A noteworthy instance is contained on page 14 of Kravchenko's 1970 text cited in the notes to table 5. He implies that the share of national income going to the military in that time period was nearly 20 percent. The

resulting ruble values, using an 18 to 20 percent range, would be 52 to 58 billion rubles for 1970. These values are roughly equal to the 50 billion ruble military spending figure cited by the Central Intelligence Agency (CIA) for 1970.[16] Another CIA study notes that the possible size of 1970 Soviet military outlays could be calculated at a slightly higher figure using a gross national product residual approach.[17] There is thus general agreement on a broad, though unspecified, Soviet definition of military outlays totaling roughly 50 billion rubles in 1970. The activities included in this figure presumably include the MO estimate categories plus some R&D financed elsewhere, civilian space, and internal security forces.

The Soviet perspective on burden would yield two figures from this 50 billion ruble total: 32.3 percent of the State Budget outlays of 154.6 billion rubles in 1970 and 17.5 percent of the national income of 285.5 billion rubles in 1970.[18]

During the period through 1981 both national income and Budget outlays increased, but at different rates. National income in 1981 equaled 474 billion rubles, a rise of 66 percent, while the State Budget was roughly 310 billion rubles, up 100 percent.[19] Extrapolating Kravchenko's 18 to 20 percent of national income figures would yield a 1981 military spending total of 85 to 95 billion rubles. This is supported by an estimate published by Abraham S. Becker, a noted analyst of Soviet economic affairs.[20] Dr. Becker provides a "conservative" estimate of 85 billion rubles for 1980 Soviet military outlays in current prices. Assuming moderate growth in outlays during 1981 yields a Soviet military spending total roughly in the middle of the range derived from the Kravchenko datum. In contrast, extrapolating the 1970 budgetary share to 1981 yields a total of 100.2 billion rubles for Soviet military outlays. Using 90 to 100 billion rubles for a

range yields a 29 to 32 percent share of the 1981 State Budget and a 19 to 21 percent share of national income. Using these measures, Soviet leaders would perceive that a rising share of total economic output (national income) was being absorbed by the military. The equivalent burden rate using Western style gross national product would have risen from 13 percent in 1970 to the 14-16 percent range in 1981.

6. **INFORMATION NEEDS**

Soviet reticence on matters related to their military budget severely hampers Western analysts when attempting to understand Soviet resource allocation choices. To more effectively conduct budget reduction and other negotiations, the West would need to see the MO estimate in full detail, accompanied by Soviet analyses of the economic impact of their military effort, however defined. Given the historical Soviet attitude toward revealing military data, it seems highly unlikely that such data will be forthcoming.

FOOTNOTES

1. *On 1 November 1922, the ruble was revalued at a rate of 10,000 old rubles for 1 new ruble. The budget was also placed on a fiscal year basis during this period.

**This transitional period was used to readjust to a calendar year for budgeting purposes.

***When two figures are provided, the first is a planned amount, the second is reported actual expenditures. When single figures are provided, they reflect actual expenditures. The two figures coincide after 1966.

@The ruble was revalued at a rate of 10 old rubles for 1 new ruble in 1961.

Most of these data are from sources such as V.P. Dyachenko, Istoriya Finansov SSSR 1917-1950, "Nauka," Moscow, 1978; D. Gallik, C. Jesina, and S. Rapawy, The Soviet Financial System, Department of Commerce, Census Report Series P-90, No. 23, 1968; and, Soviet budget announcements. For more detailed citations on any of the sources in these footnotes, contact the author.

2. See R. Leggett and S. Rabin in Soviet Studies, Volume XXX, No. 4, University of Glasgow Press, October 1978, pp. 557-566.

3. The Soviet Financial System, op cit.

4. I. Safronov, Spravochnik Ofitsera Po Voyskovomu Khozyaystvu, "Voyenizdat," Moscow, 1968, pp. 31-34.

5. Ibid., pp. 111,120. Also, The Soviet Financial System, op cit., pp. 60, 151-155, and 159 (Note 87).

6. V.V. Lavrov, Finansy i Kredit, "Finansy," Moscow, 1977, pp. 207-209.

7. This information on the paragraphs and articles of the Soviet Ministry of Defense estimate (smeta) is taken from the following sources:

a. Finansovaya Sluzhba Vooruzhennykh Sil SSSR v Period Voyny, (The Finance Service of the Soviet Armed Forces During the War), Maj. Gen. M.V. Terpilovskiy, Editor, "Voyenizdat," Moscow, 1967. Translated as JPRS 62291-1&2, 21 June 1974;

b. Spravochnik Ofitsera Po Voyskovomu Khozyaystvu, (Officer's Handbook on Unit Administration and Services), Lt. Gen. I. Safronov (Ret.), Editor, "Voyenizdat," Moscow, 1968. Translated as JPRS 61686, 8 April 1974;

c. Spravochnik Voyskovogo Khozyaystvennika, (Military Economist's Handbook), Lt. Gen. I.V. Safronov (Ret.), Editor, "Voyenizdat," Moscow, 1966. Translated by the Frank Farnham Co., Inc., 1335 36th St., Philadelphia, Pa. 19104;

d. Spravochnik Po Zakonodatelstvu Dlya Ofitserov Sovetskoy Armii i Flota, (Handbook on Legislation for Officers of the Soviet Army and Navy), "Voyenizdat," Moscow, 1970. Translated as LN 621-72;

e. Spravochnik Ofitsera Po Sovetskomu Zakonodatelstvu, (Officer's Handbook on Soviet Legislation), Major General I. F. Pobezhimov and Major General B.A. Viktorov, Editors, "Voyenizdat," Moscow, 1966. Translated as JPRS 46,578, 9 October 1968;

f. Politicheskaya Ekonomiya, (Political Economy), P. V. Sokolov, "Voyenizat," 1974. Translated as JPRS 63693-1&2, 17 December 1974.

The presence of underlining beneath the title of a paragraph or article indicates that the source provides the exact wording of the title.

8. N.A. Voznesensky, Voyennaya Ekonomika SSSR v Period Otechestvennoi Voiny, 1941-1945, 1947, translated by the American Council of Learned Societies, 1948, pp. 85, 87.

9. P.V. Sokolov, Voyenno-Ekonomicheskiye Voprosy v Kurse Politekonomii, "Voyenizdat," 1968; translated as JPRS 47,283, 22 January 1969, p. 185.

10. Sokolov, Politicheskaya Ekonomiya, op cit., p. 356.

11. Ibid., p. 356.

12. I.D. Zlobin, Finansy SSSR, "Finansy," 1971, translated as JPRS 67140-2, 14 April 1976, p. 320.

13. Finance Service, op cit.

14. See Finansy SSSR, No. 1, January 1982, for a recent example.

15. See also Narodnoye Khozyaystvo, 1975, p. 566.

16. Estimated Soviet Defense Spending in Rubles, 1970-1975, SR 76-10121U, May 1976.

17. USSR: Toward a Reconciliation of Marxist and Western Measures of National Income, ER 78-10505, October 1978.

18. Narodnoye Khozyaystvo, 1975, pp. 742, 565-566.

19. Pravda, 24 January 1982, p. 1.

20. The Burden of Soviet Defense: A Political-Economic Essay, RAND, R2752-AF, October 1981.

Mr. KAUFMAN. Thank you.
Mr. Bond will explain his Soviet macroeconomic projections.

STATEMENT OF DANIEL L. BOND—MACROECONOMIC PROJECTIONS OF THE BURDEN OF DEFENSE ON THE SOVIET ECONOMY

Mr. BOND. Someone this morning made the comment that economists like to have precise numbers.

Mr. KAUFMAN. That's a typical reaction of a political scientist.

Mr. BOND. That's exactly what I've done. I have tried to take some estimates for Soviet defense and other components of the Soviet national economic accounts and combine them using the model we have developed over the last 10 years. Development of the Soviet econometric model—SOVMOD—was a joint project between SRI and Wharton that began in 1972.

What I tried to do in the short paper that I prepared for this seminar was to give a summary of work that Professor Herbert Levine and I have presented elsewhere several times in the last few years, as to the possible impacts of defense spending on Soviet economic growth.

Let me explain, though, that this is not a case where we can take assumptions about differences in just defense expenditures, introduce them into the model, and get answers. We have, in the past, done exercises like that. And it leads to disaster. Basically, the problem in doing that is that you cannot capture all the impacts of higher or lower defense spending simply by changing the defense numbers. We do not have a sophisticated enough model to do that.

What we can do, and what I have done for this paper and some previous papers I've referenced here, is to say, on the basis of our best estimates of what a higher defense spending scenario or a lower defense spending scenario would be, how it would look in terms of the overall economy.

To do that, however, you have to make many additional assumptions. You have to do a complete scenario. Because you don't suddenly go from a 4.5-percent defense expenditure to a 7.5-percent growth in defense expenditure, and nothing else happens. There would be changes in the domestic economy, most of which we feel would lead to further slowing of growth. And foreign relations would change. More than likely, if the Soviets were to increase significantly their defense expenditures, it would be in response to something like economic warfare, and there will be impacts, therefore, from not having as much access to Western goods. These all have to be combined, to have a realistic scenario. And that's what I tried to do here.

I have, in this paper, presented three tables. One is a baseline, in which we assumed that the Soviets are going to continue with defense expenditures growing at the rate the CIA estimates they're growing at today—approximately 4 to 5 percent per year. We also assumed that they are going to have modest economic reforms, of the type that they are discussing today, that would lead to some growth in overall productivity. And we assumed that they will be able to continue to have economic relations, at least with Western Europe and Japan, that would allow them to import machinery and equipment. Altogether, this creates a baseline scenario that has moderate eco-

nomic growth in the Soviet Union, and continuation of current defense trends.

If you look at the table, then, you can see some of the resulting impacts for selected indicators such as consumption, the pace of investment growth, and capital stock accumulation. That is the intent of this baseline, to look at the impact on the economy of these assumptions.

The second scenario, which we call the "high growth projection," is a rosier picture of the Soviet economy. It is based on an assumed cutback in the rate of growth of defense expenditures and a reallocation of resources to the domestic economy. We also assume that the West will be willing to provide the Soviet Union with equipment and technology, that the Soviet leaders will be willing to decentralize and introduce economic reforms that will lead to higher productivity.

Again, you can look at the impacts we would expect. One particular indicator which is important, I think, to look at, in terms of the stability of the regime, is the rate of growth of per capita consumption. You can see that they would have a healthy growth in per capita consumption under these assumptions.

The third scenario shows the Soviets increasing defense expenditures significantly—at a rate of 7.5 percent annually. In this projection we assume they would have less ability to import from the West, and that they would continue with a very centralized system. As a result we would expect that productivity growth would be zero, practically.

In this "low growth projection," you see that per capita consumption would grow very little. Most analysts of the Soviet economy feel that the Soviets would have to be concerned if they did not maintain at least a positive growth in per capita consumption; and really, they should try to get at least 1 percent per year growth in per capita consumption. This scenario does not achieve that, and therefore might be an unstable scenario.

These are the three scenarios. They indicate that it would be difficult for the Soviets to maintain to have as high a rate of annual growth in defense expenditure as 7.5 percent, and there would be a positive return to cutting back defense expenditures.

Let me say a little bit about the model. In modeling Soviet economic growth, we use a computerized model and we use econometrics—which is simply a method for looking at past trends, and trying to forecast the future on the basis of these. But it is also necessary to adjust these trends since we think the past is sometimes not a good reflection of the future. The model is particularly useful in assuring certain balances in the economy are maintained. We are working with a fairly large model, which allows us to deal with many sectors and aspects of the economy. The model makes it possible to do this in a fairly efficient way, to run alternative scenarios and to learn from playing with the model. I like the model best viewed as an educational device. It's a way to test our ideas about how the Soviet economy functions, and hopefully to improve them.

Let me say some specific things about how we represent defense in this model.

We have, over the last 10 years, had to deal with both official statistics and the CIA estimates, because we think both are extremely

valuable. We think that the CIA's GNP accounts are the most reliable account of what the Soviet economy is like, and how it's growing in real terms. We use the official data because it has more detail, and because it has relevant information that we cannot afford to ignore.

But one problem we have always faced is how to make consistent the official data and the CIA's estimates of GNP. The agency has pondered guidance on this general problem, especially in an unclassified paper published a few years ago. In the defense area, however, we have a particular problem. Here we need to have detailed information on defense expenditures, by category, that is unclassified. The information that is provided by the agency is too aggregate for our needs and we must reconcile it with other statistics. Therefore, we have worked with the residual approach for a number of years.

At SRI Stan Cohn was the first person to begin to work, in a very serious, detailed way, with this approach—a process very similar to William Lee's work, which has been mentioned here today.

From our calculations. we have been able to develop, using unclassified information—that is, official Soviet statistics and the reconstructed input-output tables, to come up with a series for the amount of machine-building output going into defense durables. This is a critical category for our modeling work.

I might add that our results are quite different from Bill Lee's results. Lee shows a level and rate of growth of procurement which he finds is inconsistent with CIA defense estimates. And he believes that machinery imports have had a very significant impact in recent years on the Soviet's ability to maintain that growth.

We disagree with these results. We find that while the rate of growth of procurement has been moderately high, it does not accelerate, but has been quite constant in the years 1965 to 1980. Also our figures are not inconsistent with the Agency's. (They do not prove the Agency is right, but they are not inconsistent with the Agency's estimates, and they can be incorporated into the Agency's figures.) And our interpretation of the role of Western machinery imports is quite different from Lee's.

So, we have been able to combine the residual approach with the Agency defense figures, and with their estimates of GNP. That is why, in the tables in my paper, you will see our figures are consistent with the Agency's.

Now to the results. In a paper that Herb Levine and I did for a Rand Corp. seminar last year that's being published now, we looked in detail at the economic impacts of Soviet defense expenditures over the decade.[1] There we found that, on a strictly quantitative basis, taking resources from the defense sector and putting them into the civilian economy, or vice versa, did not have a great impact if you assume that the resources that were shifted had the same productivity. The reason for this is really quite simple. The Soviet capital stock is huge. The major resource that can be reallocated is hardware, machinery—that is, investment. A significant change in the rate of growth of investment is not going to have a significant change in the capital stock for some years. Even over a 10-year period, the effect is not all that great. Finally, on top of that, most analysts are

[1] Daniel L. Bond and Herbert Levine, "The 11th Five-Year Plan, 1981–85," *Russia at the Crossroads: The 26th Congress of the CPSU*, edited by Seweryn Bialer and Thone Gustafson, London : George Allen and Univin, 1981, pp. 103–106.

convinced that the output elasticity of increases in capital is very low in the Soviet economy—that is, the economy is overcapitalized to some extent. Therefore, simply shifting machinery into and out of military uses is not going to have a great impact on GNP growth.

However, I think that's not the proper way to evaluate how the leadership of the Soviet Union will view resource use each year when they examine the defense budget. When the people get together who make the decisions, what they're going to be struggling with is the question of incremental output. And if you begin to look below the absolute levels and the overall growth rates, to the allocation of the increment, you get a very different picture of the impact of defense spending. Our previous paper spells out in detail what the various incremental shares going into defense would do to the civilian economy.

Basically, it boils down to the following: Even today, the defense sector is consuming a significant part of the increment and a growing part of the increment. And in the future, if the Soviet economy does not pick up its rate of growth, the defense share of the growth increment is going to rise dramatically. If you look below that even further, to just the machinery output of the economy, the situation is even more critical. Here the trade-off is between machinery for investment in the civilian economy versus producing arms. Already the share going into the military is quite high and will be probably unbearably high if the Soviets either increase defense expenditures or if the economy does not grow any faster than at present. And that, we feel, as nonpolitical scientists, is what the leadership will be looking at and struggling with. Therefore, we feel the issue of putting resources into the defense sector or taking resources out of the defense sector already is very important and will be an even more important issue in the future.

Finally, let me put forward another hypothesis that we have arrived at, which is that the real problem is not so much military spending per se as it is the rate of growth in the economy. The problem has arisen not because the Soviets are spending more on defense—as I say, we accept the CIA's findings, which we found to be consistent with ours—that defense spending seems to be very steady. The real difference today is the fact that economic growth has slowed down, and has slowed down very dramatically.

Now, if you look at our numbers as to the GNP growth rates over the next 10 years, you see that we are slightly more optimistic than most analysts. Basically we feel that the last 4 years are not a good base for forecasting future rates of productivity increases. The negative impact of very poor performance in the agricultural sector has been too pervasive. Thus, we exclude these years from our sample period for long range projections. We use 1968 through 1978 to estimate trends in productivity growth, and apply these results to the factor growth rates we expect in the future.

If we include these last few very poor years, our baseline forecast will be lower and the stringencies of the current levels of defense expenditures will be even greater.

[The complete statement of Mr. Bond follows:]

MACROECONOMIC PROJECTIONS OF THE BURDEN OF DEFENSE ON THE SOVIET ECONOMY

Prepared for the Workshop on Soviet Military Economic Relations sponsored by the Joint Economic Committee and the Congressional Research Service, held in Washington, D.C., July 7-8, 1982.

by

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Macroeconomic Projections of the Burden of Defense on the Soviet Economy

Introduction

This paper presents three alternative projections of Soviet economic growth over the 11th Five Year Plan period and the five year period following it (i.e., 1981-1990). These projections are intended to illustrate some of the potential impacts of defense spending on the Soviet economy at the macroeconomic level.

The Baseline Projection is intended to represent a continuation of present economic policies by the Soviet leadership, characterized by hesitant reforms and only moderate growth in trade with the West. For the Baseline Projection, we have assumed that total military expenditures will grow at a constant rate of 4.5% per year over the projection period. This is consistent with the current rate of expenditure growth as estimated by the CIA.

The High Growth Projection is intended to represent the results of successful economic reforms in the Soviet Union and generally improved economic relations with the West. In the High Growth Projection, the rate of growth of defense expenditures is set below historic levels at 2.5% per year.

The Low Growth Projection is intended to represent the results of a continued slow-down in Soviet economic growth, brought on in part by higher military expenditures and poor economic relations with the West. In the Low Growth Projection, defense expenditures are set to grow at 7.5% per year over the next decade.

Summary data from these projections are presented in the three tables presented below.

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*These projections were made using an econometric model of the Soviet Union (SOVMOD). This model was created at the University of Pennsylvania by a joint effort of SRI International and Wharton Econometric Forecasting Associates. The version of the model used for this study (SOVMOD IV) is a modified form of the original family of models which has been created especially for use in long range forecasting.

Table 1.

Baseline Projection

	1970	1975	1980	1985	1990
GDP, BILLION 1975 DOLLARS (WESTERN ESTIMATE)	796.581	962.382	1111.285	1330.696	1545.015
GNP, BILLION 1970 RUBLES	380.710	458.755	528.847	632.128	733.011
--GROWTH(%)	-	3.8	2.9	3.6	3.0
GNP BY SECTOR OF ORIGIN:					
AGRICULTURE	70.484	68.722	72.000	89.847	101.445
--GROWTH (%)	-	-0.5	0.9	4.5	2.5
INDUSTRY	157.119	210.539	249.819	305.553	362.593
--GROWTH (%)	-	6.0	3.5	4.1	3.5
CONSTRUCTION	25.379	33.373	37.902	43.836	49.740
--GROWTH (%)	-	5.6	2.6	3.0	2.6
TRANSPORT AND COMMUNICATIONS	31.581	43.666	53.533	70.839	91.971
--GROWTH (%)	-	6.7	4.2	5.8	5.4
TRADE AND DISTRIBUTION	16.665	20.848	24.176	27.799	31.254
--GROWTH (%)	-	4.6	3.0	2.8	2.4
SERVICES	40.606	48.037	55.587	60.114	62.958
--GROWTH (%)	-	3.4	3.0	1.6	0.9
GNP BY SECTOR OF END USE:					
CONSUMPTION	219.645	268.928	297.912	342.845	380.399
--GROWTH (%)	-	4.1	2.1	2.8	2.1
INVESTMENT	113.878	147.189	174.963	209.148	235.869
--GROWTH (%)	-	5.3	3.5	3.6	2.4
DEFENSE	45.000	56.000	70.000	87.233	108.708
--GROWTH (%)	-	4.5	4.6	4.5	4.5
CONSUMPTION PER CAPITA, 1970 R	900.552	1052.554	1113.438	1223.527	1306.790
--GROWTH (%)	-	3.2	1.1	1.9	1.3
TOTAL POPULATION, MILLIONS	243.900	255.500	267.560	280.210	291.094
--GROWTH (%)	-	0.9	0.9	0.9	0.8
LABOR FORCE IN MILLIONS:					
TOTAL	118.559	127.976	136.809	139.586	141.773
--GROWTH (%)	-	1.5	1.3	0.4	0.3
AGRICULTURAL	37.553	36.337	34.630	31.273	28.384
--GROWTH (%)	-	-0.7	-1.0	-2.0	-1.9
INDUSTRIAL	31.593	34.054	36.899	37.949	38.667
--GROWTH (%)	-	1.5	1.6	0.6	0.4
CAPITAL STOCK, BILLION 1955 RUBLES:					
TOTAL	702.333	1029.950	1441.067	1943.260	2529.188
--GROWTH (%)	-	8.0	6.9	6.2	5.4
AGRICULTURAL	73.400	125.200	191.769	280.018	387.136
--GROWTH (%)	-	11.3	8.9	7.9	6.7
INDUSTRIAL	208.000	313.300	448.942	606.059	789.575
--GROWTH (%)	-	8.5	7.5	6.2	5.4
TOTAL FACTOR PRODUCTIVITY GROWTH(%)	-	0.12	-0.32	1.28	0.97

Table 2.

High Growth Projection

	1970	1975	1980	1985	1990
GDP, BILLION 1975 DOLLARS (WESTERN ESTIMATE)	796.581	962.382	1111.285	1385.592	1671.178
GNP, BILLION 1970 RUBLES	380.710	458.755	528.847	657.968	792.398
--GROWTH(%)	-	3.8	2.9	4.5	3.8
GNP BY SECTOR OF ORIGIN:					
AGRICULTURE	70.484	68.722	72.000	89.690	101.130
--GROWTH (%)	-	-0.5	0.9	4.5	2.4
INDUSTRY	157.119	210.539	249.819	314.998	385.243
--GROWTH (%)	-	6.0	3.5	4.7	4.1
CONSTRUCTION	25.379	33.373	38.085	45.193	52.764
--GROWTH (%)	-	5.6	2.7	3.5	3.1
TRANSPORT AND COMMUNICATIONS	31.581	43.666	53.784	73.195	98.755
--GROWTH (%)	-	6.7	4.3	6.4	6.2
TRADE AND DISTRIBUTION	16.665	20.848	24.293	28.648	33.152
--GROWTH (%)	-	4.6	3.1	3.4	3.0
SERVICES	40.606	48.037	57.325	72.421	89.033
--GROWTH (%)	-	3.4	3.6	4.8	4.2
GNP BY SECTOR OF END USE:					
CONSUMPTION	219.645	268.928	297.267	368.198	436.995
--GROWTH (%)	-	4.1	2.0	4.4	3.5
INVESTMENT	113.878	147.189	175.610	214.911	258.965
--GROWTH (%)	-	5.3	3.6	4.3	3.6
DEFENSE	45.000	56.000	70.000	79.198	89.605
--GROWTH (%)	-	4.5	4.6	2.5	2.5
CONSUMPTION PER CAPITA, 1970 R	900.552	1052.554	1111.027	1314.006	1501.215
--GROWTH (%)	-	3.2	1.1	3.4	2.7
TOTAL POPULATION, MILLIONS	243.900	255.500	267.560	280.210	291.094
--GROWTH (%)	-	0.9	0.9	0.9	0.8
LABOR FORCE IN MILLIONS:					
TOTAL	118.559	127.976	136.809	139.586	141.773
--GROWTH (%)	-	1.5	1.3	0.4	0.3
AGRICULTURAL	37.553	36.337	34.630	31.273	28.384
--GROWTH (%)	-	-0.7	-1.0	-2.0	-1.9
INDUSTRIAL	31.593	34.054	36.899	37.949	38.667
--GROWTH (%)	-	1.5	1.6	0.6	0.4
CAPITAL STOCK, BILLION 1955 RUBLES:					
TOTAL	702.333	1029.950	1441.197	1956.936	2606.836
--GROWTH (%)	-	8.0	7.0	6.3	5.9
AGRICULTURAL	73.400	125.200	191.769	282.632	402.217
--GROWTH (%)	-	11.3	8.9	8.1	7.3
INDUSTRIAL	208.000	313.300	448.942	609.723	813.064
--GROWTH (%)	-	8.5	7.5	6.3	5.9
TOTAL FACTOR PRODUCTIVITY GROWTH(%)	-	0.12	-0.32	2.04	1.58

Table 3.

Low Growth Projection

	1970	1975	1980	1985	1990
GDP, BILLION 1975 DOLLARS (WESTERN ESTIMATE)	796.581	962.382	1111.285	1264.533	1396.914
GNP, BILLION 1970 RUBLES	380.710	458.755	528.847	600.983	663.297
--GROWTH(%)	-	3.8	2.9	2.6	2.0
GNP BY SECTOR OF ORIGIN:					
AGRICULTURE	70.484	68.722	72.000	90.125	101.928
--GROWTH (%)	-	-0.5	0.9	4.6	2.5
INDUSTRY	157.119	210.539	249.819	286.058	319.920
--GROWTH (%)	-	6.0	3.5	2.7	2.3
CONSTRUCTION	25.379	33.373	37.536	41.216	44.172
--GROWTH (%)	-	5.6	2.4	1.9	1.4
TRANSPORT AND COMMUNICATIONS	31.581	43.666	53.029	66.288	79.719
--GROWTH (%)	-	6.7	4.0	4.6	3.8
TRADE AND DISTRIBUTION	16.665	20.848	23.943	26.162	27.755
--GROWTH (%)	-	4.6	2.8	1.8	1.2
SERVICES	40.606	48.037	55.044	56.610	55.896
--GROWTH (%)	-	3.4	2.8	0.6	-0.3
GNP BY SECTOR OF END USE:					
CONSUMPTION	219.645	268.928	299.203	313.070	313.778
--GROWTH (%)	-	4.1	2.2	0.9	0.0
INVESTMENT	113.878	147.189	173.666	193.032	195.495
--GROWTH (%)	-	5.3	3.4	2.1	0.3
DEFENSE	45.000	56.000	70.000	100.494	144.272
--GROWTH (%)	-	4.5	4.6	7.5	7.5
CONSUMPTION PER CAPITA, 1970 R	900.552	1052.554	1118.265	1117.267	1077.927
--GROWTH (%)	-	3.2	1.2	-0.0	-0.7
TOTAL POPULATION, MILLIONS	243.900	255.500	267.560	280.210	291.094
--GROWTH (%)	-	0.9	0.9	0.9	0.8
LABOR FORCE IN MILLIONS:					
TOTAL	118.559	127.976	136.809	139.586	141.773
--GROWTH (%)	-	1.5	1.3	0.4	0.3
AGRICULTURAL	37.553	36.337	34.630	31.273	28.384
--GROWTH (%)	-	-0.7	-1.0	-2.0	-1.9
INDUSTRIAL	31.593	34.054	36.899	37.949	38.667
--GROWTH (%)	-	1.5	1.6	0.6	0.4
CAPITAL STOCK, BILLION 1955 RUBLES:					
TOTAL	702.333	1029.950	1440.804	1914.956	2383.450
--GROWTH (%)	-	8.0	6.9	5.9	4.5
AGRICULTURAL	73.400	125.200	191.770	274.607	358.933
--GROWTH (%)	-	11.3	8.9	7.4	5.5
INDUSTRIAL	208.000	313.300	448.943	598.477	744.855
--GROWTH (%)	-	8.5	7.5	5.9	4.5
TOTAL FACTOR PRODUCTIVITY GROWTH(%)	-	0.12	-0.32	0.36	0.28

Modeling the Impact of Defense Expenditures

In the model the future growth of GNP is projected from the supply side as a function of growth in the supply of labor, capital and intermediate inputs, and the growth in overall productivity. The rates of growth of each of these factor inputs is projected on the basis of historic trends and relationships, or else set by assumption. Produced GNP is then allocated among the various categories of final demand.

One key end-use is defense expenditures. Two major categories of Soviet defense expenditures are depicted in the model. First, at the macro level, total defense expenditures are one claimant on final demand, and thus enter into an equation where GNP and the sum of all end-uses of GNP are balanced. Second, at the sectoral level, military procurement enters into an equation where total production of machinery is balanced against the sum of intermediate and final uses of machinery.

The first step in estimating the levels of other end-uses is to subtract total defense expenditures from GNP. The remaining GNP is then allocated among the other major end-uses--investment and consumption. Investment is paced by the availability of machinery remaining after accounting for defense uses. Consumption is determined as a residual after subtracting defense and investment expenditures from GNP.

Thus, in the model, military expenditures have a direct impact on the levels of consumption and investment, and act indirectly--via the investment/capital stock formation process--on the level of GNP.

In order to take account of the qualitative impact of diverting resouces to or from the defense sector, variations in the rates of growth of total factor productivity in industry and services were also introduced in the projections. For the Baseline, productivity changes in these sectors were assumed to continue at the average rate calculated from data for the period 1968-78. This provides a projection in keeping with the view that future rates of factor productivity growth are not likely to be very different from those observed over the past decade. For the High Growth Projection, a more rapid rate of productivity growth was assumed; and a lower rate was used for the Low Growth Projection.

The Burden of Defense

The results shown in the above tables indicate that the rate of growth of defense expenditures will have a significant impact on the growth of GNP over the next decade. Increasing the annual rate of growth of defense expenditures from 4.5% to 7.5% reduces the rate of growth of GNP by 1%, while decreasing defense growth to 2.5% raises GNP growth by 0.8% per year.

It should be emphasized, however, that most of the growth impact depicted is a result of the assumed rates of productivity growth associated with each projection scenario. The impact of simply shifting resources into or out of defense would be much less if it were assumed that such transfers would not affect the productivity of Soviet industry. This is a result of the fact that the change in the volume of investment that is caused by a change in defense expenditures is small relative to the size of the capital stock in the economy. It thus has a limited effect on the growth of captial stock. (In the alternative defense projections over the decade of the 1980s, capital stock growth ranges from about 6% per year to 5% per year, while the range of investment growth varies from 4% per year to 1.2% per year.) The impact is further lessened by the rather low output elasticity of capital in the production functions of the Soviet model.

In addition to the impact of variations in defense expenditures on growth of GNP, the projections illustrate the additional effect on the uses of national product. The impact on investment growth has already been noted. The effect on consumption growth is even greater. A 7.5% per year growth of defense expenditures is seen to reduce the rate of growth of consumption per capita, in the 1980-85 period, to zero, compared to the Baseline rate of 1.9%. On the other hand, a reduction in defense expenditure growth to 2.5% per year raises the growth of per capita consumption to 3.4% per year. In the succeeding five year period, maintaining a 7.5% growth of defense expenditures results in an actual decline in per capita consumption.

In the Baseline, with defense expenditures growing at 4.5% per year, the share of defense in GNP ("average burden of defense") increases from a level of 13% in 1980 to 15% in 1990. With defense expenditures rising at 7.5% this burden increases significantly--to 21% by 1990. To Soviet policymakers, the impact of variations in the growth of defense expenditures may actually be much more significant than that indicated by these figures. This is so because policymakers

are more concerned with the allocation of the increments to output among competing claimants rather than the distribution of the total flows of output, the past levels of which tend to be difficult to change and reallocate. The shares of incremental output going to defense may thus be a better illustration of what the burden of defense will be in the eyes of Soviet policymakers. The share of the increment to defense expenditures in the increment to GNP rises from 16% in 1980-85 to 21% in 1985-90 in the Baseline projection. With a 7.5% defense spending rate, the incremental burden of defense rises from 42% in 1980-85 to 70% in 1985-90.

Also relevent from the perspective of Soviet policymakers may be the fact that even with overall defense growth of only 4.5%, procurement of defense equipment takes 35% of the increment in machinery output in the period 1980-85 (which is about the same as its incremental share in the 1970s) and 54% in 1985-90. That is, the increase in defense procurement will be taking more than half of the increment in machinery production by the latter part of the decade. This represents a serious problem for Soviet decisionmakers, who will at the same time be facing the need to expand investment in the energy, agriculture and transportation sectors. The projection figures from the high defense expenditure case imply that the defense sector would consume all of machinery output by 1990. Such a situation would be impossible to maintain for long. Thus, unless Soviet productivity can be increased together with higher defense spending it is unlikely that the Soviet economy could for long withstand the strains of a stepped up rate of defense spending.

Mr. KAUFMAN. Mr. Cohn, please proceed.

STATEMENT OF STANLEY H. COHN—ECONOMIC BURDEN OF SOVIET DEFENSE PRODUCTION: QUALITATIVE AND QUANTITATIVE ASPECTS

Mr. COHN. I would like to complement what Dan Bond has been talking about. And I would like to look at the economic burden on defense expenditures in terms of the intangibles and in terms, also, of some of the delayed impacts, what you might call the qualitative aspects of the system.

I base this on the particular role the Soviet Union has within its alliance, and I also will want to look at differences in the institutional environment that prevails in the production of civilian goods and in the production of military goods.

I will really be trying to indicate, in the latter case, that the inefficient systemic deficiencies of the Soviet economic system are worsened by the heavy defense effort because of the way the defense production is allowed to circumvent a number of these deficiencies.

First, I'd like to talk about the economic burden consequences of military alliance leadership.

What distinguishes the United States and the Soviet Union from the other members of their respective military alliances is that these two countries have the primary strategic defense responsibilities for their alliances. And the significance of this for economics is the crucial dependence of strategic weaponry production on high technology.

If you look at technological development across the whole spectrum of production, you can find that nowhere has it moved as rapidly as it has in strategic weapons production.

This, therefore, means that this alliance leadership responsibility has placed very heavy demands on the research and development human and material resources in both the Soviet Union and the United States. We readily see this in the statistics put out by the National Science Foundation.

One thing that strikes you immediately is that the U.S.S.R. and the United States devote a much larger share of their R&D to defense than do countries like Germany, Japan, France, and the United Kingdom.

The consequences of this have been profound for the Soviet Union and also unfavorable for the United States. What the Soviet Union has, in effect, chosen to do is to rely on foreign technological concepts and foreign technological prototypes for nonmilitary production. When it comes to military production, they rely on the foreign military concepts, but they develop their own prototypes.

What the Soviet Union has, therefore, decided to do has been to husband its technological resources for defense production purposes and borrow foreign technology in toto for nonmilitary production.

Students of the Soviet research production cycle have concluded that in the production cycle the Soviet Union has been weakest at the innovation and dissemination stage rather than at the research and development stages.

This also applies to military as well as civilian, but they have been able to mitigate the unfavorable impacts of this by making changes in their institutional arrangements.

There is another hidden cost to the Soviet Union of concentrating its R&D in the defense area, and it's one which also impacts on the United States as well, because in neither country, do the economic models, the centrally planned model for the Soviet Union or the neoclassical model for the United States, apply to defense production.

What also happens is that there is a very different maximization propensity in civilian production, particularly in this country. There is every attempt made to produce as economically as possible. Whereas in military production, the emphasis is on technological perfection or, as one might say, an engineer's mentality prevails in the military production and an economist's mentality prevails in civilian production.

Now, it's been pointed out by students of Soviet society of the dominant role played by the engineer in politics and also in economics there has been a traditional engineering bias in Soviet economic decisionmaking. This unfavorable propensity is reinforced by the engineering-oriented maximization criteria which are necessary in defense production.

The United States has also been doing this—particularly when you compare American technological progress of recent years with that of Japan and Western Europe. One possible explanation, by no means total, is that we have been concentrating our R&D resources, particularly human resources, on technological perfection of new concepts, which are primarily for military purposes but can also be adopted for civilian purposes.

Many of the major technological discoveries since World War II, such as the computer, miniaturization, jet aircraft, originally were produced for weaponry. While our engineers, therefore, concern themselves with technological perfection, Japanese engineers have taken these American ideas and exploited them commercially very successfully.

Let me turn to the second topic I wanted to talk about. This is the impact of the concentration of defense production on the efficiency with which the economy operates in general.

As has already been explained, the Soviet leadership, in order to overcome the growth slowdown that has come about in the last 10 years or so because of the near exhaustion of manpower resources and the necessity to reduce capital investment, have adopted what they call the intensification of growth. The intensification of growth really means that you use your resources more efficiently, rather than rely on new resources.

The solution the Soviets have selected so far is one of an enhanced rate of technological innovation. They're avoiding economic reorganization.

Specifically, what they are trying to do is to make their reduced investment resources go further by concentrating them not on building new equipment and new plants, but instead replacing obsolescent equipment and obsolescent machinery.

In order to do this successfully, there has to be forthcoming from the machinery sector new and technically advanced machines. In other words, they have to have technological progress occurring at the time they try to carry out this emphasis on replacement, but they have not succeeded in doing that.

You read in the literature that the machinery sector is simply not providing proper support.

Now, what I want to do is to try to contrast or to try to explain why the Soviets have been successful in military technology. That's the one area where they have pretty well kept pace with us, whereas they've not been successful in innovation in the nonmilitary sector.

Mind you, I'm not talking about consumer welfare here, which is the lowest priority area. I am talking really about economc growth, which has always been a high priority goal. They have consciously tried to encourage it.

So, let me first look at machinery production and see what is wrong there and see what has been done in terms of defense to try to overcome these shortcomings in the terminology that Soviet economists use.

They say that Soviet managers have a propensity toward self-reproduction—"reproduction" is a Marxist term, which really means investment—in other words, toward the perpetuation of existing technology. And the reason they do this is to play it safe, because if they produce and keep producing machines that represent technology they're familiar with, it also means that within the structure of planning, they have assured sources of supply. And also the managers can make sure that they will stand a chance at getting their customary production bonuses, which comprise a good part of their income.

The first problem is that the Soviet system of incentives tends to reward current production effort very highly. It does not reward risk-taking for introducing innovation nearly as highly. They don't give adequate incentives, in other words, for technological innovation.

So, that's one reason. They have the wrong system of incentives.

But there's another problem, too. This is the prevalence of a chronic seller's market. Soviet planning has been characterized largely as a means of trying to spur efficient output from managers.

But if you have a chronic seller's market, it means that your customers have to take what's given to them, and they can't be very selective. In other words, you cannot have a consumer pressure put on a producer to try to produce something better, because it's ineffective since the producer can sell all he wants in this type of market.

A Soviet scholar has characterized this tendency of a chronic seller's market as "planned scarcity." And he said that the main thing lacking is the absence of effective consumer sanction and effective consumer choice.

So, that's the first problem on the Soviet side: you have a seller's market, with a lack of incentives.

Second, the system of economic organization is not the right one. What you need in order to advance technologically is to have a high degree of product specialization. You have to have industry concentrated in a rather narrow spectrum of goods so they can devote a great

deal of time to becoming technologically knowledgeable in a sphere of production and getting experience in producing there.

Now, there are over 20 ministries in the Soviet Union which produce machines. So, at least one paper, they have the basis for product specialization. But this is not what happens. Instead, the 20 machinery ministries produce a very broad spectrum of products. And if they produce a broad spectrum, they certainly don't have the time or the ability to become technologically knowledgeable in emerging foreign innovations. In fact, they don't even have specialization in the Soviet machinery sector for such prosaic, standardized inputs as gears, casting, forgings, and stampings. They don't have separate industries to produce those things.

One of the great secrets of U.S. technological advance is you have a high degree of specialization, and this requires a very extensive system of subcontracting. The Soviets don't have such a system.

Second, also they don't have any organized arrangement for producing customized equipment, either single unit or short production series customized equipment. Instead, such needs are met by small machine shops within the consuming organization. They have to produce it themselves with the expected results of high costs and low technological standards. So there is a systemic propensity toward self-sufficiency in Soviet production.

What is the reason for this? The reason for this, again, is the deficiencies of the planning system, specifically the unreliability of deliveries of inputs. There is nothing corresponding to the law of contract in the Soviet system. So if one ministry fails to deliver to another, you have no way of holding them liable to damages. Therefore, they have to produce these things themselves internally.

One Soviet economist has described such high cost internal source of supply as "insurance capabilities." So unless they developed a reliable system of subcontracting they are not going to get a specialized production system, which is necessary to acquire and innovate with new technology.

Now, let's go over to the defense production now and see what happens there and see how they get around these deficiencies. We will also see they get around them in such a way that the strain becomes even greater for nonmilitary production. They just worsen the situation for nonmilitary production.

The barriers of inadequate incentives and organization which have characterized civilian technological advance have been surmounted in defense production, not through basic economic reforms of the type that I said would be necessary, but by circumventing or overwhelming the existing system of central planning. In other words, they just don't use the system, and the methods used to further defense production simply intensify the systemic inefficiencies.

First, there exists in defense production an effective customer which you do not have on the civilian side, and at all levels of economic decisionmaking there are arrangements made to enforce high defense production priorities.

Some of these were alluded to this morning. Dick Anderson was talking about rivalry between the Politburo and the Defense Coun-

cil. I will not concern myself with that. From the economist's standpoint, it is only necessary to know that these organizations exist and exert considerable influence. But at the highest level you have the Politburo, which involves itself intimately in detailed defense program decisions. They do not do so, of course, on the civilian production.

You have the Defense Council, which is, in effect, a subcommittee of the Politburo; and, as Mr. Anderson said, it is responsible for implementing the major initiatives in weapons development. On the Defense Council are represented leading Politburo members, also leaders in defense production and in defense operations, the military chiefs.

As we proceed down the hierarchy, under the Council of Ministers there exists, as Mr. Anderson was saying, the Military-Industrial Commission, whose function it is to mesh defense production and defense R&D with other economic planning and other economic production. This organization also has representation from the defense production ministries, the Ministry of Defense, from Gosplan and the Central Committee and Secretariat of the Party.

Going further down, Gosplan itself there exists a separate defense production division. In the planning process this division most always get highest priority.

Finally, at the level of the enterprise, in virtually every plant that produces products of defense significance there are inspectors in uniform from the Ministry of Defense who have the right to refuse delivery of defective products. Needless to say, no civilian consumer has this privilege.

It is therefore obvious that the Ministry of Defense is a clamorous customer who insists that producers be willing to innovate and disseminate advanced technology. Producers are inclined toward this by being assured of priority access to necessary human and material inputs. Managerial bonuses amply reward defense production risk takers, because bonuses are structured to favor production of new products rather than stressing continued output of products of proved technological content.

If the presence of a demanding consumer supported at the highest level in the party and government overcomes the inertia toward self-reproduction, endemic in nonmilitary production, the overriding priorities of military output with much greater assurance of timely delivery obviates the propensity toward self-sufficiency, which permeates on the civilian side.

Technological progress in defense production is further aided by giving defense production ministries direct control over R. & D. and over the most important of their subcontractors. What this, in effect, means is that Gosplan cedes this margin of control which it exercises over the civilian production sectors to intermediate echelons; in this case the defense ministries. Direct control by the defense production ministries strengthens the planning and production coordination processes.

Now, the opportunity costs imposed by these privileges accorded to defense production are high. The effective superior resource priorities impose conditions of planned scarcity with all of their disruptive

consequences on production in the rest of the economy. The effective enforcement of a buyer's market for military hardware inevitably leads to the mirror image of a seller's market for even such relatively high priority civilian production sectors as producer durables within a general setting of taut planning.

If the Soviet leadership and planning establishment continues to resist basic organizational reforms, civilian production sectors cannot be granted the degree of autonomy accorded to defense production ministries. In other words, within the existing system of central planning you simply cannot give the civilian sectors the same privileges as the defense sectors have.

Therefore, the systemic deficiencies of Soviet planning have been further exacerbated by the exemption of the defense production sector from its most glaring constraints. What I am trying to say is that the qualitative impact on the economy, the costs to the system of the priorities given to defense production, are very high. They are very difficult to measure, but they do exist; and, as time goes on, the role that technology has to play in enabling the Soviets to continue to maintain defense parity with the United States, and the key role technology has to play in stimulating and maintaining Soviet growth means that this impact of defense production on the rest of the economy is going to grow, not lessen.

[The complete statement of Mr. Cohn follows:]

ECONOMIC BURDEN OF SOVIET DEFENSE PRODUCTION: QUALITATIVE AND QUANTITATIVE ASPECTS

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ECONOMIC BURDEN OF SOVIET DEFENSE PRODUCTION:
QUALITATIVE AND QUANTITATIVE ASPECTS

In this study the stress will be upon those aspects of the economic burden of defense expenditures which are peculiar to Soviet policy and economic institutions. The drain of military spending is and can be generalized for all economies, but for the Soviet economy the expected impact is intensified by the structure of their defense effort and by the strain upon institutions which perform poorly in terms of productivity, flexibility and response to perceived needs. The quantitative aspect of the burden will emphasize the resource claims of strategic weapons development and production effort, which is the special responsibility of the USSR within the Warsaw Pact alliance. A similar special burden is placed on the United States within the NATO alliance. The qualitative aspect of the burden will contrast the Soviet institutional environments in the respective production of military and civilian goods. While defense producers can circumvent the limitations of Soviet economic organization, they do so in ways intensify these limitations for non-military output.

Economic Burden Consequences of the Structure of Soviet Military Expenditures

In contrast with other members of their respective alliances, the Soviet and U.S. defense efforts assume the bulk of alliance strategic force responsibilities. This distinction is particularly the pattern for the Warsaw Pact alliance, which does not have the equivalent of the independent British and French strategic forces with NATO. The economic significance of strategic, in contrast to conventional defense expenditures, is their crucial dependence on

high technology.*

The technical structure of military production in terms of current resources most closely resembles that of producer durables. As Dan Bond had emphasized in his exposition, the alternative use of these resources would be in investment and the durables component of consumption. This trade-off can be quantified by either econometric equations or input-output matrixes. Production of missles, nuclear warheads, aircraft, and submarines impose a higher opportunity cost than do conventional weapons.

However, the most potent and insidious impact of strategic weapons production lies in its technological dimensions. Nowhere in the entire industrial production spectrum has technological change occurred with the rapidity of that in strategic weapons production. This development, of course, requires heavy demands on the economy's research and developmental human and material resources. The R and D efforts of both the USSR and the United States are distinguished from those of the other major industrial powers by the large proportions devoted to defense.[1]

The consequences have been profound for the USSR and unfavorable for the United States. The Soviet Union has, in effect, chosen to rely on foreign technological prototypes and concepts in non-military production and foreign concepts in military production. It has chosen to husband its technological resources for defense production purposes. Borrowing of foreign technology does not guarantee easy adoption in serial production as Soviet performance

* At a further stage in my research there will be data presented on the composition of military expenditures of alliance leaders and members. This should enable me to differentiate between the economic burden implications of strategic and conventional weapons production.

[1] Abram Bergson, "Soviet Technological Progress: Trends and Prospects," Conference on "The Soviet Economy Toward the Year 2000", forthcoming in book publication.

over the research production cycle has been the weakest at the innovation and dissemination stages.[2] Although military production falls within this general conclusion, the degree of unsatisfactory performance has been mitigated by institutional adjustments, as will be discussed in the third section of this paper. However, the intensive R and D effort required to support production of strategic weaponry has further deprived civilian production sectors of the most important growth ingredient.

For the U.S. economy the heavy strategic defense production responsibility has meant diversion of R and D innovation and dissemination energies toward technological discovery and prototype development and away from the commercial exploitation of known, new technology at which the Japanese, and to a lesser extent, the Western Europeans, have excelled. It has led U.S. engineers and managers to stress technological perfection rather than profit maximization.

In Soviet society the dominant role of the engineer in politics, as well as economics, has imparted an engineering bias in economic decisions in contrast to an economizing one. This unfavorable propensity is reinforced by the necessary engineering oriented maximization criteria inherent in defense production.

Incentive and Structural Deficiencies of Producer Durables Production

The Soviet leadership has recognized in its developmental strategy that the continued viability of the system is contingent upon obtaining much higher productivity out of its shrunken reservoir of productive resources. This

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[2] Ronald Amman, Julian Cooper, R.W. Davies, The Technological Level of Soviet Industry, Yale University Press, 1977, p. 62.

emphasis upon productivity carries the label "intensified growth" in official discourse.

If the likelihood of decentralization of decision-making is assumed to be politically unrealistic, the key to improved productivity lies in more rapid technological advancement. In particular, this means more rapid technnological improvement in productive machinery and equipment (producer durables). Planners have recognized this imperative and have responded by directing larger hsares of investment into replacement of obsolete facilities rather than into the construction of new plant. Performance in realizing this changed emphasis has been only partially successful, but the most serious shortcoming has been the inability of the machinery industries to produce in sufficient quantity products which incorporate advanced technology.[3]

The reasons for this poor performance are found in deficiencies in organization and incentives which plague the entire Soviet system. However, it has been possible to overcome these barriers in the production of military output, largely by methods which circumvent or short circuit the existing system of centralized control. However, in the process of furthering production of defense goods the chronic problems confronting the rest of the economy are further exacerbated.

The analytical sequence will be to examine how these deficiencies constrain technological innovation, how defense producers overcome them, and how the privileges accorded to defense production worsens the environoment for production of producer durables. The impacts are even worse for consumer production. The

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[3] Stanley Cohn, "Sources of Low Productivity in Soviet Capital Investment," contribution to Joint Economic Committee compendium Soviet Economy in the 1980s: Problems and Prospects, 1982.

demonstrated inability of the machinery industries to support the necessary technological re-equipment of obsolete capital[4] arises in first instance from inappropriate incentives. In Soviet terminology, there is a propensity by Soviet managers toward "self-reproduction", i.e. toward the perpetuation of the existing composition of production and production technology with assured sources of supply and insurance of customary production bonuses.[5] The same Soviet critic observes that existing incentives lack the necessary stimuli to compel the producer to improve existing output and introduce new products.

Slow technological progress is also explained by the chronic seller's market which prevails for producer durables production. The tradition of taut planning has been characterized as "planned scarcity" by a Soviet scholar.[6] Under such circumstances there is little pressure for effective consumer demand for technologically improved products. As will be indicated in the next section, there is a potent customer for military production. The presence of an effective consumer together with assured priority on delivery of vital inputs and incentives which adequately reward risk bearing leads to satisfactory rates of technological innovation. A perceptive Soviet economist points out that a glaring weakness of economic organization is the absence of effective customer sanctions and choice.[7]

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[4] P.I. Voshchanov, B.I. Efimov, "Problemy sbalansirovannogo razvitiia investitsionnykh otraslei ekonomiki", Izvestiia Akademiia Nauk SSSR, Seriia Ekonomicheskaia, No. 2, 1982, p. 54.

[5] S.A. Kheinman, "organizational and Structural Factors in Economic Growth", JPRS, 76388 USSR Report, Economic Affairs, No. 937, September 9, 1980, p. 65. Translation from Ekonomika i Organizatsiia Promyshlennogo Proizvodstva, May 1980.

[6] Ibid.

[7] S. Kheinman, "Zadachi razvitiia mashinostroeniia", Voprosy Ekonomiki, August 1981, p. 31.

Organizationally the main deficiency for securing technological advance in producer durables production is the low level of product specialization. Although there are over 20 machinery producing ministries, product specialization does not match administrative specialization. The prevailing production pattern is one of generalized machinery production by most ministries. Even in the production of general purpose semi-fabricate inputs, such as gears, casings, forgings, and stampings, the degree of specialization is far lower than in U.S. industry.[8] There is no organized arrangement for production of single unit customized equipment by specialized machinery enterprises. Instead, such needs are met by small machine shops within the consuming organization with the expected results of high cost and retarded technological standards.[9]

There is a systemic propensity toward self-sufficiency* in Soviet production, largely caused by unreliability of deliveries of planned input flows. One Soviet economist has described such high cost, internal sources of supply as "insurance capacities".[10] Successful development of production specialization is contingent upon development of a tradition of reliable sub-contracting.[11]

Within the contest of central planning such a goal can be attained only if the prevalent practice of taut planning is superseded by explicit long terms plans

* Vertical integration in standard economic terminology.

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[8] Kheinman, footnote 5 reference, p.70.

[9] Ibid., p.71.

[10] Iu.V. Subotskii, "Role of Production Specialization in Reducing Scattering", JPRS 80078, USSR Report - Economic Affairs, No. 998, Feb. 14, 1982, p.38, Translation from Ekonomika i Organizatsiia Promyshlennogo Proizvodstva, November 1981.

[11] G.Ia. Kurbatova, "Mashinostroenie i investitsionnye protsessy", Ekonomika i Organizatsiia promyshlennogo Proizvodstva, March 1982, p.83.

which anticipate changes in technology and provde for inputs necessary to achieve them. The current Eleventh Five Year Plan is pioneering in this direction. One of the more perceptive Soviet economists also contends that more rapid technological advance requires the establishment of new machinery producing branches which specialize in the output of general purpose intermediate products.[12] Such a proposal would encounter strong opposition from existing machinery ministries. He also proposes the creation of supra-minsterial organizations to coordinate the production relationships among machinery producing ministries.[13] Such a solution is vintage Soviet in its distrust of management and preference for centralized control, even at the cost of an additional layer of bureaucracy.

As will be explained in the following section, defense production successfully copes with the specialization problem by demanding and receiving high production priorities within the existing organizational structure. However, it accomplishes aims at the expense of civilian production. Planning deficiencies are overcome in like fashion with equally high opportunity costs.

Qualitative Burden of Superior Priorities and Effective Administrative Intervention in Defense Production

The traditional Soviet economic model of central planning does not apply to defense production anymore than the neo-classical model of the market applies to U.S. military production. Soviet defense technology has maintained close parity with that of the United States, while in non-military technology the Soviet have conceded that they must increasingly relay on foreign imports.

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[12] Kheinman, footnote 5 reference, p.72.

[13] S.A. Kheinman, "organizatsionno-strukturnye faktory ekonomicheskogo rosta", Ekonomika i Organizatsiia Promyshlennogo Proizvodstva, June 1980, p.78.

The barriers of inadequate incentives and organization which have constrained civilian technological advance have been surmounted in defense production not through basic organizational reforms, but by overwhelming and circumventing the existing system of central planning. The methods used result in further intensifying the systemic inefficiencies which constrain civilian technological advance.

At all levels of decision-making there exist institutional arrangements to enforce defense production priorities.[14]

1. The Politburo, the Party's supreme policy-making body is intimately involved in detailed defense program decisions. Selected key lower level personnel in the defense production sector have direct access to this top level.

2. The Defense Council (Soviet Oborony), in effect a sub-committee of the Politburo is believed to be responsible for the chief initiatives in weapons development. Leading Politburo members and leaders in defense operations and proudction are represented here.

3. Under the Council of Ministers, the Military-Industrial Commission is primarily responsible for meshing defense production and R & D with other economic planning. This organization has members from defense production ministries, the Minsistry of Defense, Gosplan, the Central Committee and Secretariat of the Party.

4. Within Gosplan there is a separate defense production division. In the detailed planning process defense needs have the highest priority.

5. At the enterprise level, there are inspectors from the Ministry of Defense in all units producing output of interest to the military. They have the right to refuse delivery of defective products.

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[14] Arthur Alexander, Decision-Making in Soviet Weapons Procurement, International Institute for Strategic Studies, Adelphi Papers Nos. 147 and 148, pp.9-23.

It is obvious that the Ministry of Defense is a clamorous customer who can insist that producers be willing to innovate and disseminate advanced technology. Producers are positively induced toward this end by being assured of priority access to necessary human and material inputs. Managerial bonuses amply reward defense production risk takers, because bonuses are structured to favor production of new products rather than stressing continued output of proved technological content.

If the presence of a demanding consumer supported at the highest levels in the Party and government overcomes the inertia toward "self-reproduction" endemic in non-military production, the overriding priorities of military output with much greater assurance of timely delivery obviates the propensity toward self-sufficiency and lack of specialization which plagues the civilian industrial sectors.

Technological progress in defense production is further aided by giving defense production ministries direct control over research and development and over the most important of of their sub-contractors. In effect, Gosplan cedes this margin of control which it exercises over the civilian production sectors, to intermediate echelons (ministries). Direct control by production ministries strengthens the planning and production coordination processes.

The opportunity costs imposed by the privileges accorded to defense production are high. The effective superior resource priorities impose conditions of planned scarcity with all of its destabilizing implications on production in the rest of the economy. Effective enforcement of a buyer's market for military hardware inevitably leads to the mirror image of a seller's market for even such relatively high priority civilian production sectors as producer durables within a general setting of taut planning. If the Soviet leadership and planning

establishment continue to resist basic organizational reforms civilian production sectors cannot be granted the degree of autonomy accorded to defense production ministries. Therefore, the systemic deficiencies of Soviet central planning have been further exacerbated by the partial exemption of the defense production sector from its constraints.

Stanley H. Cohn
State University of New Y
at Binghamton

Mr. KAUFMAN. Thank you, Mr. Cohn.

To use the balance of the time for questions and group discussion, let me proceed first with one question of all the panelists regarding the alternative methodology that has been mentioned and which all the panelists are familiar with and used; namely, the residual approach, usually associated with the work of Bill Lee.

I wonder if each of you would comment on how you compare reliability of the results of this approach with the 10- to 15-percent margin of error ascribed to the direct cost to what is known as the building block approach.

Second, I would like each of you also to comment on another matter. The residual method assumes that through the use of published Soviet statistics analysts in the West can derive reasonably accurate estimates for Soviet defense production. I wonder if each of you would comment on what appears to be an anomaly here, that the Soviets would keep secret their defense spending data but yet publish enough economic material so that it can be derived through this residual form of analysis.

Mr. Welsh, would you like to begin?

Mr. WELSH. We have followed the indirect or residual approach principally, as I indicated, as a result of our interest in independent methodologies for estimating Soviet defense costs. We are aware of and we are investigating the various residual approaches.

I think we share DIA's sense of a wide confidence interval indicating substantial uncertainty. The residual approach is subject to much greater uncertainty than our direct cost estimates.

I think the issue of whether or not you can use Soviet statistics to derive a viable estimate is in part answered that you can. You are, however, going to get something that is not at all precise and in some instances influenced more by the assumptions made than by the information base.

Mr KAUFMAN. Mr. Doe, do you want to add to that?

Mr. DOE. The problem with the residual approach is that you have literally hundreds of pieces of data that are needed. You have to make some wild guesses on what the meaning of some of those data really are. The Soviets don't just come out and say, "By the way, this is how you do it on residual; this is what each components of the calculation should look like; and here are some nice, well-defined numbers that fit into those categories."

Every piece of data has a range of error. You have problems with definitions of output, you have problems with the price bases you are using. In no case can you put together with high confidence a consistently defined series of comparably price-based figures to come up with your machinery residual. However, that doesn't mean that the effort is useless. As Paul said, it can be very instructive. You can use it over time for general level analysis and, probably more importantly, for analysis of trends. You would begin to worry significantly if you found a reasonably-ranged machinery residual growing at 20 percent a year, while your other estimates are growing at 2 percent, or vice versa. You would have to worry about this.

The reason that the Soviets allow such data to go out is not that they are trying to help us, of course. In a centrally planned economic system you have to have data. That is the lifeblood of the economic

planning system. Even though the Soviet Union is a closed society, you can't restrict access to everything. It becomes far too costly and very cumbersome to do that.

So I think that they have fair confidence that we are unable to derive a point estimate of Soviet military procurement, even though some people might maintain that you can get close to that. I would not be one of those.

The machinery data is useful, and the Soviets have to publish it for their own purposes.

Mr. MARTIN. Mr. Kaufman, could I plunge in here? One thing I wanted to say is that a residual approach would never fulfill the needs of the intelligence community. It can't be carved up in detail as the direct cost methodology can and wouldn't answer questions that would get asked even if we could do it precisely. Of course, everything that Mr. Doe and Mr. Welsh said about the uncertainty is true.

The second thing is, while it may work as kind of a subsidiary approach, if that was the main approach used by the intelligence community I suspect that statistical sources would disappear within a year or two. As a matter of fact, the MBMW is just one of many residual approaches, but I think it is the only one that can be done now, simply because the data for the others is no longer available.

Mr. BOND. Following up on the point that you made, the only reason that we would attempt to use the residual approach is that we have a very great need for some way of linking defense to the economy. Just as you need to be able to break it apart by functions in more detail, we have a need to say where defense fits into the overall economy.

As to the margin of error, that is a statistical question. I would say that, although the agency can on the basis of its own statistics give an estimate of their range of error, I think it is absolutely impossible to get a range of error for the residual approach. When you define some category as residual, you have a problem that every error in every other term adds to the possible error in the residual. You wouldn't even want to put an error band on the residual approach statistically, because it would just be too wide.

As to the question as to whether or not we can expect reasonably accurate results from the residual approach, I feel that, yes, we can if we are careful about how we interpret it. I think the Soviets realize that we can get fairly good results and are therefore not willing to give us the information we need. The residual approach was not possible without the work that was done in the United States on the input-output accounts. You have to have that information.

The Soviets published only parts of their input-output tables for 1959, 1966, and 1972. There was a tremendous amount of research done on those tables in the United States to completely reconstruct them, evaluate them, and get all the data that could possibly be gotten out of those tables.

The Soviets seemed to have realized this. They compiled another table in 1977. We know the Soviets have followed very carefully the work that is done in the United States and I would suspect the reason they have not released the 1977 table is they figure that we can find out too much about defense and other areas of the economy that they would prefer to keep classified.

So I think that, as we get away from the 1972 base year, the residual approach estimates are going to be weaker and weaker unless we can get another set of input-output account benchmarks.

Mr. KAUFMAN. Mr. Cohn, you were one of the earlier practitioners of residual analysis. What is your present thinking about it?

Mr. COHN. I will say much of what Mr. Bond said earlier. My interest is really in trying to explain the retardation of economic growth. I would like to see how defense production might explain that.

The other reason. also, was to provide a defense time series for Mr. Bond's econometric model. So, in other words, I had much more of a modest aim in mind than trying to come up with another defense estimate.

The primary deficiency is that it is aggregated. There is no way that it can be disaggregated to provide estimates useful to defense analysts. And as Dan has said, you need the IO table because you have to have value added, not gross output.

If we continue to be deprived of recent IO tables, this approach becomes of decreasing value. As to possible errors, there are a number of places you can make errors here. A lot of them are technical in nature. I don't think I need to give them to this audience. They have to do with prices. They have to do with going from production to use, because we began with machinery production and we want to see how that machinery is used. Is it used for investment, for foreign trade or is it used for defense?

And, one question that immediately arises is: What is the relationship between a quantity of machinery that is produced in a year and what is reported in the investment statistics? We don't know exactly when it does. We assume it is a year later. If that lag changes, then that major use of machinery is in error. So you get conceptual problems.

But for purposes of trying to get some notion of trends in military machinery production, as compared to the civilian machinery production, which is really what this approach is aimed to show, I think it's quite useful for that.

Mr. KAUFMAN. Mr. Bond.

Mr. BOND. I'd like to add another point. That is that, I believe, the controversy between the building block and residual estimation methods really is not one of method, but of results.

Also, it should be emphasized that the residual method is only useful in deriving the procurement component, and that is only one portion of total defense expenditures. You have to add military research and development and operating expenses to procurement to get the level of total defense.

The real controversy, though, is the time trend of the residual. And in the article I'm doing for the JEC, I show where, by changing one single assumption, you can change the results dramatically—and can go from our growth rates to Lee's growth rates.[1]

Mr. KAUFMAN. Do you want to say what that one assumption is?

Mr. BOND. It's the relationship between machinery final demand and total GVO. Lee makes the assumption that it's constant over time. By the input-output information and other information indicates that it is not constant.

[1] Daniel L. Bond and Herbert S. Levine, "The Soviet Machinery Balance and Military Durables in Sovmod," *Soviet Economy in the 1980's: Problems and Prospects*, vol. 1, GPO, Joint Economic Committee, 1983, pp. 296–318.

Mr. KAUFMAN. Just to make it clear for the audience and for the record, when you say people have subscribed to Bill Lee's approach because they like the results, not necessarily because they approve the methodology, what you mean is that his conclusions have consistently shown higher levels of Soviet ruble expenditures and a higher military burden than have the CIA's estimates.

Mr. BOND. Yes.

Finally, more recently, Lee has made an argument about the role of imports of machinery from the west that I believe is not supported by the data either, but this is more of an interpretation issue. Lee has presented an argument recently that it was only because of the importation of machinery—paid for with credits that the west gave—that the Soviets were able to maintain their defense expenditure. I feel that this cannot be supported by the residual approach.

Mr. KAUFMAN. Mr. Hardt, do you have a general question you wanted to pose?

Mr. HARDT. Yes. Several comments have been made that have to do with the nature of the data that the decisionmakers use. The comment has been made as to what customers want and what customers get, in terms of dollars, and the comment Frank made in terms of what is in front of Brezhnev. In fact, what are the decisions made in terms of data available?

This panel deals with data, so it's very relevant, and Mr. Bond has speculated that the decisionmakers in the Politburo, or whoever the decisionmakers are in this context, will look at the incremental factors. So it seems to me it might be useful to spend a moment or two on exploring whether or not the assumptions implied by these statements are valid.

For example, what does the decisionmaker on the dollar side, on the U.S. side, want to know and assume when he gets a figure; such as the Soviets are spending x number of dollars. Presumably, they are asking something like, if they're in Congress, we are being asked to vote on a bill for spending x number of dollars for y programs. Tell us what the Soviets' expenditures are in dollar terms so we can better understand whether we should vote for it.

Is that a proper way of constructing it, and do the consumers, in this case our consumers, understand the appropriate caveats that go into it?

Let me be a little more specific. If you are direct costing, you are presumably starting out with an order of battle with an indication of what the military activities are, and then costing them. Now, that is inherently historical. If it's strategic systems, the economic outlays may have taken place a number of years earlier or they may be averaged over time, but they are certainly not the expenditures on strategic systems as of this year, or the time period that the U.S. decisionmaker might be considering our allocations. That's one aspect.

What I am hoping for in the discussion is a clarification of what it is that the information is useful for and what the limitations are, so we can then say, now, this is useful information, however, this is what you should understand about its limitations.

Mr. WELSH. Well, first of all, any consumer that comes to us and asks for dollar spending, the first thing we do is say there is no dollar spending estimate. There is only a ruble spending estimate.

Mr. HARDT. Then why does he need to know what dollar spending is?

Mr. WELSH. He needs dollar estimates if he's looking for a magnitude measure. Let's take a hypothetical example for Soviet strategic defense activities.

Mr. KAUFMAN. Could I interject a point? On the dollar side the only thing he can know is not dollar spending by the Soviets but dollar costs.

Mr. WELSH. Yes, that's right. And those costs—again, let me run through an example. Frequently we are asked to comment on the size of Soviet spending for ballistic missile defenses. In rubles we could provide an estimate that would catalog the history of the Moscow ABM program. We could produce a ruble figure, say, 500 million rubles; most consumers looking for a sizing measure, however, want a dollar figure, something familiar to them.

So we produce the dollar estimates and we do it in constant prices. That constant price is as close to current dollars as the Department of Commerce statistics on inflation in the United States will allow. Right now we have an 1980 dollar base. But if we told the respondent that the dollar cost for the Soviet ABM program was $2 billion, then that is fairly easy to relate to past or proposed U.S. programs.

Your point that policymakers need information on present and future Soviet programs in order to make decisions to develop and deploy future U.S. systems is well taken. We, of course, make cost projections and those projections typically now run into the 1990's, and in classified form we provide these estimates to policymakers. These cost projections are based on all-source information and reflect the National Intelligence Estimates. We cost the projections of force levels and provide the results to people who are questioning what the level and direction of Soviet defense activities are likely to be in the future. These projections are revised annually.

We can provide a sizing measure, and we can say today that we see indications that the Soviets are going to field these kinds of weapons in the timespan of our projections.

Mr. HARDT. In cost?

Mr. WELSH. Yes; but the projections start with physical descriptions of the force. We merely take the physical descriptions of the future Soviet military programs and put ruble and dollar price tags on them. It is not a projection of a defense level into the future. Rather it is an examination of military analysts' estimates of what weapons the Soviets will have in the future. It is not a projection of a historical defense growth rate into the future. Rather, when we make statements that we expect defense spending to grow through 1985 at the historical rate, it is not just an extrapolation of a past rate, but rather, it is an examination of 1985, 1984, and 1983, which says these weapons programs are forecast to be fielded, produced, and operated in that time period.

Again, even in the future, I'd say our estimates are tied directly to physical description. We provide that information and try to take into account the traps that some of our consumers can fall into by asserting that the Soviets are spending dollars or confusing our measurements in constant 1970 rubles with current ruble estimates.

Mr. KAUFMAN. I'd like to shift from some of the methodological and technical questions about the estimates to questions about what the estimates tell us about the Soviet economy and clues to Soviet behavior. Mr. Doe, you indicated in your prepared statement that the effort to understand their perspective is important because of what their perspective tells us about their future intentions or future actions. I'd like to ask a question about what our estimates tell us or tell you about their future actions by asking you about the ruble estimates and the shares of the state budget that you estimated they represented in your statement.

As I understood it, you were saying that 50 billion rubles for defense in 1970 represented about one-third of the state budget, and 90 to 100 billion rubles in 1980 or 1981 represents 29 to 32 percent of the state budget. Now, if that's the way the Soviet policymakers are looking at the share of resources going for defense, does it mean that from their perspective there is no change in the share and that it's been a rather constant share since 1970?

Mr. DOE. The Soviets use two different measures. First of all, there is the state budget. The other is their national income, their net material product. Basically that amounts to Western-style gross national product minus services such as health, education, et cetera. The 50 billion ruble figure for 1970 is only a point estimate. Unfortunately, point estimates over time are not available. It's not possible to maintain that level of accuracy, so there is a wide range, the top of which is the precise same military share of the state budget that was in existence using the 50 billion figure in 1970.

Now, what the Soviet economic decisionmakers are really concerned about is not necessarily some financial outlay. They may not care, per se, that it's 100 or 500 billion rubles. What they're concerned about is what share of real resources available does that represent? The rubles themselves aren't so important.

On the budgetary side, they use that 32.3 percent, if that was the precise number, and they say that's how many rubles there are and it means we can't spend x rubles on health, education, science, capital investment, et cetera. But, when they address what share of the real resources in the entire economy, that is, not just the state budget, is going to the military they will use national income. That represents how much industrial output, agricultural output, communications, transportation, trade, is available. They would be using that measure. The share of the military stayed the same in the budget, but on the national income side it rose from 17.5 percent for the 50 billion ruble figure, up to 20 percent in 1981. For the 90 billion ruble figure, something approximating a 2 percent increase in the national income share. And I think that's the more important representation of what proportion, even in an incremental sense, of the whole economic pie it is that they're putting into defense.

Mr. KAUFMAN. What kind of conclusions can be drawn from the fact that the share of net material product has risen from, say, 17.5 percent to 20 percent since 1970?

Mr. DOE. The tentative conclusions are that we would expect to see changes in either the economic structure of the incentives system, changes in real resource allocation, that is machinery and equipment, et cetera, in response to that kind of rising burden. If economic growth

per se was negative as a result of ever-increasing defense spending, at some point they would have less than adequate resources available for defense. Assuming the standard of living is maintained, the military share would have to drop. That would, however, be a virtually unprecedented reallocation.

So it shows us then that the Soviets are entering a period of very much more difficult resource allocation decisions and that we ought to be looking for indications of shifts.

Mr. HARDT. I'd like to raise a question about the assumptions inherent in that. When we talk about the investment in agriculture, it's clear that 27 percent of the budget was an operational figure and they were and are budget-constrained. Is it possible that the military allocations are not budget-constrained but are determined on other grounds, that is, on programmatic ground?

Now, if we go back to Stalin's period, you get the impression—the strong impression—that Stalin and the limited number of people he consulted on such a decision determined on an engineering and programmatic basis what the military should have. Then the budget was derived from that decision.

Now we tend to be operating on an assumption that there has been a change so that the military has now become a budget-constrained-activity, or at least, a budget-related activity.

Is this an open question, or is this something we have a good basis for having a feel for?

Mr. DOE. First, no one with whom I have spoken sat in on the policy meetings, so we don't know what that discussion truly is.

It is true in at least one case that Stalin asked the cost of something. He said something like "Now what's that equivalent to in terms of some civilian product?" They said, "Oh, that's equal to half of our capital investment in agriculture," or some such response. He then said, "Forget that program," and he canceled the program because it cost too much. The overall concept is that if there were never a budget constraint, there would never be any economic constraint in the Soviet decisionmaking process and they would have spent an infinite amount for defense.

If they ever perceived themselves as threatened or inferior in any strategic arms sense, they would have done whatever was necessary immediately to correct that problem.

They didn't, and it took them a long time to achieve parity, or whatever the current situation is. So yes, there is a general perception that they are budget-constrained, and they have been budget-constrained.

Does that answer your question?

Mr. HARDT. That's the hypothesis. I'm not convinced that we have enough information to validate that. I think some of the discussion we had this morning suggested other lines, for example, that the State Planning Commission doesn't really have enough information and those in the Council of Ministers and outside of the Defense Council, for example, may not have enough information to actually deal with this as an allocational question, and that is counterspeculative in terms of what the decisionmaking process is.

I think there are alternate hypotheses, and that they should be explored.

Mr. BOND. I think if you go beyond the question of, do they have the numbers in front of them, I think even if they don't, they know the sacrifices because they have lived in the country and they have been responsible for resource allocation—for allocating a great deal to defense—and they've seen the economy slow down.

Intuitively, therefore, they will feel that there is a constraint—there is a tradeoff. They might not have the numbers, but I think that probably the Politburo members now know that there's a tradeoff, even if they weren't trained in economics. It's just their history, their experience.

Mr. KAUFMAN. I think it goes without saying that there are tradeoffs. I think the question is the seriousness and the consequences of the tradeoffs. Senator Proxmire in his opening remarks raised the possibility that U.S. analysts are underestimating the strength of the Soviet economy, and by implication he's saying that you are exaggerating the seriousness of the tradeoff decisions that they have to make. So that the kinds of ideas one sees discussed in the American press to the effect that somehow the Soviet economy can be pushed into a crisis and forced to its knees if the U.S. applies sufficient pressure through trade restrictions—for example, withholding technology from the gas pipeline—might not be valid.

I wonder. Could you comment on that?

Mr. BOND. The last argument can be separated from the defense tradeoff argument. I personally would think that it's somewhat like trying to kill an elephant with a peashooter to think that we can bring the Soviet Union to its knees by our trade policy.

But I do think that the Soviet leadership might feel like there is a constraint on their ability to continue rapid rates of growth in defense expenditures. The tradeoff for them is the question of internal stability versus external threat. I think if you look at what's happened to the Soviet economy, it's not just the overall economic growth slowing down, but that growth in consumption has declined.

This is a regime that has legitimized itself because it has delivered in terms of consumer goods, and it has delivered in terms of security. I think the Soviet population values both very highly. They support defense expenditures as long as they feel it gives them security. If the Soviets were not getting a feeling of security from the defense expenditures, it would have less support.

Also they support the regime because it has led to a substantial and visible increase in the standard of living of most people. If that were to fail, they would begin to question the regime.

So I think the leadership will always be balancing the question of the stability of their control versus the threat from the outside, and it's both a consumption and security issue.

I think they are at the point now, if this growth slow-down continues, where they must start to be concerned about the impact of slower consumption growth, I think in the short run they could manage it. It's a question of a long period of time. Can they support that?

The Soviet people do feel defense is a very positive thing; contrary to the American public, which does not really value defense spending positively or think about it in a positive sense. The Soviet population, in part, because of their experience in World War II, views it positively.

So far, I think, they feel that the government's expenditures on defense have been very positive. They have seen an increase in security—an increase in stature in the world, and the ability to use that stature.

Mr. KAUFMAN. Mr. Doe, did you want to say something and then we can go to questions from the group?

Mr. DOE. Last year the Soviet military publishing house put out a very interesting book by a man named A. I. Pozharov in which he stressed that the key question is whether you can have both continued economic growth and continued growth in the military effort.

He stressed that if you don't have significant economic growth, you are then incapable of having a significant rise in military effort. So those are tied very closely together.

While there have been very similar kinds of statements in the past, that's the most direct one. It is as if there was an argument being made that you need to pull back on the military momentarily in order to build up economic growth so that you can build back up the military effort.

So that the Soviets are concerned about the relationship is very evident. And they have been for a number of years.

Mr. KAUFMAN. Will those who ask questions please state your name first so that the reporter can take it down correctly?

Mr. KOBRICK. Stanley Kobrick. An observation rather than a question. In Brezhnev's recent speech on agriculture there was a very interesting juxtaposition. He has two paragraphs at the end of the speech, one of which says, "Of course we have to maintain our defense at the adequate level."

The very next paragraph he then says, "But, in order to have a strong defense we need to have a strong economy."

A juxtaposition like that leads to the same sort of inference that Mr. Doe was alluding to that he now sees a tradeoff, and as a Radio Liberty analyst recently put it, there's an article that appeared shortly before the speech in which a military writer was arguing that the agricultural problems were not that great, but were caused by external falsification, disputing what Brezhnev was going to say and support in the speech with the idea that there was not this kind of tradeoff.

So it does seem to be the formulation of a debate which I don't think has been this explicit before in Soviet history, but seems to be emerging really over the last year or two.

Maybe Mr. Doe can address that, but it does seem to be emerging and may become more evident as the succession process proceeds.

Mr. DOE. Such debates have occurred before. I guess the most notable one was in the early 1950's. I think it immediately followed Stalin's death. There was a problem: How do you get the Soviet agricultural system to work at least to the point where it gets output up to the 1928 level while you build up your military?

And they chose to revise the then-current plan, such that the defense industry would produce combines and tractors, but they would not then produce tanks or some sort of similar armored equipment, perhaps APC's.

Mr. KOBRICK. Has there been anything like that in the Brezhnev era?

Mr. KAUFMAN. Perhaps I should restate the question: Does there appear to be a greater discussion of the problem of military procurement than there was in the past?

Mr. DOE. Certainly since 1965 there is a much greater amount of literature that addresses that problem than there was during the pre-1965 era.

Mr. GAU. I am Dan Gau of the Arms Control and Disarmament Agency [ACDA]. I had a question on the discussion of the difference between Bill Lee's estimates and the building-block method. I heard it was suggested that one of the main reasons for the difference was in the interpretation of the behavior of Soviet prices.

I wonder if the panel—particularly Mr. Bond—would care to comment on that, since he's analyzed the reasons for the discrepancy. I believe Bill Lee postulates that Soviet prices have not risen very rapidly or have followed the official index, whereas others postulate that the military prices actually have risen substantially, and that accounts for the nominal rate of increase that obtains.

Mr. KAUFMAN. Mr. Bond, could you explain the role of the consumption and inflation in the residual analysis results?

Mr. BOND. The question is, if you are going to compare the CIA's estimates which are in constant prices, and Bill Lee's estimates, which are in current prices, what do you have to do in terms of the assumptions as to the rate of inflation?

Now Bill Lee claims there is no inflation or very low inflation in the machinery residual values. What he's trying to say is that his rates of growth for defense expenditure are so much higher than the CIA's that there's no way that you can deflate his to be comparable to those of the CIA.

I think this is a spurious issue because the way Mr. Lee gets such high rates of growth is basically by making mistakes in his calculations.

Once you get down to a reasonable rate of growth, then you can talk about whether or not reasonable inflation would take a current price series and make it comparable with or not inconsistent with the CIA's constant price series.

And I find it does. You use something like 2 percent a year inflation; that can easily make a realistic residual estimate fit within the CIA's estimates.

Mr. DOE. In my observation of the residuals and my knowledge of it, I found that the largest difference that you can get from the bottom line, which is supposedly military procurement, stem in fact from the top line. It depends on what number you're using for GVO.

The degree of variability of that final demand ratio is a matter of plus or minus 4 percentage points; an absolute maximum of 8 percent, between 0.54 and 0.62, so if there's some medium ground there, we ought to bump it down to 1957 or 1958.

You can get very high absolute figures for the Soviet Gross Value of Output by using an old point estimate and running it forward over time by the Soviet growth rate which was based in the 1950's and 1960's on 1955 prices. Now it's based on 1975 prices.

The Soviets have chain-linked those growth rates when they announce the total growth series. Basically what you're doing is ignor-

ing the periodic revisions of machine-building list prices. You're thereby exaggerating the rate of growth.

The result is that for the current price GVO growth rate you're too high by a percentage point or two a year. The further back your point estimate was that you extrapolate from, the further off you are from current prices in the present.

In the most recent publication that I saw from Mr. Lee, he was using an early 1970's point estimate and ignoring the shift in the Soviet reporting from 1967 prices to 1975 prices. That gives GVO values of about 30 billion rubles higher than they are in current rubles by 1980.

Mr. BOND. You're right. If you change the GVO value itself, you change the level of the residual. You can get almost any level you want to.

Where I have been attacking Lee—is the rate of growth. And a critical point here is the ratio between final demand and gross output, which he keeps constant.

Ms. HIKUS. I am Mary Elizabeth Hikus, also from Arms Control.

I was fascinated by your remark as to the perspective with which each customer comes. And my question is from a customer from the negotiating standpoint, arms control negotiations, in a constant effort to second-guess perceptions and the strength of the opponent.

In this context, I am, of course, coming at it from the same concern as Senator Proxmire's—whether or not we are under-estimating or over-estimating the strength of the Soviet economy or the constraints under which they might be coming to the negotiating table. And in the effort to put yourself in Brezhnev's shoes, and look at the decisions he's got to make with respect to the proportion we're spending here. And also bearing in mind the comment of yours, which surprised me very much, which would seem to indicate that a shifting of resources—as you said, assuming the same productivity—I question whether that isn't exactly the question, not the assumption to be made.

What would be your comments, in light of this, if you were sitting in Brezhnev's shoes, trying to assess us?

And I was wondering if, looking at ours—and perhaps the exercise of running your model on us—where you come out on that, in terms of what his perception might be at the moment, given our own percentage of GNP?

Mr. BOND. I think that is an excellent question.

I think when the U.S. side goes to the negotiating table, we can't go assuming that we don't have the tradeoff. We both agree.

We both have to face the tradeoff. It's a question of how do we value defense versus other things, and what is the trade-off in terms of how defense has to be traded with other things.

But I would like to state that if we shift resources between defense and nondefense uses we cannot really expect they will still have the same productivity. That's to say that if you do a simple quantitative analysis assuming there are no differences, which we have done before, you get results that are really not an accurate reflection of what would happen.

That's why in the paper I point out that these forecasts are not "scientific." They are a portrait of what economists expect would happen. We are assuming—taking out of thin air, really—assumptions as

to the productivity changes that would go along with shifts of resources.

Now, Mr. Cohn listed in detail some of the productivity impacts of shifting resources. We can't measure those quantitatively, now, so we assume some things. We assume that if resources are taken out of the civilian area, and put into the defense area there would have to be a productivity impact. The level of it, we have to guess at.

But in the past, we have run, number-crunching exercises to look at what would be the implications of taking the flow of machinery and diverting it from consumer durables or producer durables to defense durables. I think we've got deceptive answers. We've published those and talked about them, and people refer to them as being "scientific" calculations of the tradeoff. That's easy to understand. These exercises show the size of the capital stock argument and the output elasticity argument. What they don't show us is how productivity suffers when defense spending goes up.

Mr. KAUFMAN. Mr. Cohn, you have been doing some work, I believe, on the defense burden in the United States. I wonder if you wanted to address this question?

Mr. COHN. I really haven't pursued this any more since I talked to you about it. The current controversies we have in Congress on priorities reflect impressions of the burden: What are the costs of our large defense budget and what has to be sacrificed? We haven't looked at the productivity implications of those choices.

Mr. CLAYBURG. I am Richard Clayburg of Stanford Research Institute [SRI]. I would like to ask the panel, particularly those involved in the building-block approach, if they feel comfortable about the degree they have a handle on what we claim to call the hidden economy.

The viability of the data you get depends upon the motivation of people who had access to reliable information, to give you accurate information. Thus, the income tax creep that we live with in the United States has caused gargantuan increases in our below-waterline economy. Some people suggest we're far healthier economically than all the statisticians own up to. In the Soviet Union, obviously, factory managers understimate what they can do, for very obvious reasons; and this goes all the way up the line; and everybody's lying through his teeth.

How much can anybody rely on what you're getting and what data? Could you at least talk about it? I would be interested.

Mr. HARDT. Mr. Bond has a comment.

Mr. BOND. Actually, I'm not a specialist in this. Prof. Gregory Grossman of the University of California, Berkeley, has done some very interesting work in this area recently. He has written a paper—I don't know if it's been published anywhere yet—which presents indicators showing that the second economy has been growing more rapidly in the Soviet Union as growth in the official economy has declined.[1]

There has recently been a book published about the U.S. economy, using the same argument: That our current recession has been accompanied by an increase in the activity of the second economy. And there are reasonable theories to explain why that would occur.

[1] Gregory Grossman, "A Note on Soviet Inflation," *Soviet Economy in the 1980s: Problems and Prospects. Vol. 1*, GPO, Joint Economic Committee, 1983, pp. 267–286.

So, yes, especially in cyclical analyses, I think it's important to try to grapple with this issue of the second economy. In longer term analyses, I am not sure; and I don't know how you would do it, either, especially in the Soviet Union, because even on the official side you have such poor data.

Mr. Grossman and Prof. Vlad Treml are working on it, but I don't know if they could give us numbers that would allow us to incorporate the second economy in our analysis. It's something to keep in mind.

I would think that in the Soviet case, though, we're not getting that much distortion in certain calculations, like we have here, where you're looking at a particular sector, the machine-building sector, which is probably not affected so much by the second economy, I wouldn't think. At least I don't see why it would be affected.

Mr. KLEBER. I'm talking about deliberately reporting less productivity.

Mr. BOND. That issue is a fundamental one about Soviet statistics and their quality, which has been with us for a long time. In the 1960's, someone suggested the "law of equal cheating." I think it was called. Sure, you can falsify reports this year, and maybe you can do it a bit next year, but it's going to become apparent some time. And we haven't really been able to find any evidence of significant widespread falsification.

Therefore, we conclude that the numbers we are seeing are usable for analysis.

Mr. COHN. The second economy really doesn't contain hidden production, except for certain consumer services; it contains hidden redistribution of existing production. We already know what output is. It's a question of who gets it. As for the second economy—what the second economy really reflects is the response of low priority consumers who want to effectively increase their priorities. It's my guess that this is what's happening.

I don't think it would have much effect on the defense side.

Mr. HALL. I am Wayne Hall of Problems of Communism, USIA.

When Agarkov complains about the management of the Soviet economy, is he calling for a reallocation or is he looking toward the more serious matter of somehow attempting to increase productivity, so that there would be more materials available to the various elements?

Whoever would like to comment on that—is there any feeling of what lies behind that?

Is that just a one-time phenomenon?

Mr. COHN. Can you be a little more specific?

Mr. HALL. I'm trying to recall just when, but sometime—I guess it was this winter or early spring—Nickoli Ogarkov in effect complained about, or suggested implicit complaints about, the effectiveness of the management of the Soviet economy.

Now, what was he saying? We're not getting enough dollars, or rubles, for defense?

Or is there perhaps a perspective on the part of the defense community that if the economy were more efficient, there would be more pie to share?

Is there any kind of feeling of what this is all about, or is this a one-time phenomenon?

Mr. COHN. Mr. Brezhnev, in the general concern about productivity, did point to the defense sector as being much more successful. He didn't go on and explain why, in this case, but he did point out that the role of the defense sector was underestimated, because they were also producing a lot of civilian goods, because they had excess capacity. That's one thing the defense sector has, is excess capacity.

Mr. HALL. Is that inefficiency of operation or the idea that they just had priority?

Mr. COHN. It's resource priority.

Mr. BOND. When someone at a high level criticizes the economy, I think perhaps we ought to ask, what do they have in mind for improving it?

I think there are deep splits in the Soviet leadership concerning economic reform. Some of them would like to see it improved through better management at the micro level; that is, better incentives. But I think a great number of them are complaining about the strategic decisions that are made. There have been major strategic blunders in the Soviet planning, such as the decision to cut back on exploratory oil drilling during the late 1960's and 1970's. They realize that was a tremendous mistake. But there were also major successes. The decision to go ahead with the gas pipeline from Siberia to Western Europe was a brilliant solution to a problem they faced.

I think that many Soviet leaders are complaining about the poor strategic planning. The problems they are having with the transportation system now, with energy development, with resource development, are part of this lack of foresight and planning. And that supposedly is what a centralized economy can do best. And they are saying, "Look, we just did very lousy strategic planning. Who's responsible?" Not all of them are asking for decentralization or liberalization of the economy.

Mr. KAUFMAN. We have already gone past the time indicated that we would complete this session. We can take about one more question.

Mr. PAYNE. I am Christopher Payne from the Federation of American Scientists.

Directed to anyone on the panel: It's been said that the share of net national product in defense grew from 17.5 to 20 percent over a decade. What's the error factor for that estimate?

Is it possible that the entire growth shown by that estimate is subsumed by the error factor?

Mr. KAUFMAN. Mr. Doe, those are your figures.

Mr. DOE. The error factor in 1970?

Mr. PAYNE. Right.

Mr. DOE. That error factor would be something on the order of 10 percent. I'm using a point estimate of 50 billion rubles. That's the top of the CIA direct costing estimate, using a broad definition of Soviet defense spending. And I said that is not totally inconsistent with a rough range of 17.5 percent, perhaps as high as 20 percent, based on the data from Kravchenko.

By 1981, how much error could there be? There could be substantial error, certainly more than 10 percent for a specific point estimate. It is highly unlikely, and inconsistent with everything that we can observe about Soviet physical military activities, that the entire growth could be an error or could be subsumed within that error

range. It is very clear that they are doing more now than they were 11 or 12 years ago.

Mr. KAUFMAN. Mr. Hardt, did you want to make a general comment?

Mr. HARDT. Yes. The discussion of the scenarios and the discussion of productivity raise a point that I think both leads us to tomorrow's panel, and also gives a note of uncertainty that we should be explicit about.

There is a good deal of uncertainty as to how they decide, how they ought to decide. Indeed, this is illustrated by assumptions that if they cut defense expenditures or if they reform, then somehow that will increase GNP growth. These, I think, are tenable assumptions. But I am suggesting the caution that what is implied in these scenarios is that any reasonable person will follow the high scenario. Why not? Well, that is not necessarily the case. There is likely to be a substantial amount of uncertainty, at least. And part of it is because some of the assumptions on productivity, part on what the Soviets might assume or would obtain.

So, I think we need to keep a good deal of uncertainty and flexibility in our assumptions, just as they have to keep a good deal of uncertainty, as to what our policy is going to be and what the results will be of different policies.

Having returned from the U.S.S.R. about a month ago, both of us were trying to explain what our policy was and how it was going to project results for the future.[1] And we had trouble getting over the budget resolution; in fact, we didn't. But this is a very difficult process, and I think the element of uncertainty on both sides is very important for us to keep in mind. And fortunately, starting tomorrow morning at 9 a.m. in this room, preceded by coffee, Myron Rush will shed a lot of light on this very sensitive subject. Isn't that right, Myron?

Mr. RUSH. No. [Laughter.]

Mr. KAUFMAN. We will be here, regardless, tomorrow. And I want to thank all the panelists for joining us and discussing with us this afternoon.

The workshop is recessed until tomorrow.

[Whereupon, at 4:45 p.m., the workshop recessed until tomorrow at 9 a.m., Thursday, July 8, 1982.]

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[1] Richard Kaufman and John Hardt visited the U.S.S.R. in May 1982 as a congressional staff delegation.

SOVIET MILITARY ECONOMIC RELATIONS

THURSDAY, JULY 8, 1982

WHITTALL PAVILION,
MADISON BUILDING,
LIBRARY OF CONGRESS,
Washington, D.C.

The workshop was reconvened at 9:30 a.m. by John P. Hardt, Congressional Research Service, Library of Congress, and Richard F. Kaufman, Joint Economic Committee, moderators.

OPENING REMARKS OF JOHN P. HARDT

Mr. HARDT. The Chair is supposed to have certain prerogatives. And one is to define the time. The time is now 9 o'clock, so we will start. [Laughter.]

We've had two sessions that covered a number of perspectives. We were looking at the question of the interrelationship between Soviet military and economic relations in the context of political decisionmaking, in the context of military planning and decisionmaking, and in the context of concern, expressed by Senator Proxmire over a number of years, for a better assessment on our part of the quantitative aspects of the allocation of resources to defense.

We have also noted that President Reagan called for an improvement in disclosure on the part of the Soviet Union in his July 17 speech. And we've asked the panelists to all consider what the prospects were of this kind of initiative in terms of encouraging the Soviets to improve the quantitative basis of the dialog.

And in each of the panels, further questions and assessments have been provided.

Perhaps Richard Kaufman can give us some sense of what has transpired up to now, updating the record.

OPENING REMARKS OF RICHARD F. KAUFMAN

Mr. KAUFMAN. It might be useful to just try to—not exactly summarize, but to say a few things about the discussions yesterday in order to put today's session in perspective.

Senator Proxmire, in his opening remarks, among other things, raised a question about the accuracy of U.S. assessments of the Soviet economy in light of the importance of making accurate economic assessments for policy purposes and even negotiating purposes. Senator Proxmire concludes, on the basis of his understanding and presentations in various hearings, that we seem to be underestimating Soviet economic strength, Soviet economic staying power, while exaggerating Soviet economic problems.

In my own presentation, I developed this thesis further by pointing out what the Soviet growth trends have been and making some international comparisons of economic performance, which show that Soviet economic performance in recent years and Soviet economic prospects are not much worse, if any, than what the Western economies and, in particular, the U.S. economy face—we all have serious economic problems. We all face growth slowdowns, productivity problems, inflation, and resource constraints. Of course, these problems differ from one country to the other.

I might add that yesterday the OECD's newest forecast of the economy was made public, in which it reduced the forecast of growth for this year from an earlier forecast for the OECD countries. Six months ago, it had forecast an average 1¼-percent growth rate. It is now forecasting a one-half-percent growth rate for OECD countries in that 6-month period.

I think these international comparisons are important if we are to view Soviet economic problems and prospects in a proper balanced perspective.

David Holloway and Michael MccGwire looked at some of the military factors, both in terms of Soviet responses to their perceptions of military and security threats and the historic trends and decision points since World War II.

In the part of my presentation dealing with military factors, I looked at military balances from a Soviet perspective, using the Soviet writings, such as the recent publication, "Whence the Threat to Peace," which attempt to demonstrate that from the Soviet perspective, a rough military balances exists in the area of strategic forces and conventional forces in Europe.

In the afternoon session, a number of methodological problems were discussed by Paul Welsh and Frank Doe comparing the direct cost, building-block approach with the residual analysis approach used by Bill Lee and others.

One of the more important things to emerge from that discussion is not only the very large margin of error and the low level of confidence that one has to attach to the residual analysis—a 35-percent margin of error was cited—but also the greater flexibility and greater uses that can be made of dollar cost estimates by disaggregating cost estimates and making assessments of Soviet defense activities and comparisons with U.S. defense activities in terms of resources, in terms of force structure of the services, and also regional deployments.

Dan Bond presented econometric simulations to project how changes in defense spending might influence the military burden and overall Soviet economic performance. According to the simulations, the military burden that would accompany increases in the current rate of Soviet defense spending will significantly impair economic performance, while a reduced burden produces some benefits, but not commensurate with the reductions in defense spending. Stanley Cohn analyzed how the Soviet defense burden is reflected in the Soviet economy in light of the peculiarities of that economy, the high degree of political centralization and the priorities given to defense spending in the Soviet system.

I want to add that all the discussions here are off the record until approved for publication, to encourage candor and free expression and exchange of views.

John Hardt will introduce the members of today's panel.

Mr. HARDT. We have a distinguished panel.

Prof. Myron Rush of Cornell University is also a scholar in residence at the Central Intelligence Agency and has for many years been interested in Soviet politics and especially the succession question, which is very much in our minds and in the thoughts expressed in the papers.

Prof. Dimitri Simes heads up the Soviet and East Europe Research Program at the Johns Hopkins School of Advanced and International Studies. He also enjoyed a distinguished career in the Soviet Union following his graduate work in the Soviet Union before his emigration to this country, and brings that additional dimension to his perspectives.

Joseph Whelan, a Senior Specialist at the Congressional Research Service, has been studying international affairs, especially relating Soviet and U.S. policy over the years, in terms of negotiations, in terms of their role in the Third World, and in terms of a variety of other aspects of Soviet-American relations.

Ivan Selin has a variety of interesting interests included in his résumé, being a businessman and currently serving as president of the American Management Systems. He's also a former Acting Assistant Secretary of Defense for Programs. But even more germane perhaps to this panel, he's been a long-time student and very active practitioner in the area of Soviet studies, spending a good deal of time meeting with Soviets, consulting with American Government agencies on U.S.-Soviet affairs, and interested throughout in the interplay of military and economic factors and relative developments.

We'll start with Myron Rush.

Panel III. International and Domestic Policy Implications

STATEMENT OF MYRON RUSH—GUNS OVER GROWTH IN SOVIET SECURITY POLICY

Mr. RUSH. The question of the declining growth rate of the Soviet economy has preoccupied this workshop, so I don't have to demonstrate that this has been happening. It is clear from their own figures that the decline has gone on over a long period of time. It's a secular decline, and has gone down sharply recently.

According to their own figures, the growth rate of the national income, which is their chief measure of economic potential, is around a third what it was in the late 1950's, around half what it was in the late 1960's.

Now, the question is discussed whether the Soviet leaders perceive what we perceive, that the growth rate is going down, that the economy is in difficulty.

I don't think this is really a difficult question that need preoccupy us. The figures I mentioned are their own figures for national income.

I think GNP—our own measure—shows an even sharper decline. Unless we suppose that the Soviets are not only 10 feet tall, but also don't have an IQ of 100, then we have to suppose that they perceive what we perceive, that growth of the economy is declining and it is in difficulty.

A statement by Brezhnev in the early 1970's makes it clear that as early as 1972 he understood the nature of the problem that they face. The quotation has been neglected, but I think it is striking and illustrates how acute they see the problem to be.

Let me just read this short sentence, spoken in 1972 at the 50th anniversary of the Soviet Union, the coming together of the Soviet republics in 1922. So, he was supposed to be celebrating their achievements, and yet this very somber note appears in the speech:

"Only by raising the economy's efficiency is it possible to find assets and resources sufficient to ensure simultaneously significant growth in the workers' well-being, resources for the economy's rapid development in the future, and the requirements for maintaining at the necessary level the country's defense capability."

What he's saying is that unless the Soviet economy becomes more efficient, unless they can get more output from the available resources, the leadership would have to choose among its three primary objectives, improved consumption, economic growth, and strengthened defense, all of which hitherto, in the post-Stalin period, have been achieved together.

Now, as it turned out—and I think this became apparent fairly soon—they were not really able to improve the efficiency of the economy. When they formulated the 10th Five-Year Plan in 1975, they had to make some tough choices. Because the growth rate of the economy was still declining they had to choose among the three primary objectives that Brezhnev had referred to in 1972.

Now, it seems to me a bureaucratic solution, a typical solution of the kind that is attributed to the Soviet leadership, would have been to maintain the proportions of these three sectors of the economy, to cut each of them back a bit. But that's not what was done.

What was done was basically to choose capital investment to take the brunt of the decline in the growth rate of the economy.

So, just 3 years after Brezhnev had posed this problem they sharply cut investment growth in the 10th Five-Year Plan. As compared to the ninth, they cut the growth rate of investment by roughly a third, instead of cutting moderately the shares of defense, consumption, and investment.

Now, it seems to me that this can't be explained as due to a reduced need for capital. This argument is made. There is an economic dimension to the problem I am discussing, but I don't think it can seriously be argued that there was a declining need for capital in the Soviet economy.

As you know, raw materials extraction was becoming much more costly. Energy was becoming more costly. They recognized this, but didn't adequately compensate by increased investment at this time; subsequently, in the next few years, they did increase sharply investment in energy.

The needs of transportation were rising. Transportation was a neglected sector of the economy. It continued to be neglected in the 10th

Five-Year Plan, and this has made the problem much more acute at the present time.

Agriculture continued to get a very high proportion of total investment. Something like 27 percent went directly into agriculture. Regional development was becoming a more important problem, particularly the need to invest heavily in infrastructure in Siberia.

All of these required very large sums of capital with no early returns. Similarly, the effort they made to concentrate on reindustrialization required technological innovation. There should have been substantially increased investment in machine building. This, too, was not done. They became increasingly aware of pollution problems. They needed ecological programs, requiring a lot of capital but producing nothing. And this did get more capital in the 10th Five-Year Plan and still more in the 11th.

But all these requirements for capital argue that there was not a reduced need for capital, that the reduction in the growth rate of investment can't be explained simply by the assumption that they didn't need more capital.

So, why then did they cut investment so sharply? It seems to me it has to be understood basically as a political decision, as a necessary consequence of prior decisions not to cut sharply consumption and not to cut defense at all.

Defense has continued throughout this period to grow at something like 4 to 5 percent. Consumption did decline some, partly because of bad weather, but investment in consumption continued at a very high level. Basically, the decision that was made involved investment in civilian heavy industry and in the growth sectors.

There is an economic dimension to the problem. The argument has been made that since capital productivity has been declining maybe they can improve capital productivity by tightening the supply of capital, by making capital more scarce. But if this was a consideration, it has never been mentioned by any of the political leaders.

The political leaders, like Brezhnev, have explained the need to cut back on investment as due to constraints in the economy itself. Well, the question then arises: Why didn't they cut defense? Why did investment have to take almost the total cut resulting from the reduced growth rate of the economy?

Let me say that 1975 was a particularly good time for cutting back on defense growth. This raises the question why they did not accommodate defense to the constraints on the economy.

Let me remind you what was going on in 1975 when this decision on cutting investment growth was made. This was a time when détente was at a high point. It was not as promising as in 1972, but 1975 still was a high point of détente. It was after SALT I had been agreed to in 1972, after the Vladivostok Agreement of late 1974 had recognized Soviet strategic parity with the United States. It was after the United States has been weakened by the defeat in Vietnam, weakened by Watergate. The President's power was declining. It came after a period of theater buildup in Western Europe and, even more, after a large theater buildup of military force in the Far East against China. Both of these had changed the military balance in the Soviet favor.

It was after a decade of rapid increases in Soviet defense spending and several years of decline in U.S. military spending in real terms. It was at a time when the Helsinki Agreement virtually ratified Soviet World War II gains in Eastern Europe.

Then, if ever, was the time when economic constraints might safely, one would have thought, have led to some reduction in the growth rate of defense; yet this did not happen. Defense has continued to grow, not only in the 10th Five-Year Plan, but it is growing in the 11th Five-Year Plan so far as can be seen, and will continue to grow at the same rate of roughly 4 to 5 percent in rubles in the years ahead unless new decisions are made.

The prolonged Soviet military buildup is relatively insensitive not only to changes in the international climate and in U.S. military policies, but also to changes in Soviet economic circumstances.

I have spoken about the big cut that was made in 1975, the sharp turn in investment policy of the previous decade. A second cut was made in 1980, when the Politburo was constructing the 11th Five-Year Plan. Investment now was cut roughly in half. The actual rate of investment in the 10th Five-Year Plan was around 29 percent over the ninth Five-Year Plan. In the 11th it was projected in 1980 to grow by around 12 to 15 percent, about half the growth rate of capital investment in the 10th Five-Year Plan.

Now, the assumption on which the 11th Five-Year Plan is based is the same one that was the basis for the 10th Five-Year Plan, that capital productivity would improve and labor productivity would go up sharply. This did not happen in the 10th Five-Year Plan. Labor productivity grew, but well below the planned rate. The capital output ratio continued to worsen in the 10th Five-Year Plan.

Nevertheless, the planners assumed that all this would be turned around in the 11th Five-Year Plan, that national income would grow much more rapidly than investment. But within a year of adopting the plan, it became clear that this wasn't happening, that severe economic constraints in the first year of the current Five-Year Plan required them to make new adjustments. And again—for the third time—they cut back on investment growth. They didn't cut back on increased defense spending and very little, as far as can be seen, on consumption.

So, for the third time when they had to make the choice, they chose to cut back on the growth rate of investment, cutting back 30 billion rubles, according to Brezhnev at the November 1981 Plenary Session, in planned investment for the 11th Five-Year Plan.

Well, why guns over growth? Why have they continued the buildup of military spending and the secular growth rate of the last 15 years while cutting back sharply in the growth of investment?

This cannot be attributed, as sometimes is done, to longstanding feelings of insecurity, that the Soviet leaders feel insecure and therefore have to concentrate on building military power. Neither is it a response to new military dangers. It is frequently argued that much of the buildup has been against China, because of the rising danger from China they are building up military power in the Far East.

I question this. Nor is it a tribute exacted by professional soldiers from Soviet politicians. It's sometimes argued that the military inter-

est group, or pressure group, is so powerful that the Politburo has to defer to it. I don't think that this stands up.

So, it seems to me one has to conclude that this is due to a revaluation by the Brezhnev leadership of the place of military means in the attainment of Soviet objectives. There is a sharp difference between Khrushchev's military spending, his concern about the military balance, and Malenkov's before him, on the one hand, and Brezhnev's policy on the other, which is radically different and has to be understood on its own terms.

I will just sketch now what I think are some of the foreign policy implications of these facts and interpretations that I have offered.

I think Brezhnev basically has purchased a window, a position of limited military advantage in the next several years that may be increasingly difficult to maintain thereafter because the Soviet economy will be less able to compete with the United States in a new arms race.

It is true, as Richard Kaufman said, that we have our problems just as they have their problems, but I would suggest that their problems are really of a different order of magniture. Their economy is still something like half of ours. They are trying to compete with us, and have done so brilliantly in the arms race, but the declining growth rate of the economy really poses the question whether they can long maintain their defense growth and, in particular, whether they can compete with the United States in a new arms race.

I don't mean to prejudge the question as to whether they can. I only mean that the economic constraints on them are far more severe than on us. And I might suggest, also, that it is not just the arms race that is the problem that they face; the strain from the economy is affecting nonmilitary burdens of empire, including the huge subventions to Cuba, Vietnam, and the Warsaw Pact allies in Eastern Europe.

They are going to have trouble not only maintaining defense spending at the current growth rate; they are going to have a lot of trouble subsidizing the economies of Eastern Europe, Cuba, and Vietnam. This is a heavy drain, and we see signs already that they are trying to find ways of cutting back on those subventions.

So this, it seems to me, is a really severe problem that they face, and it is going to get worse because the growth rate continues to decline, and it is conceivable that in the late 1980's per capita national income may not grow at all.

Now, I would argue that they have brought about this situation deliberately. The consequences might be severe even if they hadn't, but I think the burden of proof is on those who would argue to the contrary, that it has not been deliberate choice that has produced the current situation of sharply reduced growth of the economy while rapid defense growth continues. But if you look at it as a deliberate decision, what it means is that in the next few years they are going to have to make major international gains in order to alleviate the strategic consequences of the economic slowdown, the consequences of this window that they have purchased. And this is hypothetical, clearly.

What I have been arguing, it seems to me, is subject to confirmation or disconfirmation by the facts, but I would say that there has been a distinct difference in Soviet foreign policy behavior since 1975, when they began encouraging the Cubans to intervene in Angola and

Ethiopia and introduced their own forces in Afghanistan in the only war they have fought since World War II.

I think important changes have already taken place in their foreign policy behavior, but if my hypothesis is right that they deliberately chose a window, then one should expect even bolder foreign policy behavior in the years ahead.

I don't have in mind some master plan. What I am talking about is some form of strategic opportunism, taking advantage of opportunities that will contribute to the achievement of important foreign policy objectives. The energy they have applied and risk that they have taken in exploiting opportunities for strategic gains have varied in the past.

As I said, I think since 1975 they have been pushing harder to exploit strategic opportunities, and it is at least possible that, having mortgaged their economy for a temporary military advantage, that the U.S.S.R. in the mid-1980's will more readily be tempted to exploit strategic opportunities, employing various military means more boldly, in ways that previously might have been thought unduly provocative toward the United States.

Let me just say, in conclusion, that in deliberating on how to cope with the military balance that underlies the emergent Soviet threat, we should keep in mind that it is the consequence of willful decisions carried out with stubborn determination at painful economic cost.

[The complete statement of Mr. Rush follows:]

GUNS OVER GROWTH IN SOVIET SECURITY POLICY

by Myron Rush

The Problem

The sharp secular decline in the growth of the Soviet economy has been widely noted in the West.* The Soviet leaders of course are no less aware of the problem and have been troubled by its implications. The growth rate of national income -- the chief Soviet measure of economic potential -- is now a third of what it was in the late 1950s. As early as a decade ago, Brezhnev observed that as things were going the USSR would not possess sufficient resources to achieve all of its priority objectives:

> Only by raising the economy's efficiency is it possible to find assets and resources sufficient to insure simultaneously significant growth in the workers' well-being, resources for the economy's rapid development in the future, and the requirements for maintaining at the necessary level the country's defense capability. (Speech, 21 December 1972)

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*Some of the research for this article was written as scholar-in-residence in CIA, but the conclusions and judgements presented do not necessarily represent the views of the CIA.

That is to say, unless the Soviet economy could be made to work more efficiently, the leadership would have to choose among its three primary objectives -- improved consumption, economic growth and strengthened defense -- all of which hitherto in the post-Stalin period had been achieved together.

Increasing the efficiency of the Soviet economy was no easy task and, as it turned out, was beyond the capacity of the Soviet leadership. While there was massive waste to be eliminated, it was not there by chance but was a necessary product of the system as it had worked from its beginnings. Since Brezhnev was not prepared to change the working of the system in a basic way, waste remains much as before, even a decade after Brezhnev outlined the problem. Additional "assets and resources" have not been obtained "by raising the economy's efficiency." The decline in economic growth has continued so that, as Brezhnev foresaw, the USSR has been unable to attain all of its primary objectives simultaneously. Three times the Soviet leaders have been forced to choose among them. Each time capital investment for economic growth has been the chief victim: consumption growth has been cut back less and defense growth hardly at all.

The Choice: Cut Investment

The Soviet leaders first bit the bullet just three years after Brezhnev alerted the nation that hard choices might lie ahead. The Politburo in 1975 cut investment growth by over one-third, from an achieved rate of 41 percent in the ninth five-year plan (1971-75) to a planned rate of 24-26 percent in the tenth (1976-80). This decision was one of the most striking

developments in Soviet politics of the Brezhnev era. True, the continued slowing of the economy required major adjustment in the allocation of resources, but a typical bureaucratic solution to this problem would have allocated the projected increase in national income to consumption, defense, and investment at roughly the same proportions as previously. That this was not done, that the main brunt of reduced allocations for 1976-1980 was borne by the investment sector, poses a political, as well as economic, problem that warrants more analysis than it has yet received.

The Politburo's decision in 1975 to reduce the growth rate of investment cannot be explained as due to a reduced need for capital. Certainly, there were good grounds for concern that insufficient capital in the tenth five-year plan would hamper capital intensive projects in energy, raw materials extraction, transportation, agriculture, and regional development, particularly in Siberia, tnat were required to sustain economic growth. The Plan's emphasis on more rapid technological innovation demanded large investments in machine building. Increased concern about environmental pollution required much larger investments in ecological programs.

Why did the Politburo decide to cut the growth rate of investment for the five-year period (1976-80) by over a third at a time when investment requirements were growing rapidly? The decision to cut the growth rate of investment sharply may perhaps best be understood as a political decision, the necessary consequence of prior decisions not to make big cuts in the growth

of defense or consumption. The decision not to slow the growth of consumption sharply may have been due to concern that frustrating the consumer's high expectations would adversely affect labor productivity as well, perhaps, as the political mood of the people.

Why Not Defense?

Why, however, was the Politburo unwilling to slow the growth of military spending at a time when circumstances were highly conducive to such a decision? The 1975 decision to sacrifice growth for defense came after the onset of detente, after SALT I and the Vladivostok agreement had recognized Soviet strategic parity with the United States, after the U.S. had suffered defeat in Vietnam, after substantial Soviet theater buildups in Europe and the Far East had improved the military balance, after a decade of rapid increases in Soviet defense expenditures and several years of declining United States spending, in real terms, for defense. The decision was roughly coincident with the Helsinki agreement that virtually ratified Soviet World War Two gains in Eastern Europe. Then, if ever, was a time when economic constraints might safely have been given their due weight against the claims of defense. Yet an opposite choice was made, to maintain the growth rate of defense spending while sharply cutting the growth rate of investment. In effect, investment funds were diverted to defense.

As growth of the economy has slowed, the opportunity costs of increased defense spending have risen steeply. That Soviet defense spending continued to increase at about the same rate

despite the worsening economic situation from 1975 to 1981 suggests that the prolonged Soviet military buildup is relatively insensitive not only to changes in the international climate and in U.S. military policies, but also to changes in Soviet economic circumstances.

More Cuts in Investment

As it turned out, the growth of national income in the course of the tenth five-year plan (21 percent) was substantially less than the growth of total investment (29 percent). The gap provides a measure of the failure to achieve more efficient use of economic resources. This did not faze the Soviet leaders, however. In drafting the eleventh five-year plan (1981-85) they once more sharply cut the planned growth rate of investment--this time by over half: the target for the eleventh was only 12 to 15 percent, providing a smaller increment of capital than in each of the previous three five-year plans.

The Soviet leaders constructed the eleventh five-year plan as they had the tenth, on the dubious supposition that resources would be used more efficiently: national income was to grow more rapidly than investment--something the USSR has rarely achieved in its history. Whatever the Soviet leaders' hopes and expectations in March 1981, by November they had already met disappointment, forcing them to revise downward particular targets of the eleventh five-year plan. They had to choose once more among their three primary objectives. As before, they spared defense and consumption while cutting the growth of investment for a third time, by 30 billion rubles in the eleventh five-year plan.

Why Guns over Growth?

Why has there been this prolonged and determined military buildup at the expense of investment, hence growth? It is often stated that the high priority given defense stems from an historical preoccupation with the nation's precarious security. But the Soviet leaders have not invariably displayed an acute sense of the USSR's vulnerability. In the decade after Stalin's death, for example, both Malenkov and Khrushchev were remarkably relaxed about the adverse Soviet military position. Although the USSR lagged far behind the United States in military strengtn, neither Soviet leader felt obliged to force the pace of Soviet weapons deployment and Khrushchev actually cut the size of the Soviet armed forces sharply.

Against this objection, it is argued that Soviet acquiescence in United States military superiority ended when the Cuban missile crisis demonstrated how dangerous this was politically, both to the USSR and to its leaders. Even assuming that heightened fears of Soviet vulnerability following the Cuban missile crisis fueled the initial increases in defense spending, this hardly explains why the arms buildup has continued for so long at great economic cost and in the absence, until recently, of a strong U.S. response. In any event, if fear for the vulnerability of the Soviet homeland has motivated Soviet arms spending in the 1970s, why has it not deterred the USSR from projecting its power into highly exposed positions in Africa and the Caribbean Sea, thereby provoking renewed hostility and posing an increased United States threat to the Soviet homeland?

It is conjectured that the dispute with China has compelled the USSR to increase its military forces in order to deal with a new potential enemy. But again, Khrushchev did not believe the worsening Soviet dispute with China--which was already serious in 1960--necessitated a buildup of Soviet military forces in the Far East. Are China's current armed forces, which have been unable to protect major Chinese security interests against Vietnamese attacks, really a threat to the USSR? By deliberately sacrificing economic growth to a near-term buildup of its military forces--including forces deployed against China--the USSR may be worsening its position a decade hence, when China's military potential may be substantially larger than it is today. Moreover, even while deploying large armed forces on the Chinese border, the Soviet Union has substantially improved the relative strength of its forces in Europe.

It is also said that the long-standing and continuing Soviet buildup is the instinctive expression of a Russian preference for large masses of men and materiel as a necessary bulwark of security. But now then explain Soviet military conduct in Afghanistan, where limited numbers of men and arms are being employed in the only war the USSR has fought since World War II?

Finally, it is argued that a military-industrial complex has compelled the political leadership to favor rapid military development at the expense of economic growth. Granted, when the political leadership engaged in factional struggle in the middle and late 1960s, Brezhnev had reason to curry favor with the military leadership. But why should Brezhnev have continued to

do so in the next dozen years after he had acquired a large measure of personal power? It has not mattered who was Minister of Defense--whether Marshal Grechko, war hero and professional soldier, or, since 1976, Dmitry Ustinov, party official and economic administrator--the military buildup has gone on regardless. It is reasonable to conclude that throughout these years Brezhnev has been personally committed to the steady, prolonged and costly buildup of Soviet military power.

The top priority given to the Soviet armed forces during the Brezhnev period, then, cannot rightly be attributed to long-standing feelings of insecurity; neither is it a response to new military dangers, nor a tribute exacted by professional soldiers from Soviet politicians. The arms buildup appears to have resulted from a revaluation by the Brezhnev leadership of the place of military means in the attainment of Soviet objectives.

Foreign Policy Implications

In fostering military spending during these years and especially in favoring defense at the expense of investment since 1975, Brezhnev has known that this would worsen the economic problems anticipated in the decade ahead. In effect, Brezhnev has purchased "a window": a position of limited military advantage in the next several years that may be increasingly difficult to maintain thereafter because the Soviet economy will be less able to compete with the United States in a new arms race. The potential consequences for the Soviet security position of this trade-off of future economic potential for present military power extend beyond the military balance.

Reduced growth of the economy is already straining the Soviet capacity to sustain other non-military, burdens of empire, including huge subventions to Cuba, Vietnam, and the Warsaw Pact allies of Eastern Europe. These strains will grow more severe as economic growth slows further in the 1980s, and may also prevent the acquisition of new allies such as Nicaragua, which require economic assistance. Why did the USSR make this choice in the mid-1975s and why has it persisted in it in the years since? The Brezhnev leadership evidently decided to purchase the military "window" at heavy cost in the expectation that while it lasted it would enable the USSR to achieve major international gains that would alleviate the strategic consequences of the economic slowdown.

In the next few years the USSR may practice a bolder form of "strategic opportunism," taking advantage of emergent opportunities that promise to contribute to the achievement of important objectives. In the past, the vigor and persistence with which the USSR has exploited opportunities for strategic gains have varied markedly. Since 1975, the USSR and its surrogates have undertaken more venturesome policies--at times with unprecedented reliance on military means--in Africa, Southeast Asia, Central America, and Afghanistan. Now, having mortgaged its economy for a temporary military advantage, the USSR in the mid-1980s will more readily be tempted to exploit strategic opportunities, employing various military means more boldly, in ways that previously might have been thought unduly provocative toward the United States.

The full import of Soviet acquisition of this costly military window will be revealed only in the years ahead. The extent to which it portends a bolder use of surrogate forces, new deployments of Soviet military personnel abroad, renewed military pressure on China, active confrontations with the United States in areas vital to western interests (such as the Persian Gulf), even, perhaps, dangerous probes in Europe itself--will depend on three key factors: the opportunities for strategic gains, which may be numerous and tempting; the capacity of the Soviet leadership to exploit them, which is considerable even as Brezhnev's rule approaches its term but, depending on developments in the succession, could be substantially greater after his departure; and the character of the West's response to Soviet probes in a military environment that is the most favorable in three decades to the realization of Soviet aims.

In deliberating on how to cope with the military imbalance that underlies this emergent Soviet threat, we must keep in mind that it is the consequence of willful decisions carried out with stubborn determination at painful economic cost.

Mr. HARDT. Thank you, Myron. Economists would say that Leonid Brezhnev has been subject to the telescopic function; that is, viewing the present as far more important than the future; and for an aging leadership perhaps that is an understandable approach.

Dimitri, I wonder if you would have some thoughts on this.

STATEMENT OF DIMITRI SIMES—THE POLICIES OF DEFENSE IN THE SOVIET UNION

Mr. SIMES. I was reading today a very interesting article in a Soviet publication called "Znamie." It describes U.S.-Soviet relations in the 1970's and is by Valentin Falin, the chief of the Central Committee Department of International Relations and former Ambassador to Bonn. He's an interesting man. He speaks flawless German and fluent English, is a great connoisseur of fine wine and food, and is extremely familiar with antique history and philosophy. He's a sophisticated man, indeed.

So, what is his main thesis about U.S.-Soviet relations in the1970's?

Well, according to Mr. Falin in the beginning of the 1970's, under the force of events, because of defeat in Vietnam and other unfortunate developments for American foreign policy, the American ruling circles, as he called them, were forced to accept a more modest role in the world and a reciprocal equal relationship with the Soviet Union. But they accepted this in principle, without ever appreciating the consequences.

When the consequences became clear that the United States would have to behave with greater restraint and allow more leeway to the Soviet Union, there was almost a panic in American ruling circles.

The first thing they did was to get rid of Richard Nixon. Obviously, there were many Watergates in American history, but it never led to a resignation of the U.S. President. This time the real problem was foreign policy, specifically, as Mr. Falin puts it, Nixon became doomed when he accepted a new relationship with the Soviet Union.

And, of course, the problem continues. When Mr. Ford came to the White House, he immediately abandoned détente, reduced the role of Henry Kissinger and, moreover, he even refused to sign the SALT II Treaty, which was almost completed.

But Ford was not good enough for American ruling circles, who now were becoming quite hysterical in their anti-Soviet zeal, and they brought in Jimmy Carter, who was just the right man for the job. The republic was not yet psychologically prepared to support a military buildup. On the other hand, it was in a very moralistic mood. So, if you really wanted to launch a crusade against the Soviet Union, you needed precisely someone like Jimmy Carter, somebody who would be a wolf in sheeps' clothing.

A strange view of history, indeed, a view with which most of us would disagree.

I wonder on occasion whether we do not make the same mistake when we think about the Soviet Union? We always are trying to find a rationale for decisions which are unreasonable and unexplainable in our terms of reference. And as a rule, our scenario is the most sinister, the most belligerent one. If they go into Afghanistan, it is

in order to march to the Persian Gulf. They are not so foolish to do something like that without having a great strategic objective.

What do they do? Why wouldn't they reduce their defense spending in the 1970's unless they want to create a window of vulnerability? And they know that they have to reduce investment; they know they have to squeeze the consumer. They know there may be costs in terms of their relations with East Europeans, with energy subsidies being reduced.

Well, to this question I do not know an answer, but I think there may be a variety of alternative explanations which are all equally good or equally unpersuasive and which essentially betray our personal preferences and political biases more than our actual knowledge.

I always wondered during recent years in this country why I decided to become involved in this ungrateful business of Soviet studies. After all, opportunities are not particularly great, incomes are fairly modest, and I have to say that a Sovietologist is like a martyr, you make a mistake only once and then your career is over.

Well, I understand now why I love Soviet studies. It's because as a boy, as a teenager, I always was fascinated with science fiction. And when I read most of the stuff published today on the Soviet Union, it is science fiction, indeed.

One school of thought, coming primarily from the civilians in the Department of Defense, talks about the Soviet Union reforming or collapsing, nothing short of that. It does not discuss how exactly they would collapse, what of the KGB, the internal troops—what would they do during this process of collapse, and how hundreds of thousands of Party officials, who would lose all their positions, would react to this collapse. The mechanics are not discussed. It is irrelevant.

If we would only be a little tougher and squeeze the Soviets a little more, they would surrender or collapse.

Well, I have to say that the Soviets were, many times in their history, squeezed considerably more seriously than what we are witnessing today. They did not surrender. They did not collapse.

I don't want to be misunderstood. I am not suggesting that the past is always the right prediction for the future. I am not questioning the legitimacy of the view that the Soviets will indeed be in such serious trouble that unless they reform themselves their whole system would be undermined. That is entirely possible.

What I question is the extreme degree of certainty with which some people make predictions which are based on highly questionable evidence and on the assumption that the Soviets really cannot change the regime in any meaningful way.

Then there are other views which I find more serious, but also rather disturbing. There is a view that the Soviets are in very serious trouble, but that the regime will not necessarily collapse.

But if the West declares economic warfare on the Soviet Union, if we confront the Soviets with great assertiveness, the Soviets will have no choice but to turn inward, that there will be another Stolypin in the Soviet Union—in short, a politician raised in the tradition of the system, not a revolutionary, still probably an autocrat, but someone who will understand the crucial importance of modernization, that the resources of the country should be devoted to domestic improvement, not foreign aggression.

I am sympathetic with many elements of this point of view. But if this is our point of view, I question our policies, because Mr. Stolypin indeed was committed to making the Tzarist regime more stable. And indeed, foreign adventures were not a priority for him. This was at a time when no foreign power was trying to separate Poland from Russia. This was not at a time when the leaders of another superpower were promising to put the old Russian regime on the ash heap of history. This was not at a time when a leader of the free world was proclaiming a crusade for freedom that included Russian territory and countries dependent upon Russia.

In short, Mr. Stolypin operated in an international environment which allowed him to focus on Russian internal affairs.

And there is another thing about the Stolypin period which we should not ignore. While Stolypin was not a militarist and while he was, indeed, preoccupied with internal developments, as most historians would agree, he did for the Russian army much more than his military predecessors or successor. You cannot have a modern army without building. Mr. Stolypin was as committed to the Russian empire as any other politician except, being a great man, he understood that maintenance of the empire requires an evolving modern economy, rather than slogans and irresponsible adventures.

That is why I'm so concerned about our rather simplistic views about Soviet options, the options suggested by those who formulate our policies today—or by the advisers who formulate our policies.

I have to confess, however, that the fiction which is coming from the other side—the "liberal fiction"—for many points of view is not less frightening.

There is a distinguished specialist in political science who has written several books on the Soviet Union and who stated literally that, from the point of view of classical social science, the Soviet Union is a more pluralistic society than the United States.

Well, I would understand this statement if he were trying to discredit political science, if he were trying to say that political science, as practiced today in this country is totally meaningless. But he tried to say that the Soviet Union was, indeed, a pluralistic society. And now he and those who agree with him argue that the future of the Soviet Union is economic reform, Hungarian style.

Again, I could not prove that Hungarian reform—Hungarian-type reform or some modification of Hungarian-type reform would not take place. It does not explain, however, why those who believe in it have such a tremendous degree of certainty.

Hungary is a small country, with a very different tradition. Hungary is not a country which has to be concerned with meeting nationality pressures.

Also, Hungary is a state which spends a negligible percent of its income on military purposes, a country which does not have to maintain an empire, a very different situation.

In the Soviet Union, Hungarian-style reform would be considered bad.

The last view which I encountered among our social optimists is the view that somehow there's a new generation of provincial Party secretaries, that these new secretaries, when they move into positions of power, somehow will modernize the system. And the argument is

based on the fact that provincial Party secretaries have published articles in Pravda and Izvestia where they betray a great deal of impatience with the current state of affairs.

Well, I detect the same state of impatience. But when you're impatient, you come up with very different solutions, modernization or liberalization. Decentralization is only one of them.

I think that there is a very strong instinct to get tough, to force people to work, to tighten the screws. And I see little evidence that the provincial Party secretaries, who were brought up in the post-Stalin period, are less afraid of neo-Stalinism than those now in power in the Soviet Union today.

I completely agree with Professor Rush about the seriousness of Soviet difficulty. He has provided an excellent account of Soviet economic hardships. And I am sure, also, that the Soviets themselves are well aware of them. Actually, it is almost pathetic—when you read today's speeches by Mr. Brezhnev, Mr. Kirilenko, Mr. Chernenko—the tremendous gap between the frankness with which they admit their shortcomings and the difficulties and the solutions which they're willing to offer.

My feeling is that the problem is not with the Soviets being unaware of the sad state of their economy. They know very well how pitiful their economic situation is.

Moreover, my second assumption is that the Soviets know fairly well what went wrong. I'm not just talking about managers and advisers, I'm talking about people at the very top.

I think that recent speeches by Mr. Brezhnev and an article in "Kommunist" published a year and a half ago by Mr. Chernenko suggests that even senior members of the Soviet leadership understand, as Mr. Rush said, that it was the military burden which forced the Soviet leadership to make a number of difficult choices, to sacrifice their investment, not only their capital investment, but also to some extent their investment in science and technology, one field where they feel particularly inferior to the United States and one field which may determine the future of superpower competition. They are well aware of that.

They are well aware of the fact that the economy, especially their agriculture, would benefit from private initiative.

It is not an accident, as the Russians put it, that there were not only speeches, but Central Committee decrees encouraging private plots in agriculture.

Several years ago, these private plots were considered almost counter-revolutionary. Now Soviet peasants are told it's the very honorable duty of every Soviet agricultural worker to devote some additional time to the private plot and to go to the collective market, sell it, and to make a buck—for us, a ruble.

Mr. Chernenko has written a piece—the one I mentioned—which is really an outcry. He says:

> Our economic management cannot function normally because of interference on the part of the party apparatus.

And he says:

> The problem runs even deeper than that. When the Party apparatus does not want to interfere, it is asked to be the economic managers themselves, and particularly by central planning authorities.

These people are raised in a different era. They do not know how to accept responsibility. And when they have the slightest problem, instead of displaying initiative and taking risks, they come to the party workers. And of course, you cannot have it both ways. You cannot give economic management authority without them being willing to adopt responsibility.

In short, he's saying that the problem is not only with the Party apparatus, but with the whole mind set of those who run the Soviet economic system.

They are well aware of their problems with labor discipline and extreme alcohol consumption. For that, you don't have to read their special publications, just read the Literary Gazette.

The fact that corruption is a way of life in the Soviet economy—again, you don't have to interview emigres or spend 3 years in the Soviet Union. Read open Soviet publications. They have become increasingly outspoken.

Mr. Brezhnev admitted something more. He admitted that the plan to develop the resources of the Siberian forests is meeting very serious obstacles—not only of an economic nature, not only because of the harsh climate; not only because of lack of cooperation on the part of Western partners, but also because people just don't want to stay in Siberia.

Mr. Brezhnev admitted at the last Party Congress that more people migrate from Siberia to European Russia than arrive there. And this, of course, is totally contrary to what they want to do. They want to develop this very crucial region upon which their future depends. They know what the problem is.

Again, Mr. Brezhnev, at one recent meeting, said this: "Development of our consumer industries is not just a luxury, it is a precondition for balanced economic development."

And if somebody did not understand what Mr. Brezhnev meant, there were editorials, both in Soviet military newspapers and in Pravda, which spelled it out.

You cannot persuade people to work hard if you pay them paper rubles. Unless you produce enough consumer durables, they are not "real," as they call them, "financial incentives."

So, they know what the problems are. Brezhnev knows. Chernenko knows. I presume others know as well.

So, the problem is one of lack of will, lack of courage, lack of vision, what I would call a bureaucratic stalemate.

I do not know why in 1975 the Soviets preferred to reduce their capital investment rather than reduce their defense spending. There may be many alternative explanations or combinations of factors, but I have to say, what impresses me generally about the Soviet decision-making process during the last several years is that they prefer not to make decisions at all.

Sometimes it is good for us, sometimes it is bad for us. It is always extremely confusing. When we were in the period of détente, we were full of rosy expectations and cheer. And immediately, the Soviets fail to reduce their defense spending. Then we are very disappointed and we assume that they have had a very different interpretation of détente and want to use this period of relative relaxation just to lull us into a relative sense of security while they're building their huge military machine.

The next day we are again full of cheer. We finally decide to rebuild our military might and the Soviets do not immediately respond in kind, so we decide that probably our actions have no connection with their defense spending.

My assumption is that these people are very, very slow. First of all, there is such a thing as a Five-Year Plan, and they're usually—unless something very dramatic happens—very reluctant to change the basic parameters of this plan.

My second assumption is that you're dealing with a group of people who spend very little time in the office—they go in only once a week for several hours—and if you watch footage of Mr. Brezhnev, Mr. Kirilenko, Mr. Tikhonov today, and Mr. Suslov, and Mr. Kosygin before their deaths, you can imagine that those people do not spend long hours in the office. It probably takes a long time and an enormous effort to get their attention and to change their policy—whatever their policy is.

My third assumption is that Mr. Brezhnev, particularly during his recent years, was extremely reluctant to overrule important bureaucratic constituencies, and the military-industrial complex is one of the most important constituencies in the Soviet Union, especially at at a time when Mr. Brezhnev was trying to sell détente. Especially at a time when Mr. Brezhnev was trying to display some flexibility about arms control.

He did exactly what Mr. Carter was doing in this country in 1979: in order to sell the SALT II treaty, you had to talk about defense.

Similar problems exist in the Soviet Union. Clearly, it makes a tremendous difference to the Soviet military whether you are selling them an arms control treaty which essentially actually solves most of their problems, or whether you are selling them an arms control treaty which would mean a real reduction in Soviet spending and maybe dismantling of some Soviet systems.

If Mr. Brezhnev wanted to sell arms control to the Soviet elite, he had to proceed very slowly and very cautiously step by step.

Also, if you look at 1975 in the Soviet Union, you probably would not find the international environment as optimistic as it would seem to some of us. It was a period when there was already a succession in China and it was becoming clear that Mao's successors were no more willing than the old leader to rebuild bridges to Moscow.

It was already after the Jackson-Vanik amendment had been adopted in late 1974, and this made it very clear that massive economic cooperation with the United States was a nonstarter. And we have to say that if you look at American military developments from Moscow, you necessarily would not come to very optimistic conclusions.

Now today in retrospect, we foresaw that most American programs discussed at that time remained on paper. We still do not have one B–1 bomber; we have considerably revised our Trident program.

That is one problem in our relationship with the Soviet Union: They base their decisions not on the basis of what we actually do, but on the basis of what we intend to do—what we threaten to do.

The cycle of weapons development is such that their response is not to actual programs but to planned programs.

There was a political climate in 1975 in the Soviet Union such that they decided not to reduce their defense spending. I have yet to hear

a single Soviet officer or military expert who believes that their country is superior.

I don't want to be misunderstood. I think that the Soviets made the wrong decision and an unwise decision. I think that there was a fork in American political thinking about relations with the Soviet Union at that time, and it would have been a wise and sophisticated decision for Moscow to exploit that fork and to offer a good will gesture. The gesture was not forthcoming and the Soviets have only themselves to blame.

What I'm trying to say is that they were creating an environment which from their point of view was considerably less threatening and considerably less favorably to any unilateral disarmament than it may have been perceived by many of us. Moreover, what is going to happen after Mr. Brezhnev departs from the political scene?—if, of course, he decides to depart at some point.

I believe that we know only one thing about the changes in the Soviet Union: That there will be such change.

I think it is presumptuous on our part, unless we're economic and social determinists, to predict with a great degree of certainty exactly what form or shape the change is going to take.

Yet, it is bound to come. It is bound to come because of the magnitude of problems outlined by Mr. Rush. Because the Soviet elite knows how serious these problems are.

And finally, because there will be a new generation of leaders, and it is the nature of leaders to blame somebody else for the serious problems facing the Soviet Union. It is conventional wisdom among Sovietologists that at first the new leaders will consolidate their position, and only then will they proceed with major reforms.

That is not what happened when Lenin died, that is not what happened when Stalin departed from the political scene. There were very quick and very profound changes. The best time for the elite to change since is immediately after the succession because then and only then they can say, "Look, we're not responsible."

It is like Mr. Reagan or Margaret Thatcher saying, "Yes, the economic situation—we've only been in office 1 year—is something we inherited from our predecessors. We're not responsible, we should be given a chance." Therefore, my assumption is that there will be a very quick effort to institute major economic changes in the Soviet Union.

Unfortunately, I agree with those who feel it will be very difficult to proceed with this change for a variety of political and social reasons. The same Party apparatus which talked about the 1965 economic reforms will still be there. These will be the same people who are traditionally afraid that any decentralization in the Soviet Union can go out of control.

Mr. Brzezinski has presented the traditional argument that the nationality problem—the fear of ethnic tension—also has a conservative impact on any Soviet political and social experimentation.

I do not know, in short, whether these reforms will succeed; I presume they will make an effort. I also presume that in order to make an effort they would have to try to build a new coalition in the Soviet Union.

I think that it is fairly clear that the Communist elite will survive the transition from Brezhnev to somebody else. This does not mean, however, that the dominant position of the Party apparatus is set in concrete.

There is nothing sacred about the apparatus' privileges and status position in the Soviet Union today. Actually, this is something which developed during recent years, particularly I would say, during the 1970's. Because it is my assumption that there may be a new coalition which will include some more modern, more reformist elements in the Party apparatus—economic managers, scientists, and the military.

Only this coalition may have some chance to push the Party apparatus a little bit and to proceed with some reforms. I cannot predict whether this coalition will be created, I do predict that without such a coalition, not much can be changed in the Soviet Union.

What can be the platform of such a coalition? Well, I think that clearly these people will have to think about economic efficiency, economic decentralization, greater power for economic managers.

Some recent articles by people like Defense Minister Ustinov himself indicate that they appreciate that they will not have strong armed forces without what they call an adequate economic base.

In short, there is an appreciation among some sectors of the Soviet military elite that reforms may be required—reforms, not in order to make the Soviet Union a more peaceful state, but in order to divert resources toward the funding of long-term projects rather than to the buying of obsolete weapons today.

I think that a lot will depend on the international climate. I do not believe that any Soviet leadership will be in a position to proceed with major economic reforms and a major reduction in defense spending, if they have to operate under the general impression that an enemy is challenging the very survival and the very legitimacy of the regime.

I have to say that I am quite pessimistic about the United States-Soviet relationship in the long run. I am quite pessimistic, not because I think that there is little wisdom displayed by Washington and little courage and little sophistication displayed by Moscow, but because of a recurrent dilemma for American foreign policy.

On the one hand, of course, it makes little sense to make the Soviets so desperate that they would undertake some irresponsible actions in the Persian Gulf and elsewhere. Yet when we talk about incentives, about helping the Soviets, I become even more nervous.

The idea of enhancing the efficiency of another superpower—helping them in a time of need—makes me most uncomfortable. There were always periods in Russian history when they would look at their situation and they would say, "Well, we are in desperate shape. We have to pull ourselves together, we may have to reduce our defense spending, we'll have to turn inward."

And they will do it. It will take 10, 15, 20 years. Then they would be back there again, modernized, more dynamic, and I would say in a way strengthened by our goodwill and by our capital, which we will willingly invest during this pause.

So I think the essential alternative we're facing is not whether we're willing to have a good relationship or a competitive relationship with the Soviet Union.

I think the question we're facing is whether we're willing to help the Soviet Union modernize itself in order to give us trouble tomorrow, or to accept slightly more trouble today on the assumption that it would retard their economic and political development.

Mr. HARDT. Thank you, Dimitri. If we can turn to the recent Soviet initiatives in the foreign policy area, Joe Whelan.

STATEMENT OF JOSEPH G. WHELAN—BREZHNEV'S PEACE OFFENSIVE, 1981: PROPAGANDA PLOY OR U.S. NEGOTIATING OPPORTUNITY?

Mr. WHELAN. My statement is available over there on the table. It is merely a reproduction of a summary of a study I had just done which is also available—a study called, "Brezhnev's Peace Offensive, 1981: Propaganda Ploy or a U.S. Negoitating Opportunity?" [1]

So all I intend to do this morning is merely to hit some of the high points of this particular paper, if anyone is interested in reading 124 pages, as Paul Cook is not, it is available over there.

Well, let me just point out, first of all, that Brezhnev had launched his peace offensive at the 26th Party Congress in February 1981, and the essence of his report to the Congress was essentially this: It was a call for negotiations on virtually all major East-West relations, on major issues in East-West relations, and also some new issues added to this.

It amounted to something of an anthology of Soviet negotiating positions over the past years. It placed the full responsibility for the tensions of the world upon the United States—on the West—and it absolved the Soviets themselves of any guilt or responsibility for the tensions in the world.

The speech had played on world fears about nuclear war and it also played on the Western desire for a negotiated peace.

In brief, Mr. Brezhnev's report was a reaffirmation of the Peace Program of 1971.

As to why he launched this peace offensive, well, there are a number of reasons, and I don't list these at all in any priority—I just merely throw them out—one being to fulfill a very human desire for peace and survival in a nuclear age and to do this through some sort of negotiating with the West on arms control.

I think that many of us look upon the Soviets with the cloven hoofs and all the rest, and I think we do ourselves a disservice if we don't see in them a very human feeling toward the possibilities of destruction which we all face today.

And we're talking about a people who witnessed or experienced some 20 million fatalities in World War II. Khrushchev and Brezhnev—both of them at one time or another reminded the world that if you push the button setting off nuclear war, you push for suicide.

Another reason I think, possibly, is to break out of the international political isolation caused by the invasion of Afghanistan. This is some-

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[1] Whelan, Joseph G. Brezhnev's Peace Offensive, 1981: Propaganda Ploy or U.S. Negotiating Opportunity? Washington, The Library of Congress, Congressional Research Service, Office of Senior Specialists, May 17, 1982, 129 p. (Report No. 82-968).

thing that has happened since 1979 and the Soviets have felt themselves very much in an encirclement, as Michael MccGwire mentioned yesterday.

Again, another reason possibly, to seize the initiative in international relations in response to a particular ideological need—the notion of a desire to be in control of things, to be the manipulator rather than being the one who is being manipulated—the one who might be the passive actor.

Another reason could be to counter the resurgence of U.S. military power. We had put the Vietnam syndrome behind us after the Afghanistan invasion. There has been almost a reassertion of globalism in American mentality, along with a buildup of military power to match this.

Again, there is the indication, I think, of a desire here to try to blunt our involvement into the Persian Gulf area. And, of course, there has always been a persistent Soviet motivation to divide the Western alliance.

Another reason would be for the Soviets to regain their influence in the Third World, especially in the Muslim world, where they had suffered a setback from the Afghanistan invasion.

And finally, a final reason might be to sustain the Soviet involvement in the interdependent world. And that is: To try to keep open the lines of economic cooperation with the industrial West and with industrial Japan, because, as we have heard today and yesterday, of their need to compensate for some of the economic failures that they are experiencing today, and that they have experienced in the recent past.

Related to this, of course, is the desire to minimize the danger to Soviet security that was posed by the Polish renewal, and an effort here to neutralize the Western hostility toward Russia as a result of Poland, and keep open the avenues of détente between Western Europe and the Soviet Union.

Now, what were the milestones of this offensive?

In the Brezhnev report to the Congress, he stressed very strongly the importance of the need of a dialog at the top, a summit conference. This is a theme that had been very much a part of his offensive throughout this year. The emphasis upon arms moritoriums, in a variety of ways, was enunciated throughout 1981 and early 1982.

There was a proposal to establish a sort of code of conduct in the Third World, a way to try to prevent any confrontation between the United States and the Soviet Union in the Third World. There was an effort to establish the nuclear-free zone in Scandinavia; and there was a good deal of effort put into that particular exercise.

And then there was Brezhnev's trip to West Germany in November. I think this was a highlight of the offensive, because here he sought to counter the U.S. zero option proposal that the President had made in his Press Club speech on November 18. And he also sought to win over West German public opinion. I think the importance here was to keep open the avenue of détente, to keep open the possibilities of economic cooperation and participation on the pipeline.

Now, this peace offensive continued on into 1982. There was a continuous push for a summit conference. There were numerous proposals for various arms control ideas. And there was ultimately an agreement to begin the START negotiations.

Now, what about the characteristics of this offensive?

One, there was an outpouring of hard information and soft propaganda in the Soviet media. The Soviets had directed their propaganda at one central concern in Europe. This central concern was the danger of nuclear war. The problem for the West was to try to sort out from this propaganda any serious proposals. And, of course, along with this, there was the striking characteristics of a continuing build-up in the SS–20's in Europe, to a maximum of 300.

Now, how did the U.S. respond to this offensive?

Well, I think there are two Reagans. There is the Reagan of confrontation and the Reagan of accommodation. This isn't new with me; it's something that people have spoken of in the past when they have analyzed the President's career in California, as well as in the campaign and even today.

Well, for about the first 7 months of the administration, up through the fall, I think that we saw here the Reagan of confrontation, at least in rhetoric. And during this period, the administration had focused on our domestic economic concerns, focused on the build-up of defense, and in many respects the problem with the Soviet Union was put on the back burner of concerns in the administration, as well as in Congress here. And the only real criticism, I think, that had arisen was a criticism of Secretary of State Haig and others, of Soviet involvement in Central America, and, of course, their involvement in the Polish crisis.

However, in the fall of 1981 we come onto another Reagan: a Reagan of accommodation. And here is very clearly visible a definite change in policy in the administration, at least as one perceives it from the outside, and one takes on face value what is said by the President and his people in the administration.

Now, the administration did make some very specific moves toward the Soviet Union, but there was revealed here a division in the administration, that Harry Ellis of the Christian Science Monitor called a fault line between Weinberger in the Defense Department and Haig in the State Department: the State Department wanting to establish a tendency toward negotiations; the Defense Department following a much harder line, especially on matters of economic sanctions and with respect to credits to Poland and Eastern Europe.

Very concrete examples of this conciliatory move by the administration are evident:

One was the letter of the President to Brezhnev, of September 22, in which he laid out, in a very pragmatic, realistic, great power way, the terms of a relationship that would maintain the peace.

Then there was his zero-option speech, November 18. Again, this in many respects was a statement of a negotiating position, but the context was very much a realistic Reagan, not Reagan the ideologue.

Then there was the opening of the INF negotiations in Geneva.

Now, this trend had continued to the end of 1981, and on to 1982. And it climaxed in the President's Eureka College speech in May.

This speech set out the possibilities—and it was picked up by Brezhnev—to begin the START negotiations in June.

Now, what were the factors involved in determining our behavior in responding to Brezhnev's peace offensive?

Well, I think a rather central element was the upsurge of the antinuclear movement in Europe, and this antinuclear movement had spread to the United States and was really making a great impact in this country, especially late in 1981 and early in 1982, especially in the Congress. Members of the Congress, leading Members of Congress, became very much exercised by this whole matter of the possibilities of nuclear war. And regrettably, the administration had, by some of its rhetoric, encouraged many of these people, not only in Europe but in our own country.

So, I think that this issue is one that is a very important one, and was an important one in 1981 and early 1982, and I think will be a major issue for the 1980's.

Now, what about the successes and the failures of the offensive?

Well, the failures:

The Soviets did suffer a setback in Scandinavia. There were no takers for the proposals for the nuclear-free zone, and one of the major factors in this, of course, was that a Soviet submarine had run around in Swedish waters; and this was believed to have been armed with nuclear weapons. And this aroused great concern among the Scandinavians.

And also, what Brezhnev had one. He had first, in an ambiguous way, let it be known that Soviet territory might be involved in this zone. There was some excitement and discussion, but then this was withdrawn.

As far as the successes:

Well, I think the peace offensive had made a very important impact on Soviet-American relations. I think the offensive combined with the antinuclear war movement was a great factor in pressuring the United States into negotiations. I don't know how soon the administration had really wanted to begin the SALT discussions. But at least from what one reads in the press, there was a reluctance. But there was great pressure they were responding to.

Well, as a result of this pressure—and it wasn't just the Soviets, there was this much larger pressure which the Soviets were able to take advantage of—that this opened up the possibility for them to slow down our military buildup and to reach some agreement on arms control.

Another success, I think, is that the peace offensive made some impact in Western Europe, and especially in West Germany—it kept alive the concept of détente; it kept open this channel that the West Germans and others feel about the importance of this Soviet relationship. And I think it helped strengthen the basis of future economic cooperation, especially with respect to the pipeline.

Now, what about the possible directions of Soviet-American relations in the future?

Well, here—in the study I do this in a more detailed way—but I throw out just three very simple scenarios:

One, a continuing downturn in our relationship. There has been—as one observes the historical trends since December of 1979, with the invasion of Afghanistan—there has been a clear deterioration, a downturn, in our relationship. There is a good deal of support for this very pessimistic scenario, and there are many pessimistic appraisals.

Dimitri, here, is not the only one who has great misgivings about the possibilities of our future relations. Ambassador Thomas Watson, Jr., who finished off the Carter term as Ambassador in Moscow—in public accounts, he said he had expected to do great good as a businessman in Moscow. But he came away very, very disillusioned, and published a number of comments, the thrust of which was: The West and the United States, really, they do not know how bad the relationship is.

So that you have people like Watson. William Hyland has written some very good articles. He is not exactly optimistic about the future. Richard Pipes, in an article a few months ago, spoke of a possibility of nuclear war, a 40 percent chance. That's not very comforting. Then, there is an article by Charles Maynes, in the journal Foreign Policy of the last year, which really—if you want to see the dark side of life, read it, because he puts it all together and doesn't hold out much hope for our relationship.

So, there is this possible scenario.

Then there is the possible scenario of establishing a tolerable but aggravated stability. I believe this is based on a coalition of certain interests. On the Soviet side, there is a crisis in the economy. We have heard a good deal about this today and yesterday. There is a great need for Western technology, a great need for trade expansion. They have invested a good deal in the expectation of building the Siberian pipeline, and also, in their economic relationship with Japan.

So, there is this economic element. But there is also the political. The Soviets are heading for a political succession in the Soviet Union, out of which there may be an intense struggle; indeed, the struggle may be going on now. So it could be argued—and I think supporters of this scenario would say—that this suggests a need for stability at home and abroad, and that this might compel the Soviets to accept some sort of accommodation abroad.

On the U.S. side, we're faced with our own economic problems, and these problems are growing in such a dimension that it could require a scaling down of some of our defense expenditures. From what we know of the Weinberger perception of what our role should be, and the military support that we should have for this in foreign policy, it's a rather extensive globalist view of the role that we should be playing.

But the question is: Will we be able to manage to get all the resources together without sacrificing some of the important social aspects of our economy in order to build this enormous defense?

Then there is an added factor about the pressure of the anti-nuclear movement at home and abroad. This is something I don't think anyone should minimize. I think we're in a period of quiet now, because we're in a negotiating mode. But when the talk gets rough, the negotiators begin playing hardball, I think that one will see again an assertion here of this movement.

In fact, this fall there is going to be a meeting of the Catholic bishops, in which they are going to make a decision and issue a paper on this whole nuclear arms movement, particularly with respect to the theory of the "Just War in the Nuclear Age." And this is very important, because it's symbolic of a wide view of the American populace toward this nuclear movement. And from what we read so far, the most conservative of these bishops are supporting this movement. These are not the Berrigans and that type; this is the broad establishment of a large sector of American life.

This is merely symbolic of what is felt in other areas: the Jewish community, the Protestant community, right across the whole country. The main reason being, it taps a very sensitive chord in the American tradition and in the American nature.

So, I think there are these factors: economic; there is the pressure of an anti-nuclear movement that could build the pressure for a greater accommodation upon the administration.

So, I think there are, on both sides—the Soviets and us—there may be grounds for some sort of a desire for a stable relationship. But there are complications. And I think one of the key ones is the failure so far—and certainly, it will be extraordinarily difficult in the future—to establish some sort of code of conduct in the Third World.

This has been one of the things that has been most upsetting on the U.S. side during the period of détente, in Nixon's administration and Ford's. Yes, we had détente in Europe, but the Russians were really pushing out in Angola, Ethiopia, and other parts of the world. And there is a tremendous and enduring Soviet commitment here in the Third World.

So, I think this is one of the complications that will work against a real stability.

The other is the inclination of the United States to link Soviet conduct in the Third World and elsewhere to stable relationships. We know that Secretary Haig had, earlier in the administration, made this clear. He seemed to move away from it. But I would still make the point that this is always a real possibility. It's the way we act; it's the way we are.

And then, of course, another thing that makes it difficult—and we know what happened in the last weeks—the administration's strictures on building the pipeline.

So, there are reasons for a reasonably stable relationship, but there are a lot of factors that work against this.

Then there is the final scenario, the one of the rosy optimists, that of an improving relationship. People who support this argument could indeed look to the fact that both sides are now in the negotiating mode; that the MBFR and INF talks—that these negotiations are underway; that the SALT/START process has been resumed after 2½ years; so, this has begun again, and it is a positive sign.

So, I think some people might look upon this as providing some grounds for optimism, though I'm sure that they would see in this, in these negotiations, a very long and difficult time for the negotiators in Geneva, Vienna, and back in Geneva, with START talks.

But the important point to be made—and I think that the optimists would make here—is that both nations are negotiating. They are negotiating on a very central issue that lies at the heart of the trouble

in their relationship—and is vital to the whole world, virtually, and certainly to the West. This is the matter of arms control. And I think that this is a very, very important development.

Sir Robert Peel had said in the 19th century that diplomacy is that great engine of civilization, designed to keep the peace. And Kennan had said that negotiations and diplomacy provide the vital margin of safety in Soviet-American relations.

I think we could all say today that it provides the margin of survival. So, optimists could possibly see some good reasons there for a much better world for all of us, in the immediate future, in our relationship with the Soviet Union.[1]

[The complete statement of Mr. Whelan follows:]

[1] For the relevance of these three scenarios to the purposes of the Joint Economic Committee workshop, see the explanation in the last paragraph of Mr. Whelan's complete statement.

STATEMENT OF JOSEPH G. WHELAN, SENIOR SPECIALIST IN INTERNATIONAL AFFAIRS, CONGRESSIONAL RESEARCH SERVICE, LIBRARY OF CONGRESS

This statement is a reproduction of the summary of a report I had just prepared for the Congressional Research Service entitled, "Brezhnev's Peace Offensive, 1981: Propaganda Ploy or U.S. Negotiating Opportunity?"

The purpose of the report was to analyze Soviet President Brezhnev's peace offensive of 1981 and to assist those who ponder the question as to whether the offensive was and continues to be a propaganda ploy or a U.S. negotiating opportunity--or both.

The report provides some international background; highlights the formal origins of the peace offensive at the 26th Soviet Party Congress; suggests possible motives; notes certain milestones in the unfolding offensive; comments on Soviet perceptions of U.S. policy; describes the U.S. reaction and perceptions of the Soviet Union; and suggests some possible scenarios on the future direction of Soviet-American relations. Appended to the report are summaries of USICA studies on Soviet elite perceptions of the United States.

Impact of Afghanistan on Soviet-American Relations

The Soviet invasion of Afghanistan in December 1979, described as a "watershed event," fundamentally affected the course of Soviet-American relations for the next two years, and perhaps more than any other event created conditions that produced the Soviet peace offensive. The invasion triggered a renewal of Cold War tensions as the United States condemned Soviet aggression as the Soviets defended their military action on grounds of security. The invasion had a great impact on both American perceptions of the Soviet Union and on perceptions of their proper role in world affairs.

Tension permeated the international background, particularly in Soviet-American relations, as the 26th Soviet Party Congress opened in Moscow in February 1981.

Origins, Rationale, and Unfolding of the Peace Offensive

Peace offensives have always been a stock tactical instrument of Soviet foreign policy. While in the past many were blatantly and incredibly propagandistic, some contained ingredients of positive policy, imposing on policymakers the task of sorting out positive policy from propaganda. Brezhnev's report at the 26th Party Congress posed this task anew.

Peace motifs were sprinkled throughout Brezhnev's report, but the heart of the peace campaign was set forth in parts 4 and 5: the former focused on relations with the capitalist states, the latter on strengthening peace, deepening detente, and curbing the arms race. The report, setting forth an anthology of Soviet negotiating positions, many already rejected by the West, called for negotiations on virtually all major issues in East-West relations with some additions, placing responsibility for world tensions on the West while absolving themselves of guilt. Brezhnev's report was an appeal that played upon world fears of nuclear war and the Western desire for a negotiated peace. It was a statement of the Soviet desire for peace, a peaceful coexistence, however, that preserved world peace but permitted the Soviet advance towards Soviet revolutionary goals with limited risk. At the same time it represented the Soviet basis for initiating negotiations on outstanding East-West problems in much the same way that the Peace Program of the 24th Congress in 1971 provided the basis for agreements at the Nixon-Brezhnev summit of May 1972.

Brezhnev launched his peace offensive for possibly the following reasons:

-- to fulfill a natural human desire for peace and survival by seeking what could be a genuine basis for negotiations with the West on nuclear arms control;

-- to break out of the political isolation brought on by Afghanistan;

-- to seize the initiative in international relations in response to deep-rooted ideological convictions;

-- to counter the resurgence of U.S. military power, blunt its newly declared policy of involvement in the Persian Gulf region, and divide the Western alliance system;

-- to regain Soviet influence in the Third World, shaken by the invasion of Afghanistan; and,

-- to sustain Soviet involvement in an interdependent world, maintain lines of economic cooperation to the industrial West and Japan in order to reduce the failures of its economy, and minimize the danger to Soviet security posed by the Polish renewal.

During the months following the Congress, Brezhnev's offensive unfolded amid an outpouring of hard information and soft propaganda in the Soviet media. Themes established in Brezhnev's report were reiterated and expanded upon. Among the concrete manifestations of the offensive were: Brezhnev's proposal for a summit conference and arms moratorium; a proposal to establish a code of conduct in the Third World, ostensibly to avoid superpower confrontations; efforts to establish a nuclear free zone in Scandinavia; attempts to advance the peace offensive and counter the U.S. "zero option" proposal during Brezhnev's visit to West Germany in November; and the restatement of peace goals in a year-end interview over NBC television.

The record of Brezhnev's published statements on the Soviet peace offensive during 1981 was impressive. It was carried forth against a background of substantial Soviet military buildup, particularly of SS-20s in Europe. To observers in Western Europe, the offensive seemed to have two over-arching purposes: namely, to divide NATO by capitalizing on the upsurging West European anti-nuclear movement and in a longer term to isolate the United States and weaken its influence

in Western Europe. Some observers also perceived in the Soviet approach an unstated assumption on the necessity of a negotiated agreement on nuclear arms control.

Brezhnev's Perceptions of the United States and the Reagan Administration

In general, the Brezhnev approach to the United States under the new Reagan Administration was at first cautious and tentative, yet noticeably aggressive later on as it sought to politically exploit to the Soviet advantage any missteps in U.S. foreign policy.

The roots of Brezhnev's perceptions of the United States, specifically of the Reagan Administration and its foreign policy, can be found in his political and ideological heritage. Having risen to the top of the Party leadership, Brezhnev is more than just a creature of the Soviet political system: he has been a primal force in shaping the system, its policies and Soviet society itself for nearly two decades. His words and ideas reflect not only political authority; they reflect deeply engrained political beliefs and an outward perception of world reality that is skewed to those beliefs.

Brezhnev's political heritage is augmented and reinforced by his ideological heritage, consisting of theoretical formulations, tactics and strategy inherited from the past and synthesized with the realities of the present. Three basic principles of Communist doctrine appear to have shaped Brezhnev's worldview and thus his perceptions of the United States and its political leadership:

- -- belief in the ultimate victory of communism over capitalism as an outcome ordained by history;
- -- a view of the contemporary world divided into three parts, the Communist, capitalist, and leftists and other revolutionary elements in the Third World; and,

-- adherence to the concept of the correlation of forces as an organizing and operating principle in foreign and defense policy.

The combination of all three principles imparts a spirit of confidence in an assured future; gives the rationale for peaceful coexistence in the Nuclear Age; and provides a mechanism for planning in foreign and defense policy that imparts a sense of realism and pragmatism in Soviet policy.

In Brezhnev's worldview the United States, as the leader of world capitalism, is Russia's principal, and implacable, adversary. But the buildup of Soviet power in the 1970s and the changing correlation of world forces favoring socialism have compelled the United States to seek an accommodation with Moscow. Such has been the rationale for detente which until Afghanistan had opened up possibilities for fruitful negotiations. But Afghanistan brought on a deterioration of detente, a U.S. re-evaluation of policy, and a subsequent downgrading of prospects in East-West relations.

The Reagan Administration came to power with the announced determination of increasing American military power across-the-board in order to redress aspects of the shifting military balance and of contesting Soviet encroachments on a broad international front. While the Soviets initially reacted with caution towards the new Administration, it soon became evident by interacting charges and counter-charges that a renewed spirit of bellicosity had entered the relationship. Observers spoke of a Cold War II. Brezhnev's hostility towards the Administration and the conflict in worldviews were apparent in his report to the Party Congress and in his letter of May 25, in response to a handwritten one from the bed-ridden President Reagan.

To sum up, Brezhnev's overall perceptions of U.S. foreign policy under the Reagan Administrations are derived from his political and ideological heritage

and from assessments of Soviet interests within the correlation of forces existing in the world today. Prominent among the general characteristics of his evidenced perceptions are:

-- the assumption that the balance of world forces has shifted to the side of world socialism and that socialism will triumph;

-- belief in the permanent adversarial nature of the Soviet-American relationship;

-- acceptance of the idea that despite ideological differences, both sides, by taking an "objective approach" to international problems, could reach negotiated agreements on preserving the peace;

-- the assumption of renewed aggressive purposes in the Reagan Administration's foreign policy, indistinguishable from that followed by the Carter Administration after Afghanistan;

-- insistence that the United States seeks military superiority, while the Soviet Union seeks only equal security, but would counter any American effort to upset the military balance as the Soviets perceive it;

-- acknowledgment of military power as a vital factor in assessing the balance of world forces; and,

-- insistence that the Soviet Union is a force for peace, progress and the resolution of existing international problems through negotiations.

Reagan Administration's Perceptions of the Soviet Union

In most ways the American worldview is at polar opposites from that of the Soviets; in others it is undifferentiated. Rooted in the Western democratic tradition, the American worldview reflects the principles, values and popular aspirations of democracy. The Soviet worldview represents an entirely different value system. Where both worldviews converge are in their mutual respect for political realism in assessing national interests, and in the role of power in preserving those interests. Within the context of a balance of power, a tolerable

form of coexistence is, therefore, possible notwithstanding philosophical differences.

President Reagan and leading officials in the Administration have perceived the Soviets generally from what U.S. political observers termed "the conservative far right" on the American political spectrum. Differentiation between their views and those of "moderate" Republicanism was apparent in the Republican Presidential primary campaign of 1976. Governor Reagan contested the incumbency of President Ford on the concept of detente in Soviet-American relations (a "one-way street" favoring the Soviets) and an alleged inadequacy of U.S. defense (U.S. has slipped to "No. 2"). At the root of the Reagan view was a deep distrust of an aggressive, expansionist Soviet Union; a conviction that the defense of the Nation had to be improved; and that fruitful negotiations on arms control could only take place from a position of strength. In the Presidential campaign of 1980, Governor Reagan gave renewed emphasis to the dual theme of four years before.

Composite of President Reagan's Views on the Soviet Union and Communism

During 1981 President Reagan's published statements and speeches fleshed out his perceptions of the Soviet Union and communism. Notable were: the press conference of January 29; the personal letter to Brezhnev of April 24; the commencement addresses at West Point and Notre Dame University during May-June; the letter to Brezhnev of September 22 on the state of relations; and the President's "zero option" speech at the National Press Club on November 18.

A composite of these scattered published statements suggests a largely unchanging perception that may perhaps be uniquely American but one that is shared in varying degrees by some observers among other democratically inclined peoples of the world--and in some respects the Chinese; that is, their concern for

Soviet hegemonism. In this perception the Soviet Union is an expansionist power, fundamentally and increasingly aggressive and truclent; a power that promotes world revolution and seeks to establish a world socialist or communist state. Among other characteristics are: the great respect of the Soviets for power and an appreciation of its use militarily and politically; the view of communism as an "evil force" and of Communists as being unprincipled and immoral in attempting to achieve their goals; and the notion that Communists are unbelievers in God and since they operate "on a different set of standards," Americans have to be on their guard in dealing with them.

Accordingly, this moral assymmetry contributes to the President's perceptions of the Soviets a deep and abiding distrust and suspicion, a conviction that they will seek unilateral advantages and exploit flawed agreements if the other side is not watchful. The President rejects the notion that communism is the wave of the future; argues that it will fail, and is failing, because of its denial of freedom; and expresses confidence in the historic mission of the United States as a leader of free men in a world of peace and progress.

Ideology Vs. Pragmatism

The Soviet Union is thus an ideological adversary in the President's view, but more important it is also a great power adversary with whom the United States was "vitally interested" in establishing "a stable and constructive relationship." Despite "disturbing trends" in the relationship, the United States remained "committed to a dialogue with the U.S.S.R." on "critical geopolitical issues" and committed to negotiations leading to "genuine arms reductions." The relationships had to be built upon the principle of "restraint and reciprocity" and implicitly upon a mutually acceptable balance of power. Notwithstanding ideological and

political differences, it was possible to establish "a framework of mutual respect for each other's interest and a mutual restraint in the resolution of international crises."

It was from this perspective of political realism that the President's letter to Brezhnev of September 22 and his National Press Club speech of November 18th were composed. Both reflected a pragmatic, realistic bent of mind largely devoid of forthright ideological content not seen in the President's statements published earlier in 1981. Both establish the basis for negotiations. What is revealed here is a behavioral characteristic of the President; namely, an inclination to accept political realities sometimes in seeming contradiction to established ideological views. This dualistic approach to power and politics was described by one qualified political observer as "the Reagan of confrontation" and "the Reagan of accommodation."

Soviet Policy on the Back Burner

The President's perceptions of the Soviets have radiated throughout at least the upper levels of his Administration and appear to have made a considerable impact. During most of 1981 the Administration's attention was focused mainly on domestic economic problems and on expanding U.S. defense capabilities to offset the Soviet military buildup. Except for lifting the grain embargo on April 24 (a confusing signal to the Soviets, some observers said) and sharply expressed concern for Soviet involvement in the Polish crisis and in the upheavals in Central America, U.S. policy towards the Soviet Union appeared to be placed on a back burner. Brezhnev's recurring suggestions for a summit conference were turned away as the Administration seemed to pursue a policy of confrontation, perhaps more in rhetoric than in reality. For evidence began to surface in the fall of a

a division within the Administration, the Department of Defense urging a far tougher approach to the Russians than the Department of State.

On the Value of Peace Offensives for Soviet Policymakers

Brezhnev's peace offensive flourished during 1981 and has continued into 1982 with undiminished vigor. Despite some setbacks the commitment remains strong and the pursuit of its purposes unrelenting. The Soviets place a great value on peace offensives as an instrument of foreign policy. They are particularly careful, however, to insulate their own population from any reverse influx from abroad. Peace offensives give flexibility to Soviet policymakers. As an instrument for genuine peace or a weapon for political warfare, peace offensives enable Soviet policymakers to play both the "hard" and the "soft" line, often simultaneously: the "soft" at the diplomatic level; the "hard" at the military level. This is a luxury in totalitarian states usually denied to unhindered, open, democratic states though a strong, knowledgeable and prudent leadership with vision and understanding can do much to overcome many constraints. Thus, while Brezhnev professed a peace policy in 1981, he continued to build up Soviet SS-20 nuclear forces in Europe to a threatening 300. But this "hard" approach did not close off the option of seeking a genuine nuclear arms control agreement.

In brief, Brezhnev's peace offensive demonstrated one aspect of Soviet total diplomacy; namely, the skillful orchestration of political and military pressure, propaganda, and power-in-being with an essentially aggressive but ostensibly benign foreign policy in the continuous conquest of power. But the possibility cannot be ruled out, and this is another aspect of Soviet total diplomacy, that the peace offensive could contain kernels of serious policy that must be separated from the chaff of propaganda and thus may provide the basis for serious negotiations in nuclear arms control as in the Nuclear Test Ban Treaty, SALT I and SALT II.

Successes and Failures in Brezhnev's Peace Offensive

Successes and failures in Brezhnev's peace offensive cannot be measured beyond the most general appraisal of possibilities, except for the clear but temporary setback in Scandinavia. The United States had been placed politically on the defensive in Europe prior to the President's "zero option" speech in November. The anti-nuclear movement had also made some headway, particularly among young Europeans, but these concerns seemed to reflect more popular fears of nuclear war than any spirit of anti-Americanism and any appeal of Brezhnev's peace policy.

Nonetheless, the offensive no doubt had a significant impact on Soviet-American relations. Pressures emanating from Moscow combined with those from Europe and within the United States to play at least some part in the U.S. decision to open the INF talks in Geneva and to seriously consider opening START negotiations later in 1982. And, moreover, the peace offensive could have improved Soviet prospects for West European participation in building the Siberian gas line and for preserving detente in Soviet-West European economic relations.

On balance, Brezhnev suffered some losses in the peace offensive but also had achieved some offsetting gains. The most significant gain seems to be the movement towards negotiations in Soviet-American relations that opens up the possibility of slowing the U.S. military buildup and also of eventually reaching a negotiated agreement on arms control.

Impact of Brezhnev's Peace Offensive on the Reagan Administration

From the American perspective, notably the Administration's, the peace offensive and Soviet foreign policy on the whole provoked reactions in 1981 that revealed a wide chasm in Soviet-American worldviews. Characteristic of these reactions was a fixation on an unchanging past that spurred criticism, notably for an "overemphasis" upon defense at the expense of negotiating arms control.

The year's experience also re-emphasized the difficulties that beset a democracy in attempting to deal with Moscow's brand of total diplomacy. Democracies, being accountable to the people, are denied the total freedom-of-action normal in totalitarian systems; that can inhibit effectiveness in U.S. foreign policy. But many of the restrictive aspects of diplomacy in a democracy, as revealed in American diplomatic history, can be managed by a strong, knowledgeable and skillful leadership.

During 1981 the Administration's attention was focused mainly on domestic economic affairs and on expanding the Nation's defense capability. Foreign policy, except perhaps for Central America, was given a low priority. Foreign policy critics, even those professing conservative views, took exception to this imbalanced emphasis particularly when the Soviet leadership, as one critic said, had opted for the "primacy of foreign policy." For much of 1981, another critic contended, Brezhnev "had the field to himself." Year-end appraisals of the Administration's foreign policy by conservative, liberal and moderate critics reflected serious doubts about the direction of American foreign policy, particularly with respect to the Soviet Union.

But the President responded to critics, defending his strategy of arms build-up before parlaying with the Russians while at the same time supporting the idea of a summit conference with Brezhnev and professing sympathy with the purposes of the anti-nuclear war movement.

Whatever the criticism of the Administration's foreign policy in the short term, the long term judgment must wait for more perspective to allow the evolution of the historical process. The record of responsible revisionism in American history suggests the wisdom of reserve in judgment and respect for the unpredictability of outcomes perceived too close to the events.

Possible Future Direction of Soviet-American Relations

Soviet-American relations could take three possible directions in the immediate future: a continuing downturn; establishing a tolerable but aggravated stability by mutual accommodation; and a gradual improvement notably through arms control negotiations.

Qualified observers of the Soviet scene offer little optimism for an upswing in relations. Support for this pessimistic appraisal abounds on the international scene. Support for the scenario of a tolerable but aggravated stability is found in the shared economic and political needs of both countries. A basis for negotiations exists. But serious political and ideological differences exist in the Third World that work against establishing an effective code of conduct. Moreover, the U.S. inclination to "link" Soviet conduct in the Third World with arms control suggests even deeper complications.

An improving relationship is not, however, out of the question. Both sides are now in a negotiating mode. Adding elements of the second scenario to the pressures for dialogue gives grounds for some optimism in establishing a genuine balance of power in an improving political relationship. The central point in this scenario is the vital importance of the commitment to negotiations--to a continuation of the suspended SALT now START process--in what has been for over two years an environment of a dangerous tensions and political conflict. Serious negotiations towards an achievable nuclear arms control agreement cannot be ruled out as a serious Soviet goal, despite the propaganda surrounding the issue.* However broad the differences between the contending parties, negotiations offer a "cushion of safety" between peace and war.

Mr. HARDT. Thank you.
Mr. Selin, please proceed.

STATEMENT OF IVAN SELIN—QUESTIONS ON SOVIET MILITARY ECONOMICS

Mr. SELIN. The topic of this workshop is Soviet military economic relations. I would like to make two observations on the economics and then follow up on some of the remarks of my colleagues.

The first question is, Why does one even want to measure Soviet military and economic efforts? There are two quite different reasons that lead to two quite different types of analysis. One reason to measure the burden is either to get some idea of the total effort the Soviets are putting into defense or, more properly, to try to get some feeling for whether they'll be able to continue the effort that they've been making over the years.

If this is the objective of the analysis, and it's the major objective of a great deal of the CIA work, you would like to make measurements in rubles of the cost of the inputs. Of course, you would really like to have a model that says the Soviets invest so much in skilled manpower, so much in research and development, so much in steel, so much in energy, and here is what these investments do to the growth and consumption capabilities. But in order to measure the burden and get some feeling for what this burden means for future Soviet military efforts or growth, you have to measure things in rubles, not dollars. You have to measure inputs, not outputs. You have to have a fairly good model, probably better than what we now have, of how the Soviet economy works.

You need a lot of nonmilitary work to make this effort useful. You have to have some feeling, which no political scientist I know has, about what difference does it make; in other words, what level of growth will the Soviets tolerate in order to invest in defense, and what cuts in consumption, regional or national, will they tolerate?

Anyway, that's one question. It's the question most directly supported by the analysis that our intelligence communities make. It seems to me the less interesting of the questions, as far as our own political situation is concerned. I will come back to this point later.

The second question is to try to measure the Soviet defense not as burden, but as some measure that gives you a better feeling for how they stack up against us rather than just comparing airplanes, manpower, or ships in the Mediterranean. That's specifically addressed in the CIA paper, but not followed up.

Comparing individual forces in individual theaters is fine, as far as it goes. In fact, you might say that's the overall objective of defense analysis, to see how well they can do their job and how well we can do our job. But you can't ever cover the entire area. You come up with four or five force comparisons and you have huge areas of defense spending that are not accounted for in terms of military capability. But when one gets to the question of what do they spend compared to what we spend, and what difference does it make, then you get into all kinds of methodological questions that are not addressed at all.

The first, of course, is that you need a common unit of measure. You're not talking about rubles for defense compared to rubles in

the entire Soviet economy, but Soviet spending compared to U.S. spending. The index number problem that's addressed in the CIA paper comes up here, but that's really not the critical question. I think the fact that in this case you're really not interested in measuring inputs is much more important. You're interested in measuring outputs in some sense.

What difference does it make, from the point of view of comparison, what the Soviets are spending for research and development? What you want to know is the value of what's coming out in the research and development area or the manpower area.

It's interesting. You take a look at the analysis that's done of the Soviet economy. On the nondefense side we try to measure the outputs much more directly. We consider at least the Government estimates, and in fact most private estimates of the Soviet energy economy or the investment sector in general. There is not as much effort going into measuring the inputs as there is going into measuring the output of that sector of the economy.

It's not out of the question to approach the defense economy in the same way, to try to get some measure of, say, military investment or manpower for research and development, to try to measure what the output is of, say, the Soviet military investment account compared to the U.S. account. The problem is that we don't know how to do this. The major numbers of these accounts are estimated in rubles, and we have no direct way of measuring Soviet research and development in rubles. We look at what they're doing and price this in dollars and convert this to rubles, instead of the other way around.

But the point is that if one's objective is to compare U.S. and Soviet spending to get some idea not of the burden but of the size and effectiveness of the miltiary establishment, then measuring inputs really doesn't do it because there is a huge question of efficiency which is completely glossed over.

Having made these comments, I am now going to follow up on Professors Rush's and Simes' comments. First, I didn't hear Senator Proxmire's opening remarks vesterday, but my own observation is that the Soviets are in a terribly difficult situation. The Russians in general, and the Soviets in particular, have had worse times in the past, but this is probably the worst situation they've faced at least since the early 1950's. They have a terrible political situation in Eastern Europe, a very strong military force that they are faced with on all theaters, the sort of "missing next generation" that is going to come in and reform the economic machine that's been waiting for reform.

Generally, the American public thinks that the Soviet Union is either about to collapse or is invincible and there is no middle ground. I think the truth is that they are not about to collapse. It's clear that the Soviets have faced much more difficult crises in the past. In fact, the Soviets manage by crisis anyway, so things always look more like a crisis than they actually are.

But their prospects are pretty grim—at least out to the end of the century. Looking at these different pieces, I don't see collapse, but things are getting much worse for them in many areas. As Professor Simes said, it's really pathetic to see their statement of the problem and then the solutions that they come up with.

As far as the implications of these trends for U.S. actions, I don't think we have much leverage. I think, first of all, we have very little economic leverage over the Soviet Union. A grain embargo may hurt the Russians for a while, but because there is a free market economy and the United States will not be able to organize a cartel in the West, another country will naturally pick up a major part of the shipments. It's clear we're not going to have a terrific impact on the pipeline because of our sanctions. Speaking of economic, political, and military leverage, the United States probably has the least leverage in the economic area, and what little impact a significant U.S. economic policy could have is vitiated by the fact that, first, it would take discipline in the United States for something like 5 or 10 years, not sanctions for 6 months. Second, we can't impose this on our Allies. Third, it would cost us so much to try to impose this on our Allies that we'd probably back off anyway.

We may have some political leverage but it is very unpredictable. We yell and scream at the Soviets. It's very hard to figure out what their response will be, whether they will become more cautious in their dealings in Central Europe or more aggressive. In other words, given that the Soviets are in a difficult situation that is going to get worse before it gets better, and even if we knew how we wanted to affect that, I think we have relatively little political leverage because we don't understand the model well enough to know what the Soviet reaction would be to the different steps we might take.

To understand the military leverage, I think one has to follow Professor Simes' model. The Soviet military response time is extraordinarily slow. I agree with his observation that even considering some of the classified literature on what the Soviets have done to respond to particular stimuli, the answer is that they haven't done very much. They really do seem to act as if they wanted to avoid all decisions.

In the military area, in addition to the inertia in Soviet military spending since the early 1950's, there is a constant rate of growth. You take a look at how they procure weapons systems or make personnel decisions, and the feeling of inertia becomes even greater. An antiballistic missile system they were developing in the early 1950's that clearly had very little to do with the ballistic missile that we were developing was still procured in its entirety as originally planned. So there is tremendous inertia, not just at the resource allocation level but all the way through the system, that influences what they do in the military area.

Consequently, I think it's absolutely crazy to believe that the United States could take military steps to cause the Soviets to spend either more or less on defense, and therefore either beggar or redirect their economy. First, the Soviets take a very long time to make decisions. They are very slow to respond to these stimuli. Second, there is plenty of evidence that the United States has blown hot and cold. Even over a long period of time, the Soviets have been quite constant in their defense spending. And third, it's quite clear the United States doesn't have the ability to have a 10- or 15-year military program on its own, so that not only would it take a long time for the Soviets to respond, but it's almost certain that we would change our signals several times over that period.

So, I think it's pure egotism or delusion for any U.S. administration to believe that it can enter into a military policy designed to get a Soviet response and that it will have not only the wisdom but the mandate to act long enough to present the constant stimulus to the Soviets that would be long enough to elicit a particular response.

Going on a little bit, the Soviet economic base is very weak. We see terrific conflict between their economic and their military performance. As everybody has observed, their economy is slowing down. The military economy really doesn't do too badly and there are some things that they do rather well. The civilian economy does very poorly. Inertia may be a large part of the reason they've been able to keep their heavy investment in the military while the civilian economy is going down, but in spite of all the evidence to the contrary, I do not believe that the Soviets can continue indefinitely to make the kind of investments they are making in defense as their civilian economy slows down.

Professor Rush discussed the 1975 plan and expressed some surprise that the Soviets chose to cut back in their civilian investment, particularly the industrial investment as opposed to agricultural investment or investment whose ultimate value is consumer goods. He expressed some surprise that the Soviets would cut into their civilian investment and favor their military spending. My surprise is a little different. I am surprised that they would cut into their civilian investment in favor of their civilian consumption. I still took it as given that their military spending would continue at the high level for a while, but I was quite surprised, and I continued to be surprised, considering how scarce these resources are, at the willingness of the Soviet Union to cut all investment in favor of consumption, whether it's military consumption or civilian consumption.

I'm not quite sure what to make of this development, but there is one point that I would like to make. When those who see the Soviets as being fearsome and invulnerable talk about Soviet military spending, they normally portray the Soviet Government as a monolith that can impose its will on a very docile Soviet populace. According to these observers, the Soviets will just tighten their belts tighter and tighter as far as consumption goes, in order to feed their voracious military machine.

This view may have some truth, but I believe that Soviet planners are going to make major investments in consumption of various kinds, not just food, but in all types of consumption, because they have in the recent past when it's been very expensive for them. All of the Soviet models of their economy in the middle 1980's or late 1980's show such sectors as the chemical industry and transportation keeping up with the defense spending.

Their assumptions on productivity in the 11th Five-Year Plan are optimistic, they are clearly assumptions that the Soviets know are not true. The people are less well trained, a greater proportion will come from Central Asia, they can't be that productive. Furthermore, one of the major reasons that people get more productive is better tools, better capital investment to make them more productive. The Soviets have no such capital investment planned. It's clear these assumptions are lies.

A more realistic estimate of Soviet growth is even more pessimistic than that which is in the plan, and if the Soviets continue their military investment at the planned rate, not only will they continue to undercut capital investment for industrial growth, but they will not be able to support increases in consumption, and per capita consumption will probably go down instead of up.

Many will look at these conclusions and say, "So what? The Soviets clearly don't like that, but they're going to continue to let that happen."

I'm not so sure. The Soviets' actual planning and allocation of resources seems to support more interest in at least getting small improvements in per capita consumption than that model comes up to. They have the internal security mechanisms to prevent widespread riots and revolution if per capital consumption comes down. But it seems to be more important, at least to their economic planners, to see increases in consumption. The strategy isn't guns versus butter. It's guns and butter versus factories. It really is an anti-investment strategy, quite inconsistent with early Marxist writings about the importance of heavy industry and what Stalin was willing to do in order to extract savings out of the economy.

But what does this all come down to? It comes down to the fact that two things are going on, not both of which can continue indefinitely. On the one hand, if you take a look at new missile starts or floor space devoted to military production, or any of many things, it's clear that the Soviets do intend to keep up this rate of defense spending or something very close to it. It's not just from their declaratory documents. Their actions today are such that they, at least, think they are going to spend as heavily on defense, whether it's a 4-percent growth or a 5-percent growth. Not only their documents but also their current long-term defense investments are consistent with a continued, very high level of defense spending.

On the other hand, the implications for their economy are really, catastrophic—catastrophic is a little strong, but not much. And when the Soviets realize or start realizing how far short they are going to fall in the 11th Five-Year Plan or the 12th, maybe they'll take something out of defense. It's hard for me to believe that these current trends will continue.

As far as estimates of where the Soviets are going, I think the best estimate is that we can't really make a very good estimate. It may be that the point estimate of Soviet military defense spending that we currently have is the best single point estimate possible, but I think it's also likely that that's going to change. We can't change it today because I think the Soviets believe these estimates also, but we should be looking for changes in military spending that are quite marked, compared to the past. The past changes have been negligible. What we should look for is major change outside the plan. Probably the largest deviation between what the Soviets have planned and what their actions will be will occur in the next 3 years. Instead of trying to say what is the most likely single figure for the rate of growth in the defense budget or for the economy as a whole, we should be looking for and thinking now about where would we expect the changes to come if the Soviets find that their consumption goals and their defense spending goals are not consistent. Will the

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draft calls go down? Will they start pulling some troops away from the Chinese border? Do we expect to see a much lower rate of activity in their training and operations of ships?

We should be thinking now of the kinds of indicators that would come up that we could identify to see when the Soviets start trying to resolve this inconsistency. It's either going to be in consumption or defense. I can try to give a few examples, the kind of indicators one should look for in defense.

On the intelligence analysis side of things, rather than trying to do our estimates, we should be concentrating more on indicators. In a statistical sense, a nonpredictable change in Soviet resource allocation is happening.

The modernization point that Professor Simes came up with is very interesting. Would we rather have a tough, very defense-heavy Soviet economy now, or would we rather discourage them from that so they could reinvest their own civil economy and come back leaner and tougher 20 years from now? It's a pretty good point. But I would like to make a few observations on that.

First of all, the Soviets are here to stay. Regardless of other conditions, we're still going to have to deal with them 20 or 30 years from now. They can't spin themselves out of major power competition on defense now. If they're here now, they'll be here 10 years from now, they will be here 20 years from now, et cetera.

Second, they can't go on as they are going today. I think the investments they've been making today are either extraordinarily irresponsible or short-sighted and inconsistent. Whichever way they wanted to go, they should have been more realistic and made some allowances.

Third, I think the danger in the next 15 or 20 years is very significant. I am 45 now. I'd be willing to mortgage 25 years of relative peace and quiet if I thought we could discourage the Soviets from their heavy defense spending, even if that resulted in a leaner and stronger economy that was a big problem at the turn of the century. But the thing that scares me is that I don't really think there's much we can do to bring about this option.

The problem is that we don't have much leverage. If we get into discussions about which way we would like to redirect the Soviet Union, that falls into the category of science fiction.

My last point regarding the United States-Soviet relations is that not only are they rotten and that they probably will get more rotten, but that they've always been rotten. The view that we've had good times and we've had bad times and we're going through a bad period is just wrong. We've had bad times and we've had very bad times.

There have been times when we were able to conduct certain items of essential business in spite of the generally poor relations. There are times when we haven't been able to conduct these items.

Therefore, insofar as we're talking about political plans, they shouldn't depend on having a good relationship.

This general lack of affection there—they for our capitalist system and ours for what we see as a totalitarian state—almost guarantees suspicion and bad feeling on a day-to-day level.

So, the question is not: Are times going to be very bad and dangerous or will they be good and should we make concessions? Relations are always going to be terrible.

The question is: Given bad relations, what practical steps could we and they take, like arms control steps, like certain trade steps, that can work in spite of these bad relations, not with the objective of improving the relationship?

My view on arms control matters is that confidence-building measures and small agreements are never going to happen. The general suspicion of the Soviet Union in Congress is so great that the only way we'll ever get any measure, other than some minor trade measure, approved in the Congress and ratified by the Senate is by clearly proving that it is a major measure and has far-reaching benefits for the United States.

I believe that the idea of looking for a lot of small agreements, a sequence of small agreements that would improve the atmosphere for a larger agreement, is basically false. I think only large agreements that have measurable, clear benefits for the United States and, of course, for the Soviet Union, will be negotiated and ratified because of the general bad long-term relations between the countries.

There were many reasons that SALT II didn't get ratified. But one thing it needed to receive ratification was the statement, not that it was on balance a little better, rather than a little worse for the United States, but that it really did make a difference, that we would be running significant risks by not ratifying the agreement that we would avoid by ratifying the agreement.

My view as a SALT II supporter was that it didn't make that much difference. Therefore, if you would rather not have an agreement with the Soviet Union, you could safely pass on that agreement.

Mr. HARDT. Thank you, Ivan.

Before we open the discussion to the general assemblage here, it might be useful to make a couple of observations based on the comments from the panel.

One point I'd like to raise is the significance of change that has been indicated by the various panelists. The general indication has been that the significance of change in international policy may not be major in terms of reduction of military programs or improvement of international relations. The significance of economic problems becoming greater seems to be a factor, but not one of immediate importance, in terms of changing Soviet policy.

One element of change which has been alluded to but perhaps deserves a bit more attention is the succession question. That is an area of change, as Professor Simes indicated, that is likely to be, or can be, a major change in terms of short-term impacts—that is, in the near term. And if there were to be changes, changes might occur in the relatively near time frame. In short, much of the discussion has been on continuity.

Perhaps it would be useful to indicate a bit more clearly or sharply where the elements of change might occur and also, even though they are modest, what the ideal climate might be under which we might get a windfall.

Richard, do you have any comments?

Mr. KAUFMAN. I'd like to address a couple of questions—first, to Myron Rush.

In your paper, you seem to be saying that the increase in defense spending in the Soviet Union in the period from 1975 to the present

has led to a situation where the Soviets have—or face a window of limited military advantage.

Now, yesterday, we discussed the distinction between size and strength and the fact that, as economists say, increased inputs can't be automatically translated into increased outputs. But in addition, the Soviets argue that there has been no change in the military balance.

In the strategic area, it was agreed at the time of the signing of SALT II, in 1979, that rough parity existed. And nothing has happened since then to change that.

And in addition, if you look at the Warsaw Treaty countries and the NATO countries, the military situation in Europe is in rough parity.

I wonder if you would comment on the points made by the Soviet Government.

Mr. RUSH. This, obviously, is a critical question in the argument as to what the military balance is and how it may have been affected by Soviet decisions.

It does seem to me that in Europe—and here, obviously, I'm a consumer of other people's expertise—that the Soviet's advantage is probably greater than at any time since the early 1960's, or even earlier. And this has a lot to do with the cost of their defense establishment.

Apart from the strategic spending, a lot has been on theater forces, airplanes, and so forth. Much of that has gone, of course, to the European theater. So, they've really improved their capabilities at considerable expense. And I think they've widened their margin of advantage there.

In the Far East, of course, the discrepancy is even much greater. The Soviet buildup has proceeded almost since the beginning of the Brezhnev administration and has gone forward steadily—against what? Chinese military capabilities, obviously, are really not, in any sense, comparable to the Soviet capabilities.

So, there again, the margin of Soviet superiority has been increasing, again, at considerable expense, particularly in manpower, although manpower increases came earlier rather than more recently.

On the strategic side, too, parity was declared in the early 1970's, but the balance has now shifted in the Soviet favor. Whether it's significant or not is another question. But simply in terms of capabilities, I would think there can't be much question that Soviet strategic offensive capabilities against the United States are far greater now than they were a decade ago, when SALT I was negotiated.

This, again, has been costly. It may be 10, 15 percent of Soviet defense spending, but it's really increased their capabilities, their strengths, so far as we can take a gross measure of it.

The question, of course, remains: What is the political significance of all this? And here I'd like to say just one word if I may. It seems to me that when these military decisions were made to keep spending, I'm also surprised, as Ivan Selin was, that consumption wasn't cut back more. I would not explain this in terms of agricultural vested interests which do not have great strength in the Soviet system.

We used to think heavy industry was a powerful interest group. Why did it just get swept away when these big decisions were made?

I don't agree that there haven't been decisions on this issue. Big de-

cisions were made, and they were made against what's supposed to be a powerful interest group in the Soviet system, heavy industry.

But I would argue that such decisions are not made simply by the military establishment. They were made in the Politburo. It wasn't simply the successive Defense Minister's Grechko or Ustinov, saying "We need this." The Politburo also considered the political advantage that they hoped to get from their military forces. It wasn't simply that the general staff told them "Believe this." I don't think that they adopted military programs on that basis.

I think they did see a political advantage to be obtained. I don't believe that they've yet really obtained that advantage. But I think this is what was involved in the determination to continue the military buildup, to increase military spending at the expense of economic growth.

Mr. SELIN. That really asks two questions. One is: Does one really think that the Soviets have this advantage, this narrow window of advantage, that they might want to follow up on?

The second has to do with what do we think their military capability is in the balance.

There was one point I forgot to make when I was talking. I made the negative point about the Soviet's military establishment not responding particularly sensitively to either the size of the U.S. defense buildup or even to minor shifts in the composition of the defense buildup. They really do respond to field information, and the performance of some new weapons in the last several months has been abysmal.

I was really quite surprised that the Israelis made such hash of the Syrians in their activities. Their tactics and their ability to go in and jump around with the ECM devices on the SA–6 were extraordinary. The performance of our air-to-air missiles, which the British used against the Argentines, particularly the Sidewinder—the Israelis used them against the Syrians—were really unbelievable. It's really an outstanding performance that's gone far beyond morale and courage and things like that. I mean, it's just technical.

I would not be surprised if the Soviets made some major changes in their programs based on the very poor performance of their equipment, especially when compared to 1973, when their weapons did so well.

As far as Central Europe is concerned, it's not the United States and the Soviets, it's NATO and the Warsaw Pact. If you look at the forces on both sides, I agree with Professor Rush's assessment, namely that we've improved greatly, but the Soviets have done extraordinary things in terms of investment, both in terms of number and in terms of technical sophistication.

But if you're talking about their using this military force to get any political leverage, look at, say, Poland, where the Soviets relied on the Polish troops to provide logistical support to get from the Soviet Union to East Germany. I don't know how much they believed they could get out of this military capability. Division of command and the reliance on satellite forces is not significantly worse on the Warsaw Pact side than it is with us and our allies.

You have to look at this situation and conclude that whichever side is on the defensive would have enormous political advantages, because presumably the fellow who attacked would have trouble keep-

ing his allies in line and the fellow who is defending would not have such trouble getting his allies to respond.

I think both of us, for a wide range of scenarios, it would be just immobile. We rely so much, each of us, on our allies that we probably would not have to do very much.

The last point is that the percentage of the Soviet military spending that goes into strategic forces, including air defenses, is on the order of 30 to 35 percent. It's a much larger percent than the West puts into its strategic forces.

I happen to think that both sides' forces are so large that the strategic balance is not even a meaningful concept. But on the other hand, the Soviets must have made some decisions to continue to spend and spend at such a massive rate. They must think they're getting something, some political benefit out of it.

Mr. HARDT. I might add on this question that if you look at the subsidies, budgetary grants to keep the food prices down, have gone up astronomically. This represents a benefit to the consumer, not to the agricultural community, whose efficiencies are being offset by very substantial subsidies.

The order of magnitude that's illustrated by the research of Vladimir Treml at Duke University is on the order of the official, albeit low, defense figure, which is a very large figure.

And the experience of Poland is disturbing to them, because it's precisely that kind of food price subsidy level and program that got out of hand and consequently made the Polish zloty a rather impotent monetary unit.

So, the problems of their agricultural policy as it concerns consumption are a part of the decision to, in effect, not defer consumption as has been done with investment.

And in that sense, I wonder if it isn't related, again, to the question of Brezhnev himself and his old leadership, because deferring investment defers the impact of results to a successor, whereas deferring consumption would be bringing down the results either in terms of incentives or political results on his own regime. It's the current versus the future factor. But let's open it.

Mr. SIMES. Could I comment? I think Professor Rush is raising two separate questions. One is that some decision was made in 1975, when the Soviets decided to reduce investment to maintain consumption. There is no question from my point of view that he is right.

There was a decision. Incidentally, a decision in this direction was made not in 1975, but in 1970–71 at the 24th Party Congress, when for the fourth time they decided to develop group B, light and consumer industries, faster than group A, heavy industry. So there was some decision involved. They had to make some sacrifice.

The question is, however, why they made this and not another decision. And I did not try to imply that the Soviets do not believe that additional military capabilities would have some political benefits. What I tried to say is that we should not be certain—first of all, we should not be certain how the Soviets perceive military problems. Second, we should not be certain how the Soviets perceive the importance of military force as a tradeoff for arms control.

Finally, we should not be certain about Brezhnev's relationship with the military and to what extent he could simultaneously con-

tinue the policy of détente and the policy of reducing defense spending. And 1975 was a period of time when détente was disintegrating.

Nevertheless, the Soviet system was insisting that this policy would be continued. It is hard for me to imagine that Brezhnev would insist on détente and reduce defense spending in the environment of 1975.

I repeat, everything may be very different behind the facade of the Soviet political system, than it seems to an outside observer. I was not trying necessarily to offer an alternative explanation, one that I would prefer myself. I was only trying to say that there may be other explanations in addition to the Soviets' desire to exploit a window of vulnerability.

Mr. HARDT. Wayne Hall.

Mr. HALL. Thank you. Let me ask a question of Professor Simes. You spoke of the possibility of a coalition of managers and scientists and possibly the military. I don't recall whether you mentioned specifically the Ogarkov statements, but yesterday I raised this question, and I would like to raise it again with you.

What nature of action do you feel that Ogarkov and the military are really envisaging? Are they, in fact, looking for efficiency in the sense of reform of centralization of such modes, or are they looking for reform, as Dan Bond suggested, that the large decisions made by their planners in a centralized manner are better decisions, ones which would serve the military better? In which case I don't really say that would be a change of this particular factor in your coalition.

Mr. SIMES. I think for many years the military preferred a centrally planned economy. I think it is a response consistent with their basic needs, except in the last years it has stopped working, and they know it. And that is a minor problem they have to deal with.

I am not suggesting that they would be inclined to support Hungarian style reform. I am suggesting that they have come to the conclusion that the choice is between Hungarian style reforms with some reduction in defense spending and losing the race with the United States. If that was the choice they perceived, I think some influential elements in the military might be persuaded to support reorganization.

It is in this context, I believe, that the international climate plays a role. Obviously, no specific American program would affect fundamental Soviet decisions. What may affect Soviet decisions, however, is the degree of urgency they perceive the situation to require. Do they feel a great need for more? Do they feel military competition has been forced on them? And do they feel their image requires them to respond in kind?

In short, in the immediate term, it would be much more difficult for the Soviet military to support economic and political flexibility under conditions of a perceived arms race. I don't want to be misunderstood on that.

We can, and my personal preference is, that we should, proceed with additional defense programs, and I share what was said about the military balance and would go probably even a little bit further than that in terms of what I think should be done in Europe. The question is how it is presented to the Soviet Union.

My disagreement with this administration is not in terms of its attitude toward an arms buildup, which I entirely endorse, especially in terms of its magnitude and scope. My disagreement with this admin-

istration is not with respect to its attitude toward arms control. I do not believe that arms control is central to the U.S.-Soviet relationship, and I think we should pursue arms control to the degree which is required by the need to maintain a domestic and European consensus and some degree of stability.

But my central disagreement with this administration is that I believe that words and declarations do matter, that rhetoric and polemics are taken seriously in Moscow, the same way they were, and are, taken seriously in this town.

In short, whatever the substance of your policy, you can aggravate or nullify it by the manner in which you present it. And I think it is fairly important to decide if American forces are being rebuilt to communicate to the Soviet Union the limits of our intentions—how far are we willing to go?

I think that in this context conversations about preparing for nuclear war, something we do not really intend to do, are misleading.

Mr. HARDT. There are a couple of themes that we had to start with. One is a more narrow theme. That is the one of economic data and disclosure. And one of the questions that I think would be useful to add here on a more specific level is: Does it make a difference to us whether or not the Soviets disclose more on their defense expenditures or related activities? If so, what kind of initiatives or information should we make or seek?

And the broader question is: What kind of developments are in our interest in living with the Soviet Union, and what can we do that might beneficially influence these outcomes?

I realize that each of you have dealt with such issues, but if you would like to comment more specifically on those points, I think that might help us round out our three-panel set of discussions.

Mr. SELIN. I basically believe that it is futile to try to get a broad-scale improvement in information from the Soviet Union. The Soviets look at withheld information as negotiating points. Any time they give data they want to get something back. Why should they give up something for nothing? Furthermore, Stalin has been significantly criticized as having given the Germans some military information that really hurt the Soviets. Broad-scale improvement in information exchange is not going to happen.

Furthermore, given other Soviet lies on what their defense budget is, I would like to see the emphasis put on specific aggregates that are used for specific purposes rather than a broad-scale sweep for data. It would be very nice to have the numbers of troops in Eastern Europe, for example.

The particular area in which I think it is more feasible to try to get some information from the Soviets is the level of support in particular regions of the world. I personally tried in this area, but had no luck. The one kind of agreement I can see happening is an accord that stipulated no major changes in military support by either side to, say, Africa, East Asia, or Latin America without some communications in advance.

I think people tend to be sensitive, not to the absolute level of Soviet support to Yemen or Ethiopia, but to some changes that are historically out of context which seem to be a sign of something new.

Regarding military data, perhaps the most fruitful area would be to get regions and military assistance measured differently, but short of some major policy change we won't change these numbers unless we really do expect to top off some kind of activity. But I don't see any great value in the ability to ask for a lot more data than we have now.

Mr. SIMES. I completely agree with what Mr. Selin says, but I don't find Soviet information particularly meaningful. We can have debates with the Soviets. If we want to poison our relations any further in this way, we have many opportunities.

What is the value of Soviet information? Who would trust it here? The Soviets rely on our information because it is scrutinized by congressional committees and by independent media. There is no similar verification procedure in the Soviet Union, and the hope that the Soviets would come to our congressional committees or some mutually arranged commissions and behave like members of the U.S. administration, well, that is a misperception of the Soviet system.

In addition to what Mr. Selin said, greater disclosures regarding all types of nuclear proliferation is the kind of very sensitive information that we should try to get from the Soviets, but I would like to emphasize that this is very hard to do.

As far as the whole question of trade is concerned, I completely agree with Mr. Selin that it would be futile to hope we could greatly affect Soviet choices. When I mentioned the dilemma of whether we want the Soviets to become more efficient now, or later when they would appear much stronger on the global scene—I think I would like to say only that I am equally uncomfortable both with the assumptions and also with the so-called incentives.

From my point of view, Mr. Selin is entirely right. Trade provides us with very limited leverage in our relations with the Soviet Union. I do not perceive it either as an effective weapon or as an effective carrot in influencing Soviet behavior. Rather, I believe that trade should be judged on commercial and economic grounds.

Finally, more importantly, trade is a useful shock absorber in a relationship dominated by rivalry. It doesn't create interdependence or community of interest. It will not stop the Soviets in Afghanistan and especially in the Persian Gulf, but it is always nice to have some channels of communications with your rival if those channels are otherwise, for their own reasons, in your interest.

One final point regarding arms control and the dangers to the United States-Soviet relationship. Personally, as I said, I am remarkably unconcerned about the dangers of the arms race. I am concerned about the cost of the arms race. I am concerned that we are perceived as warmongers who will not be able to sustain an arms race. That, of course, bothers me. But I see little relationship between the survival of mankind and the arms race.

I think it is much more important to do what Mr. Selin mentioned, to focus on behavior, areas of instability. Again, I am not so naive that I think we will sit down with the Soviets and discuss some strict rules, how we should operate in Africa or the Persian Gulf or in Central America.

But if there is one area where there is a potential for United States-Soviet nuclear confrontation, it is, from my point of view, the Third

World, and this is the area that should be considered central to any management of the superpower relationship, not arms control.

Just today we had a message from Mr. Brezhnev regarding the situation in Lebanon, and we are told, well, don't take it seriously, what can the Soviets do. Let me tell you, very frankly, that most observers in this town, including myself, are surprised that the Soviets have not done more.

That is to support my thesis that Brezhnev's is a very inept and cautious leadership. What can they do? The Israelis are ruining their embassy. Can you imagine what an outcry there would be in Washington? Fortunately for the Soviets, they don't have Russian TV showing the Soviet embassy compound and buildings being destroyed by artillery, but I am sure that the pressure in Moscow is mounting.

Send submarines to Lebanon? Let's say the Soviets send paratroopers to Damascus. The Syrians become encouraged because of the Soviet presence and say, we will not leave the Bekaa Valley. The Israelis find themselves in a desperate position. They have lost by that time 500 men, which in their terms is a great deal, and as a result they have got Russians next door. So Mr. Begin feels that he must justify this and goes after the Syrians in the Bekaa Valley, but the Soviets feel this time they have to protect the Syrians with their own pilots.

I am not saying that this nightmarish scenario is very real, and I am not losing nights of sleep, but I am trying to show that if we are really concerned about future United States-Soviet relationships and about mankind, the danger is considerably greater than the failure of SALT or START.

Mr. WHELAN. Well, I am troubled by all this pessimism, but I think that one has to be realistic in looking at this relationship we have with the Russians, and I think of an article that Burton Marshall wrote back in the early 1950's when he was at the State Department. The article was published in the State Department Bulletin and since has been picked up and published in a lot of textbooks.

The essence of it was Americans look at foreign policy in terms of solutions. The point is you really never solve problems. You manage them.

I think in our relationship with the Soviet Union this is a very essential thing: it is the management of problems. You don't really get ultimate solutions.

The other point, in doing the study on Soviet diplomacy and negotiating behavior published by the House Foreign Affairs Committee,[1] I recall a statement by Admiral Stanley, our wartime ambassador in Moscow prior to Harriman's assignment to the post. When Secretary of State Hull was going to the Moscow conference, he wanted advice from the returning Stanley on how best to deal with the Russians. Stanley said: "Watch for their self-interest. And take care of our own. They're mighty skillful negotiators with all the trumps. . . . They don't ever give anything away, Mr. Secretary, not even for something."

[1] U.S. Congress. House. Committee on Foreign Affairs. "Soviet Diplomacy and Negotiating Behavior: Emerging New Context for U.S. Diplomacy." Prepared by Joseph G. Whelan, senior specialist in international affairs, Congressional Research Service, Library of Congress. Washington, U.S. Government Printing Office, 1979. 563 p. (Special Studies Series on Foreign Affairs Issues.)

And so, to use the expression very familiar here in Washington, that really is the bottom line: "Watch for their self-interest. And take care of our own."

Sure, you are going to have times when the relationship is going to be terrible, rotten, but these things are fairly relevant, it seems to me, to the maintenance of an orderly and peaceful relationship. As I look back to the wartime period and our cooperation with the Russians, there were very difficult times in this relationship. But there were interests involved on both sides that had to be protected. It was in our interest as it was in theirs to engage in constructive diplomacy and carry on negotiations however difficult. There are various times in the relationship when this does take place; for example, as in the cases of the test ban treaty, SALT I and SALT II. Who is to know when it may not take place again in the future?

So, there is a role for diplomacy. There is a role for the State Department and all the infrastructure for diplomacy and negotiations.

The other thing, arms control, what troubles me about it arises from a personal experience. I went through Nagasaki about 8 weeks after the bomb was dropped. And this was a rather shattering experience.

One never loses the memories, the impact refreshened by pictures taken at the time, the diary, personal letters, and all such things. There's no need to remind me of it, you see.

So, when I consider this weapon, which is only equivalent to the destructive power of a tactical battlefield nuclear weapon today, and consider the reaction of the scientists at the time who had built this bomb and realize the awesomeness of the danger to the world we live in today with its vast nuclear arsenals, I think we ought to think about this.

I think it's a very serious thing, and I think the Russians think as we do—if you push the button, you push for suicide.

So, in an environment like this, we have to have diplomacy, we have to have all these things, which may be very unpleasant, which may be very difficult. But at the same time—and here I am with Dimitri and Ivan—one has to be very limited in expectations, very limited, and look realistically to the management of problems rather than to absolute solutions.

We, as a people, this is how we react, and this is how we will react.

Mr. RUSH. Two very quick points, one polemical, one consensual.

On the polemical point, I have not expressed my views on the subject with any degree of certainty. I feel no certainty. I see a problem to be explained. Why did they do this in 1975? What happened in 1971 I think is a trivial problem.

The problem about investment, 1975, 1980, 1981, this is a big problem that needs to be explained.

Now, on the one side, there are people who say, "Of course, they did it." They don't see a problem, and I'm troubled by that. A lot of economists say, "Of course, they did it," but they didn't anticipate they would do it, so I don't find that acceptable.

I also don't find acceptable agnosticism, "How can we know?" We can know about by reasoning, by examining the situation to see how these decisions got made and then trying to arrive at judgments about

why they were made. That's what I tried to do. I am not certain about the judgment.

The conceptual point on information—it does seem to me that, unlike the late 1950's, we know a lot about the Soviet military posture, what they've bought with their money and so forth, because of our reconnaissance satellites and other means. Information they can give us about those things probably wouldn't be as useful as what we get through our own means.

They could give us information on the burden of their defense expenditures. But I don't think it's likely they'll give it to us, and we probably wouldn't find it very useful if they did.

So, there's the consensus.

Mr. SIMES. I see no disagreement between Professor Rush and myself regarding the fact that there was a decision made in 1975. That is fairly obvious.

The question is why the decision was made.

First of all, I see no reason to assume that Soviet perceptions of military balance in 1975 were exactly identical to American perceptions. I see no reason to assume that American perceptions of American intentions were identical to Soviet perceptions.

But most importantly, being an observer of decisionmaking in Washington for 10 years, I know how often decisions are made for reasons which look completely different to insiders and to outsiders, how very often you build a coalition where people support the same decision for a variety of totally different reasons.

I tried to suggest I can see a variety of different reasons which would provide an alternative and plausible explanation—I repeat not a better explanation, but an alternative and plausible explanation. One is Soviet fear of new U.S. defense programs, such as was alluded.

And if you would look at the literature at that time—I'm not talking about academic literature, but congressional debates—if you would look at the statements, you will find that that was precisely the period when a number of new and very formidable U.S. strategic programs were discussed.

I mentioned also the pessimism regarding the relations with China and the Soviets growing pessimism at that time regarding the relations with Japan.

I also mentioned that detente was increasingly controversial, not only in Washington, but also in Moscow. But the Soviets officially persisted in the policy of detente. And under those circumstances, it would be very difficult to say it is simultaneous.

As a supporter of detente and arms control, and somebody who is not devoted to national security, like Brezhnev and Ford—I am sure Brezhnev wanted to appear as a politician who wanted to support peace from the position of strength.

I mention 1971 only for one reason. It created a precedent to the effect that there were circumstances when the Soviets were willing to sacrifice, to some extent, their industrial investment in order to maintain their situation.

Clearly, as John suggested, their preference was not only in favor of military expenditure but also in favor of consumer goods.

And clearly, the Soviets felt that they had to hold with the international situation and the discontent in Poland. It was not the current crisis in Poland, but there are constantly crises in Poland. So that brought immediate pressures on the Brezhnev leadership to maintain defense spending and maintain consumer spending.

I also tried to mention that there was the realization in the Soviet Union that without spending more on consumer industries, you could not develop your heavy industry.

I was a student of John Hardt, and I know about his philosophy—of these three wonderful circles, showing the interdependence of Soviet economic problems. It was my recollection that according to John there was no way for the Soviet Union to solve its energy problem without addressing consumer industries.

What I'm trying to say is all these considerations, together with inertia, together with the special place of the military establishment in Soviet politics, all that together could explain the Brezhnev decision not to reduce defense spending—at least equally as plausible as a Soviet desire to develop a new kind of window for advantage.

Mr. HARDT. On behalf of both the Subcommittee on International Trade, Finance, and Security Economics of the Joint Economic Committee and the Congressional Research Service, I'd like to thank the panelists for their excellent presentations and all of you for the very considerable contributions that you have made, as well as for attending today.

We will keep track of your identity and be sure that you get printed copies of the proceedings.

Mr. KAUFMAN. On behalf of Senator Proxmire, I want to thank our guests and the members of the panel for participating in this workshop.

[Whereupon, at 12:10 p.m., the workshop was concluded.]

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