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Management of Warsaw Pact Weapons Acquisition: Soviet Goals and Pact Reality

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A Research Paper

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Management of Warsaw Pact Weapons Acquisition: Soviet Goals and Pact Reality



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A Research Paper

This paper was prepared by [redacted] Office
of Soviet Analysis, with contributions from [redacted]
[redacted] SOVA. It was coordinated with the
Directorate of Operations. Comments and queries are
welcome and may be directed to the Chief, Defense
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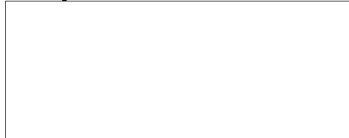
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**Management of Warsaw Pact
Weapons Acquisition:
Soviet Goals and Pact Reality**



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Summary

*Information available
as of 1 May 1986
was used in this report.*

 in the late 1960s Soviet military planners established a more demanding wartime role for non-Soviet Warsaw Pact (NSWP) forces, while at the same time Soviet economic planners launched a new drive for integration of the Soviet and East European economies. NSWP forces began to be assigned key offensive missions against frontline NATO forces. Meanwhile, East European industries were called upon to produce new technologies and equipment, particularly in the fields of computers, microelectronics, and machine tools. These measures were intended to improve Pact military and economic capabilities while easing the burgeoning strains on the Soviet Union. 


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Progress toward Soviet goals, however, was jeopardized by NSWP military and industrial deficiencies, and by the lack of a strong management mechanism to remedy them. NSWP armaments were falling behind those of Soviet and most NATO inventories in both quantity and quality, and NSWP defense and support industries were characterized by lagging military technology, slow industrial modernization, and duplication of effort. To overcome these problems, the Soviets pressed for further Warsaw Pact military and economic integration, emphasizing Pactwide military standards and extensive industrial cooperation and specialization.

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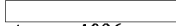
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In 1969 the Soviets set up a highly centralized, formal system for Warsaw Pact defense and armaments planning, which replaced the pattern of informal bilateral coordination of already established plans that had existed since the mid-1950s. Under this centralized system, still in operation, Soviet-driven Pact plans are the foundation upon which NSWP nations develop their five-year defense plans in a highly structured fashion during a five-year preparation period. Defense plans establish how the armed forces and the national territory should be prepared for war and document the targets for armaments acquisition. National five-year and annual state economic plans specify armaments production and delivery goals, which are closely coordinated with defense plans. 

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In theory, the Warsaw Pact countries collectively determine the directions of Pact development. The Pact's *Political Consultative Committee* (PCC) decides high-level political issues affecting collective defense. The *Council of Defense Ministers* (CDM) deals with more specific military matters and determines the main trends of development of the Combined Armed Forces



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(CAF) in accordance with PCC resolutions. The *Military Council* advises the CDM on relevant issues and works on the Warsaw Pact budget with the chiefs of the finance departments of the various nations' defense ministries. The CAF *Technical Committee* prepares recommendations for Pact armaments acquisition, studies future technical developments, and coordinates national armaments research and experimental and engineering work. Within the Council for Mutual Economic Assistance (CEMA), the *Permanent Commission on Defense Industry* supports armaments acquisition by advising the Pact decisionmaking organizations, overseeing adoption of technical standards recommended by the Pact's Technical Committee, monitoring the capabilities of each nation's defense industries, and studying and implementing recommendations on national industrial specialization and joint weapons research and development (R&D) and production.

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In reality, the Soviets have stacked the deck in this elaborate apparatus:

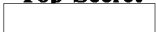
- Key positions—including the CAF Commander in Chief (CinC), Chief of Staff, the head of the Technical Committee, and the head of CEMA's Permanent Commission on Defense Industry—are always held by Soviets. Many key staff positions—such as those of the CEMA Secretariat Defense Industry Department, which serves the Permanent Commission on Defense Industry—are also largely or entirely filled by Soviets.
- The Soviets use procedural formalities—such as control of meeting agendas and delegations—to help ensure acceptance of their proposals in Pact and CEMA forums.
- The Soviets gain a great deal of information on the workings and performance of their allies' defense industries and military forces, while keeping their own capabilities secret.

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The most important instrument the Soviets use to steer Warsaw Pact force development is the planning process. Armaments planning takes place both on an alliance level (through multilateral and bilateral agreements) and individually within each state. The Soviets begin military planning about a year earlier than do the NSWP countries. The Soviet Ministry of Defense uses its own armaments planning to drive CAF planning. Using CAF planning as a base, the Combined Command

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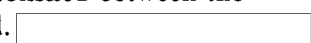
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formulates recommendations for each NSWP country on the development of its forces over the next five-year plan period. NSWP defense ministries in turn draft their own five-year defense plans, taking into account the Combined Command's recommendations. Negotiations on force development issues are then conducted between the Combined Command and the individual NSWP states, with the CAF recommendations serving as the basis for discussions. Final agreements are formalized in bilateral protocols signed by the CAF CinC and by the defense minister and Council of Ministers chairman of the NSWP state.



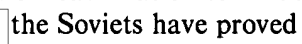
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National armaments planning is heavily influenced by the Soviets in other ways as well. Most NSWP planning organizations and processes have been organized to closely resemble their Soviet counterparts. Throughout the planning cycle, Soviet party, government, and economic officials visit and receive their NSWP counterparts and attempt to coordinate positions. The Soviets also use representatives of the CAF CinC stationed with the NSWP armies to influence planning within the NSWP states. These representatives, Soviet officers who are usually four-star generals, serve as the key links in the entire reporting system established between the individual armies and the Combined Command.



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Despite the highly structured process, planning rarely proceeds smoothly. since the mid-1970s the Soviet appetite for arms and pressure for introducing new armaments programs have grown, making bilateral negotiations progressively more difficult as NSWP countries seek to modify ambitious Soviet plans. Although the long coordination process is designed to allow each nation to influence the plan, the Soviets have proved insistent on many of their proposals. The Soviet tendency to modify agreements midplan also inhibits the effectiveness of the planning process



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We cannot confidently isolate the changes that have been wrought by the Pact planning system independent of other factors. We believe, however, that progress in equipment modernization and standardization and in development of NSWP defense industry has been significantly enhanced by the centralized system. NSWP countries have improved their military and defense industrial capabilities despite considerable economic difficulties. They have substantially upgraded their holdings of land arms and aircraft, and have tackled new and more challenging production tasks in both complete weapon systems and componentry.



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The planning apparatus affords the Soviets several advantages. It:

- Allows them to plan and closely monitor both the defense industrial capabilities and weapon inventories of their Warsaw Pact allies.
- Helps reduce the stress on Soviet defense industries and free production resources for manufacturing more advanced equipment.
- Contributes to Pact readiness for industrial mobilization for war and provides a larger base on which to draw.
- Contributes to weapons standardization in the CAF, which in turn facilitates joint operational planning, training, supply, maintenance, and repair.
- Enhances control of NSWP forces, because the dependence of each Warsaw Pact army, except Romania's, on many types of nonindigenously developed and/or produced arms would make it difficult, if not impossible, for any of the armies to contemplate any long-term action without the guarantee of external logistic support.
- Provides an image of greater consensual decisionmaking than exists, which may make it easier for NSWP leaders to claim that they have not caved in to Soviet pressure. 

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Pact coordination of armaments acquisition has had both advantages and disadvantages for the NSWP nations. The centralized planning process has formalized the necessity of responding to Soviet demands, but it has also made it easier for the NSWP nations to register their opinions and influence decisions before they are made. Although the NSWP defense industries are a generation or more behind their Soviet counterpart, coordinated planning has made possible more efficient specialization of production and helped eliminate costly duplication. Pact cooperation has kept the East Europeans from developing a broad military R&D base of their own, but has allowed them to advance R&D in profitable areas that have dual military and civil applications, such as optics, machine tools, and microelectronics. Finally, the planning process has facilitated weapons trade within the Pact, thus allowing the NSWP states to reap some of the financial benefits of producing military equipment. 

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Pact planning has not accomplished all it is intended to:

- One of the primary goals—to narrow the gap between Soviet and East European forces—is not being attained. [redacted] in 1980 the NSWP countries agreed to field by the mid-1980s ground forces similar in quality to those that existed in the Soviet Union in the late 1970s. Although their capabilities have improved, no NSWP country had met those goals by 1985, and probably few will do so by 1990.
- Even the scaled-down plans that the East Europeans have since agreed to are not being met. Most Pact countries have not bought the contracted quantities of increasingly expensive Soviet weapons.
- All NSWP countries have had problems meeting scheduled deliveries to each other and to the USSR.
- Pact members do not appear to have a cooperative mechanism for determining prices for military equipment, and both the Soviets and East Europeans reportedly sell to each other at inflated prices.
- Although some equipment standardization has been accomplished both in the factory and in the field, the record has been mixed. For example, Pact nations have at least seven types of battle tanks—with a range of gun calibers, ammunition, engines, and other features. Problems with licensing technological processes within CEMA have impeded technology sharing and have been a key factor hampering industrial standardization.
- Foreign military sales have occasionally been a source of contention between the Soviets and their allies. In the late 1970s, the Soviets proposed formal Pact coordination of military assistance to the Third World, but negative NSWP reaction caused them to call for better voluntary coordination instead. [redacted]

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In the future, the Pact system of planning and management will probably be tasked with even greater challenges. Under Gorbachev's drive for industrial modernization, heavy demands are being levied on the Soviet machine-building sector, which produces military arms and equipment as well as consumer and producer durables. The Soviets may be hoping to



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alleviate some of the stress on this sector through a gradual increase of the NSWP role in Pact military production. They will want to guard, however, against NSWP countries wresting back some of the economic and military clout these countries have forfeited through their dependence on the USSR for weapons. They will also want to ensure that NSWP countries do not become overextended, jeopardizing other commitments to the USSR and their own industrial modernization. To maintain their influence and to steer their military-economic relations with the NSWP countries in a direction compatible with their interests, the Soviets will probably depend heavily on the Pact planning and management system, and they may seek to broaden still further its scope and authority. 

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**Management of Warsaw Pact
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Soviet Goals and Pact Reality**



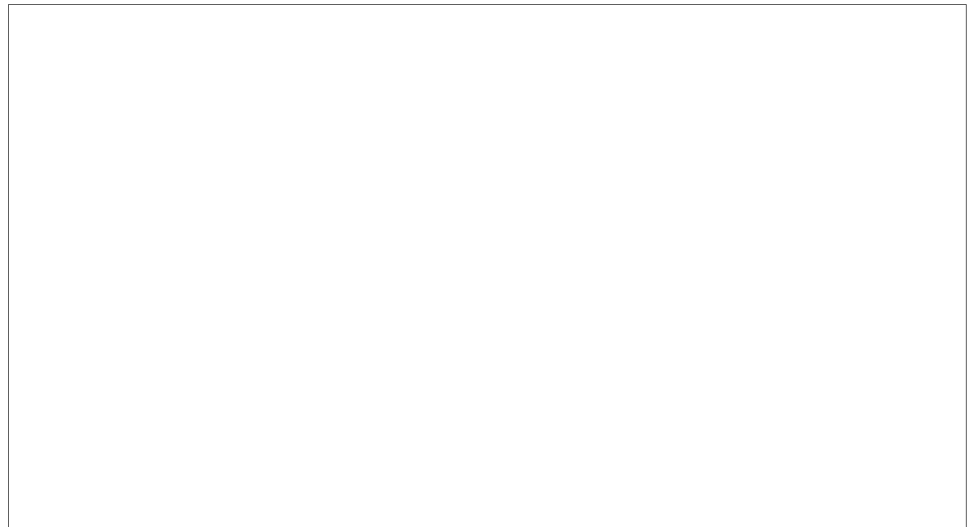
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Preface


This research paper describes the Warsaw Pact system for planning and managing armaments acquisition and evaluates the system's success in helping to meet Soviet and Pact goals.



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 all of the conclusions in this paper can be supported with documentation, but many cannot be rigorously proved. Nevertheless, we think that we are able to present a fair picture of Pact relations in the field of armaments acquisition.



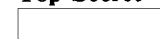
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Management of Warsaw Pact Weapons Acquisition: Soviet Goals and Pact Reality



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Background

After World War II, the Soviets stripped Eastern Europe of much of its valuable capital stock for use in rebuilding Soviet industry that had been destroyed in the war. Once new Communist leadership had been installed in the East European nations, the Soviets guided the restoration of the East European industrial infrastructure, emphasizing the creation of heavy industry and military-related production capabilities. To increase their control over military production in Eastern Europe, the Soviets oversaw the establishment of procurement and defense-industrial bureaucracies similar to the Soviet models.

The domestic industries of the non-Soviet Warsaw Pact (NSWP) countries were being built up, but these countries still purchased a substantial portion of their military hardware from the Soviets. Most of these weapons were models that were being replaced in the Soviet armed forces with newer equipment. These sales often allowed the Soviets to profitably dispose of older equipment, rather than retiring it.

During the early postwar period, weapons trade within the Bloc was handled primarily on an informal bilateral basis. Such trade continued even after the creation of the Council for Mutual Economic Assistance (CEMA) in 1949 and the establishment of the Warsaw Pact in May 1955. Although national plans were first coordinated for the 1956-60 period, cooperation up until the late 1960s was mainly of a stopgap nature, according to CEMA open-source literature, and oriented to alleviating shortages. Furthermore, most weapons trade assumed a radial pattern, with the USSR at the center. Trade relations among the East European nations themselves—whose World War II animosities lingered on—remained limited.

A number of problems that began to converge in the mid-to-late 1960s led the Soviets to reconsider their armaments procurement strategy. They began to recognize the need to accelerate the modernization and

upgrading of their defense industrial base to keep pace with the more stringent manufacturing requirements of new advanced weaponry.¹ At the same time, strains in the domestic economy, expanding military technology frontiers, and the need to counter improving foreign military capabilities were undermining their ability to equip and maintain their large standing armed forces.

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Complicating the situation was the poor condition of the forces of the Soviets' Warsaw Pact allies.

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Soviet military planners envisioned a marked change in the wartime role of the NSWP forces. These forces began to be assigned key offensive missions against frontline NATO forces—albeit on the less critical flanks of the Soviet offensive. Expansion was limited, however, by the level and quality of NSWP armaments, which were falling rapidly behind those of the Soviets, as well as those of NATO. Although NSWP defense and support industries had grown both in capacity and capability, they were not addressing these problems, nor was there any mechanism to see that they did.

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The late 1960s and early 1970s marked the beginning of a new stage in both Pact and CEMA cooperation. In the Pact the 1969 Peacetime Statute² established the mechanisms and provided the legal framework for closer coordination of Pact military requirements. Using the formal armaments decision-making structure created under the 1969 Statute, the

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² A Warsaw Pact Wartime Statute, which created a system of Theater High Commands and a Supreme High Command for the conduct of war, was adopted in 1980

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Soviets have been able to gradually increase their control over armaments planning for the Warsaw Pact and to begin to build up the still limited capabilities of their allies' defense industries. In CEMA the 1971 passage of the Comprehensive Program for the Further Extension and Improvement of Cooperation and the Development of Socialist Economic Integration by the CEMA Member Countries provided new impetus for coordinating research and development (R&D) and production, including military-related activities.³ Integration of Pact arms acquisition—increased NSWP purchases of Soviet weapons and military equipment supplemented by a buildup in NSWP military production capabilities—was probably seen as the best way to achieve the goal of modernizing NSWP forces. 

that overriding priority be given to investment in civilian machine building, leaving little room for increasing the growth rate of expenditures for procurement of military hardware. At the same time, the costs of meeting military requirements for increasingly sophisticated weaponry have been steadily rising. Although the Soviets probably recognize that prospects for significant near-term increases in East European defense spending are dim,⁴ they may be counting on the possibility that some increase in and greater orchestration of NSWP military production could lessen the impact of the slow growth in their own procurement spending. 


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Warsaw Pact Armaments Acquisition: Roles and Responsibilities

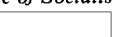
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Further integration of Pact arms acquisition—and greater emphasis on NSWP production capabilities to provide weapons and components—probably appears even more attractive to Soviet leaders today. General Secretary Gorbachev's intention to replace outmoded industrial plant and equipment and to shift the economy to a more advanced technological basis requires


The Mechanisms

Warsaw Pact armaments acquisition is managed through political, military, and economic channels. Party and government leaders periodically meet to establish Pact and CEMA multilateral agreements, as well as bilateral agreements, on weapon production and delivery. Leaders are supported by representatives of the military, meeting in Pact and bilateral forums, and by planning, industrial, and foreign trade officials, meeting under CEMA and bilateral auspices. These mechanisms are coordinated and operate concurrently. 

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³ According to CEMA authors, the socialist economic integration of CEMA nations requires three stages. The *first stage*, begun under Khrushchev in 1962 and completed in the late 1960s, created an initial economic and organizational structure on the basis of previous economic cooperation. In this stage general guidelines for future cooperation evolved. The *second stage*, which began in the early 1970s and is expected to extend over several five-year periods, is a time of "structural integration." In its initial phase, cooperation extends to all levels of economic organization, and there is a convergence of the levels of technological development. This will require a "transition to forms of planned interaction" to ensure "a merging . . . on all main levels of planning and economic management." In the last phase of structural integration, efforts will be devoted to completing establishment of an optimal international division of labor. Characteristics of the *third stage*, called "a matter of the fairly dim and distant future," are unclear at this point. This stage will signify a "rejection of the integrational process itself, inasmuch as there will be a merging of the participants in this process—national economic complexes—into a single economic entity." According to this delineation of the process of socialist economic integration, CEMA is still in the initial phase of the second stage of integration, where it has been since the Comprehensive Program was passed in 1971. See O. T. Bogomolov (USSR), V. Kves (Czechoslovakia), W. Kuntz (GDR), Ye. S. Shirayev (USSR), "Socialist Economic Integration: A Natural Step in the Development of the World Socialist Economy" in K. I. Mikulsky, *CMEA International Significance of Socialist Integration* (Moscow: Progress Publishers, 1979). 

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Within the Pact. The Warsaw Pact defense planning system in effect today was established in the early 1970s primarily on the basis of the March 1969 Peacetime Statute. This system is highly centralized and an extension of the Soviets' own defense planning. 

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In theory, Pact organizations—the Political Consultative Committee (PCC) and the Council of Defense Ministers (CDM)—determine the directions of Pact development (see figure 1). The PCC, which is composed of the general (first) secretaries of the various national Communist parties, usually accompa-



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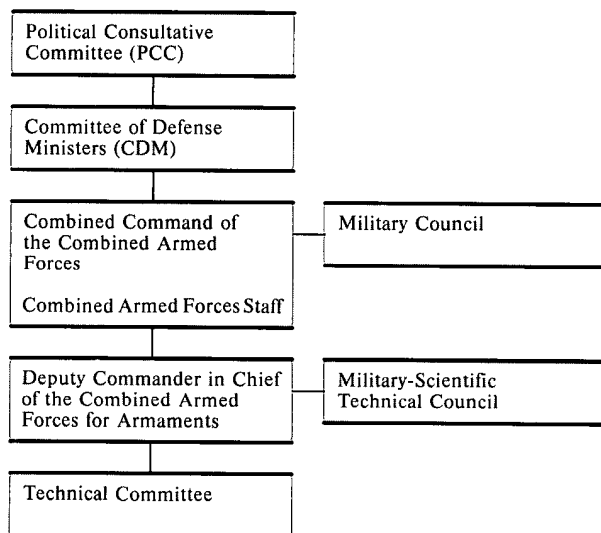


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Figure 1
Warsaw Pact Structure for Defense Decision Making



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nied by their premiers, has generally met twice every five years to examine high-level issues affecting collective defense.⁵ Western press reports indicate, for example, that, at its November 1978 meeting, the PCC decided that all Pact members were to increase their defense expenditures. The CDM, composed of the defense ministers of the Pact nations plus the Combined Armed Forces (CAF) CinC and Chief of Staff, meets annually to deal with more specific military matters and to determine the main trends of development of the CAF in accordance with PCC resolutions. The Military Council, composed of

⁵ Gorbachev has announced his intention to hold annual meetings of the PCC. We believe that this move is largely intended to increase the display of Pact unity, and does not augur a greater NSWP voice in Pact direction.

A Comparison of Warsaw Pact and NATO Arms Acquisition Structures

At first glance, Warsaw Pact and NATO armaments acquisition structures appear similar. The Pact has the Technical Committee chaired by the Deputy CinC of the Combined Armed Forces and the Military-Scientific Technical Council to deal with weapons matters; NATO has the National Armaments Directors' Representatives (NADREPS) and the Council of National Armaments Directors (CNAD), chaired by the Assistant Secretary General for Defense Support. The armaments acquisition structures in place in both alliances today were created in the late 1960s. The Pact and NATO share similar interests in weapons acquisition and management—including standardization, economy, efficiency, combat readiness, elimination of duplication in research and development, organization of effective maintenance and repair, and preparation of national infrastructure for war. In both systems, the superpower nation produces and supplies its allies with a substantial quantity of major weapon systems.

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The Warsaw Pact, however, is a supranational organization having authority over its members, whereas NATO is an intergovernmental alliance based on consensus. This affords the Soviets—who effectively control the Pact apparatus—considerably greater influence over their allies. In armaments acquisition, NSWP countries must negotiate on Combined Command/Soviet proposals bilaterally and have no independent organization through which they can share information or coordinate policy. NATO countries, on the other hand, in 1976 formed an Independent European Program Group (IEPG), intended to promote defense-industrial cooperation among the European allies. Although formally independent of NATO, the IEPG includes all the European allies except for Iceland, which has no indigenous defense forces, and meets at NATO headquarters at Brussels. The United States has supported the efforts of the IEPG to build up European defense-industrial capability and has made several proposals to coproduce various weapon systems with the East Europeans. In general, non-US NATO countries can and do exercise considerably greater initiative and independence in armaments acquisition than do NSWP countries.

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all the deputy CinCs of the CAF, advises the CDM on relevant issues and works on the Warsaw Pact budget with the chiefs of the finance departments of the various nations' defense ministries. See the inset on page 3 for a comparison of the Pact decisionmaking structure with that of NATO. 

In reality, the primary objectives for Pact armaments acquisition appear to be set by the Soviet political and military leadership and conveyed through Warsaw Pact organs. The Soviet Ministry of Defense—and, specifically, the Operations Directorate of the Soviet General Staff and the office of the Soviet deputy minister of defense for armaments ⁶—has the most influence in the process. Defense ministry organizations establish the basic force development requirements, which serve as the basis for NSWP country negotiations. Points considered include the manpower and equipment of the various NSWP armed forces in peacetime and wartime, their organizational structure, armament and equipment requirements, combat readiness levels and mobilization preparations, and tasks for preparing national territory to serve as part of the theater of military operations in wartime.⁷



The Soviets use procedural formalities to help ensure acceptance of their proposals. The issues to be considered by both the CDM and the Military Council are approved by these bodies a year in advance, and the agenda for each meeting is prepared by the CAF CinC, Chief of Staff, and a temporary secretariat staffed by Soviets. The presence of the Soviet CAF CinC and Chief of Staff on the CDM, which operates according to majority rule, helps the Soviets control the measures that are passed in that body. Since all other countries are permitted one voting representative, the two extra Soviet votes could allow the USSR to prevail, if an issue were put to a vote. 

 however, the Soviets will rarely allow an issue to come to a vote if they do not feel cer-

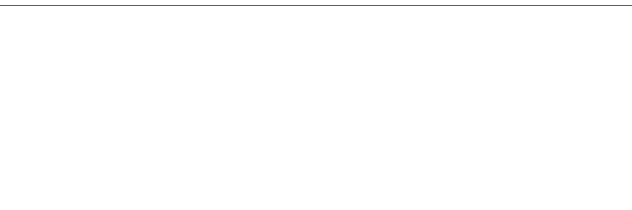



Figure 2. Col. Gen. Ivan Fabrikov, Deputy Commander in Chief of the Combined Armed Forces for Armaments and Chief of the Warsaw Pact Technical Committee. 


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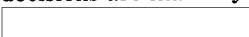
tain that their position will win out. In the Military Council, the Soviets have eight representatives to the NSWP nations' six, because all CAF deputy CinCs for branches of services are Soviets. The USSR's influence on decisions is further enhanced by the reported inability of the NSWP countries to team together in opposition. This is probably caused partly by intimidating Soviet scrutiny of allied activities, lingering discord among the NSWP states, and differing perceptions by each of its own interests.



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The primary Warsaw Pact organization concerned with weapons procurement is the Combined Armed Forces Technical Committee, created under the 1969 Peacetime Statute. Headed by the Deputy Commander in Chief of the Combined Armed Forces for Armaments, Soviet Col. Gen. Ivan A. Fabrikov (see figure 2), the Technical Committee recommends development and acquisition of armaments for Warsaw Pact forces. The Committee studies future technical developments and coordinates national scientific research and experimental and engineering work connected with weapons acquisition. 

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The Technical Committee, based at Combined Command headquarters in Moscow, is also dominated by the Soviets. Although representatives of national deputy defense ministers responsible for armaments serve on the Committee,  all decisions are made by the Soviet department heads.  NSWP representatives are there solely to answer questions regarding their own

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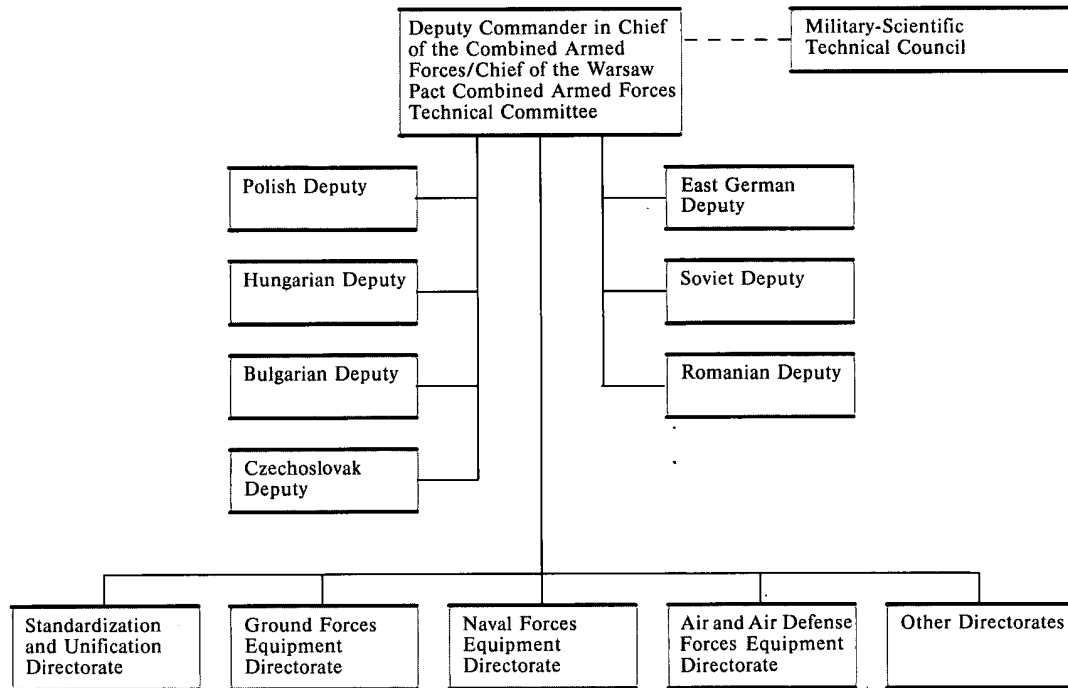


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Figure 3
Probable Structure of the Warsaw Pact Technical Committee



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forces. The entire Technical Committee is composed of no more than 80 to 100 officers and a small civilian support staff (see figure 3).

research conducted in the Warsaw Pact nations and formulates and refines standards and requirements for the design of armaments and military equipment. It also reviews proposals by individual Warsaw Pact countries for weapons to be accepted as standard Warsaw Pact armament. Recommendations of the Council must be submitted for the approval of the CAF CinC, Soviet Marshal Viktor Kulikov.

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The Military-Scientific Technical Council, attached to the CAF Deputy CinC for Armaments, reviews and endorses the most important recommendations prepared by the Technical Committee. The Council is composed of the national deputy ministers of defense responsible for armaments (see figure 4). According to a Hungarian author writing in the Hungarian newspaper *Nephadserg*, the Council studies scientific

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Figure 4
Selected Pact Deputy Defense Ministers for Armaments



Army General
Vitaliy Mikhaylovich Shabanov
Deputy Minister of
Defense for Armaments



Colonel General
Joachim Goldbach
East German Deputy Minister of
National Defense for
Technology and Weapons



Lieutenant General
Victor Stanculescu
Romanian Deputy Minister of
National Defense for Weapons



Colonel General
Boris Stefanov Todorov
Bulgarian Deputy Minister of
National Defense for Armaments

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Within CEMA. Although most of the structure for cooperative armaments decisionmaking was probably set in place in CEMA in the late 1950s, the formal process now in use in CEMA was developed as a result of the 1971 Comprehensive Program (which, like the Warsaw Pact Peacetime Statute, was actually proposed in 1969). The main organ of the Council concerned with armaments production and deliveries is the CEMA Permanent Commission on Defense Industry (see figure 5), whose existence the Soviets never publicly acknowledge. [Redacted]

[Redacted] other CEMA bodies are

excluded from defense planning—except in the context of coordinating overall production and trade plans. The Commission, which, according to standard CEMA practice, probably meets formally at least twice a year in Moscow, is composed of delegations from each of the CEMA nations. [Redacted]

each national delegation is usually led by a deputy

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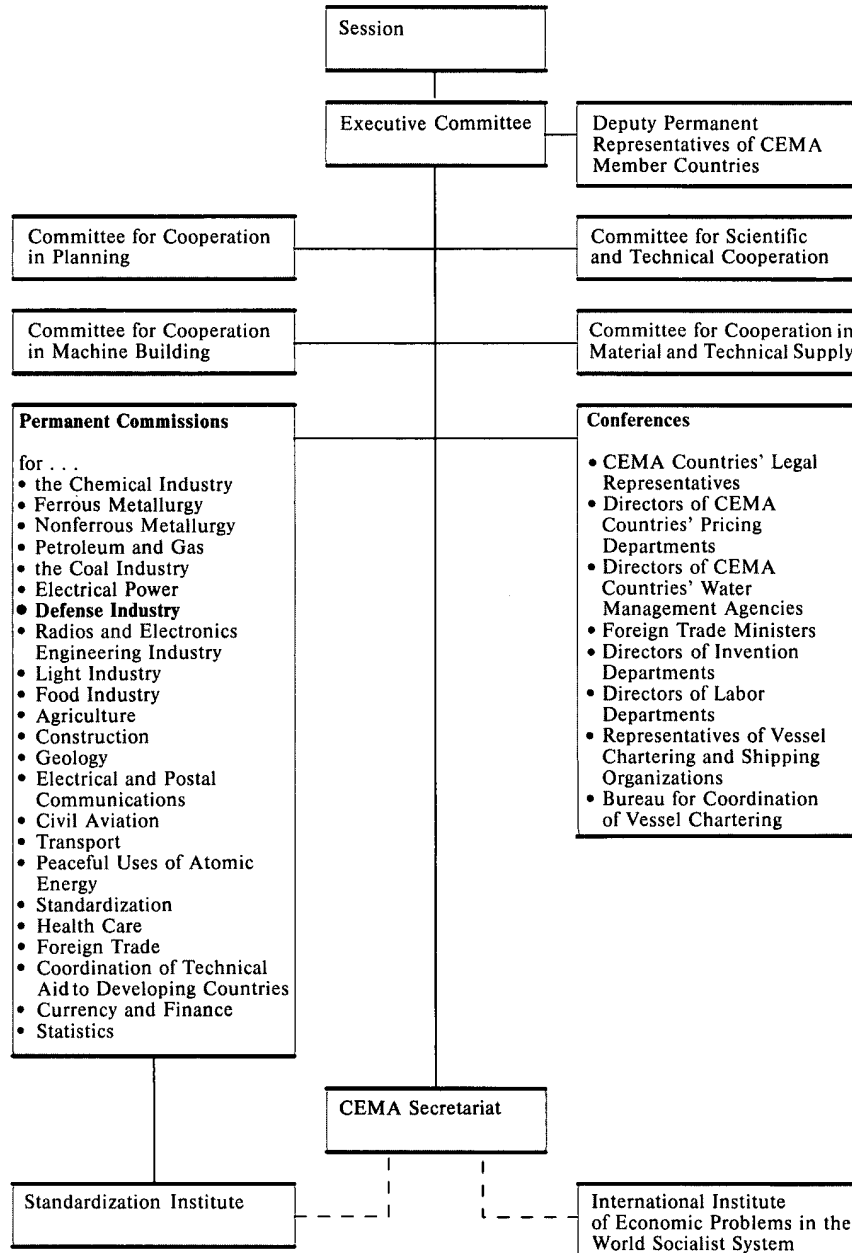
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Figure 5
Organization of the Council for Mutual Economic Assistance (CEMA)



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chairman or chairman of the state planning organization and includes representatives of the finance ministry, the machine-building ministries that produce defense industrial goods, the foreign trade ministry, and the defense ministry. Meetings are also attended by representatives of the non-Pact CEMA nations—Cuba, Mongolia, and Vietnam. In all, approximately 150 delegates attend each meeting. 


The CEMA Permanent Commission on Defense Industry supports the Pact armaments acquisition process, acting informally as an advisory body to the Warsaw Pact Technical Committee. It serves as a reservoir of information on the industrial capabilities of each nation's defense industries, although it does not have the military big picture in terms of forces and tables of organization and equipment (TO&E). The Commission studies recommendations on coproduction, specialization and other cooperative production, and R&D activities prepared by intergovernmental commissions on economic and scientific and technical cooperation, and helps arrange their implementation. Standing and ad hoc working groups meet on a more frequent basis to work on problems in cooperation in specific categories of weapons. The Defense Industry Department of the CEMA Secretariat, located in Moscow (see figure 6) and organized according to branches of industry, provides the staff for the Permanent Commission. 






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In CEMA, as in the Warsaw Pact, the USSR appears to be the primary driver of requirements and demands for armaments and related military equipment:

Figure 6. Headquarters of the Council for Mutual Economic Assistance (CEMA) in Moscow, where the CEMA Secretariat Defense Industry Department is located. 


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- The head of the Soviet delegation chairs the Commission, according to the CEMA statute providing that the host country furnish the chairman. 
 the Soviet delegation head is always the Soviet first deputy chairman of the USSR State Planning Committee (Gosplan) responsible for the defense industries.
-  the Defense Industry Department of the CEMA Secretariat is staffed entirely by Soviet nationals. The Secretariat department organizes the agenda for commission meetings, determines the location and dates of ad hoc meetings, and controls the list of delegations.

-  the chief civilian organ coordinating production planning, mutual deliveries, and repairs of armaments for the Warsaw Pact is in reality Gosplan.

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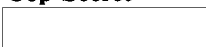
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More generally, East European economic officials are occasionally called upon to give industrial tours or reports on production programs arranged under CEMA auspices to CAF Deputy CinC for Armaments Fabrikov. 

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[redacted] the Soviet defense industries are not within the purview of the Permanent Commission. If this is indeed the case, the Soviets have institutionalized a system in which they have a great deal of access to information on the workings and performance of their allies' defense industries without the reverse being true. The one-way nature of this information flow would hinder the ability of the NSWP countries to contest Soviet claims about domestic capabilities and achievements and thus would represent a powerful tool for the Soviets in the negotiation process. [redacted]

entire reporting system established between the individual armies and the Combined Command. Their role varies depending on the attitude of the host party and government, but their official mission is to render assistance to their host armies in matters of defense planning and preparation. In addition to "rendering assistance," however, CAF Reps influence important national security decisions. At least some CAF Reps have assistants for armaments and equipment. [redacted]

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Ongoing Functions

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Nevertheless, because CEMA statutes stipulate that participation in any CEMA-ordained activity is voluntary, the Soviets probably wield less control in CEMA channels than in the Pact. Pact activities are at least nominally voluntary as well; Romania, for example, has chosen not to participate on many occasions. [redacted] the Pact's mission of alliance security makes it difficult for most countries to opt out of Soviet-imposed Pact activities. [redacted] CEMA is a more legalistic organization than the Pact and that East European countries have much greater leeway in determining what they will or will not do under its auspices. This is probably why the Soviets have made the Pact Technical Committee the main forum for determining the requirements for NSWP armaments acquisition. [redacted]

The Warsaw Pact and CEMA bodies perform various tasks to supplement or ensure implementation of Pactwide armaments acquisition plans. These include coordinating national R&D of military technologies and equipment; arranging for coproduction and specialization in armaments production; and coordinating and monitoring foreign military sales. Two additional functions—regulation of the Pact inventory and monitoring armaments deliveries and assimilation—provide essential contributions to the planning process, the means for developing the CAF. [redacted]

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Regulating the Pact Inventory. The Warsaw Pact Technical Committee, supported by the CEMA Permanent Commission on Defense Industry, plays a key role in helping the Soviets shape the CAF to meet operational requirements. One of the primary ways the Soviets do this is by using the Technical Committee to closely monitor and supervise the TO&E of their Pact allies and to control the list of armaments and equipment approved for Pact use. The Technical Committee evaluates new weapon systems for possible inclusion on this list and passes all decisions on to the CEMA Permanent Commission on Defense Industry, which keeps the list up to date. [redacted]

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Within the Individual NSWP States. Warsaw Pact plans and decisions are incorporated in individual NSWP plans by military and civilian authorities within each country, but even here the armaments planning process is heavily influenced by the Soviets. Most NSWP planning apparatuses and processes have been organized to closely resemble their Soviet counterparts (see table). Throughout the planning cycle, Soviet party, government, and economic officials visit and receive their NSWP counterparts and attempt to coordinate positions. [redacted]

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The Soviets also use another mechanism—representatives of the CAF CinC stationed with the NSWP armies (CAF Reps)—to influence domestic planning within the NSWP states. CAF Reps, who are usually four-star Soviet generals, serve as the key links in the

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Key National Players in Warsaw Pact Armaments Acquisition Planning

	USSR	Bulgaria	Czechoslovakia	East Germany	Hungary	Poland	Romania
Party General or First Secretary	Mikhail Sergeyeovich Gorbachev	Todor Khristov Zhivkov	Gustav Husak	Erich Honecker	Janos Kadar	Wojciech Jaruzelski	Nicolae Ceausescu
Party Secretary with responsibility for defense matters	Lev Nikolayevich Zaykov	NA	NA	Egon Krenz	Istvan Horvath	NA	NA
Chairman, Council of Ministers	Nikolay Ivanovich Ryzhkov	Georgi (Grisha) Stanchev Filipov	Lubomir Strougal	Willi Stoph	Gyorgy Lazar	Zbigniew Messner	Constantin Dasculescu
Chairman, State Planning Committee ^a	Nikolay Vladimirovich Talyzin	Ivan Stoyanov Iliev	Svatopluk Potáč	Gerhard Schürer	Lajos Faluvégi	Manfred Gorywoda	Stefan Birles
Deputy Chairman, State Planning Committee responsible for defense industries ^{a b}	Valentin Ivanovich Smyslov	Lt. Gen. Dimitur Dimitrov	Lt. Gen. Viktor Surka	Lt. Gen. Wolfgang Neidhardt	Maj. Gen. Gyorgy Doro	Army Gen. Jan Zielinski	Col. Gen. Constantin Sandru
Deputy Chairman, Council of Ministers, responsible for defense industries	Yuriy Dmitriyevich Maslyukov	Ognyan Doynov	NA	NA	Army Gen. Lajos Czinege	NA	NA
Deputy Chairman, Council of Ministers, responsible for CEMA affairs	Aleksey Konstantinovich Antonov	Andrey Karlov Lukanov	Rudolf Rohliček	Günther Kleiber	NA	Wladislaw Gwiazda	Ioan Totu
Defense Minister ^c	Marshal Sergey Leonidovich Sokolov	Army Gen. Dobri Yordanov Dzhurov	Col. Gen. Milan Václavík	Army Gen. Heinz Kessler	Army Gen. Istvan Olah	Army Gen. Florian Siwicki	Col. Gen. Vasile Milea
Chief of General Staff of the Armed Forces ^{c d}	Marshal Sergey Fedorovich Akhromeyev	Col. Gen. Atanas Georgiev Semerdzhiev	Col. Gen. Miloslav Blahnik	Col. Gen. Fritz Streletz	Lt. Gen. Jozsef Paczek	Division Gen. Jozef Uzycki	NA
Deputy Defense Minister for Armaments ^e	Army Gen. Vitaliy Mikhaylovich Shabanov	Col. Gen. Boris Stefanov Todorov	Lt. Gen. Vladimir Smakal	Col. Gen. Joachim Goldbach	Maj. Gen. Sandor Kiss	Army Gen. Zbigniew Nowak	Lt. Gen. Victor Stanculescu

^a In Poland, the planning organization is called the Planning Commission; in Czechoslovakia and East Germany, the State Planning Commission; in Hungary, the National Planning Office.

^b In the USSR, First Deputy Chairman.

^c In Poland, Romania, Bulgaria, Czechoslovakia, and East Germany, Minister of National Defense.

^d In East Germany, the Main Staff.

^e In Romania, Deputy Minister of National Defense for Weapons and Supply.

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A key objective of Pact planners is to standardize and unify Pact armaments (see inset). Standardization of Pact weapons and equipment has been of increasing importance to the Soviets since at least the mid-1970s. In his book *The Collective Defense of Socialism*, Marshal Kulikov wrote that beginning in the 1970s the Pact nations were "endeavoring to achieve increasingly greater standardization of weapons, which greatly facilitates both the manufacture and organization of supply, repair, and maintenance of combat equipment and its planned, scheduled upgrading and replacement."⁸ [redacted]

Efforts to standardize products produced by CEMA nations actually date back to the creation in 1962 of the CEMA Permanent Commission on Standardization (although steps to standardize the machine-building field began as early as 1957). The Commission is based in East Berlin with an East German chairman, but depends on a Secretariat department and the Institute for Standardization (with a Soviet director) based in Moscow. These bodies issue recommendations on standards to all other CEMA commissions—almost certainly including the CEMA Permanent Commission on Defense Industry for military production—and incorporate, in return, proposals for standardization measures into overall CEMA programs. According to one Soviet author, the Soviet sections on the CEMA permanent commissions supervise and coordinate preparation of all related materials with interested organizations of the USSR and with the delegations of other CEMA countries. [redacted]

As NSWP defense industries began to produce greater quantities and more diverse types of weapons and weapons components, standardization throughout the Pact became increasingly important. Apparently CEMA was unable to foster sufficient standardization to satisfy the military, because in 1977 the Warsaw Pact became directly involved, with the establishment of a Unification and Standardization Directorate in the Technical Committee. Since that time there has been a division of labor between the Technical Committee and the CEMA Permanent Commission on Defense Industry: the Technical Committee reviews

⁸ V. G. Kulikov, *The Collective Defense of Socialism* (Moscow: Voenizdat, 1982). [redacted]

The Benefits of Standardization

According to Soviet definition, standardization of military equipment involves the setting of optimal norms, indicators, requirements, guidelines, and methods for use in the design, production, testing, acceptance, operation, and repair of military equipment. Unification, the most effective type of standardization, means the use of the smallest optimal number of different types of weapons, military equipment, and related subassemblies and components across services and across national forces. [redacted]

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Standardization benefits the military in several ways, particularly when different forces need to work together. Standardization of weapons and equipment:

- *Shortens design time and lowers costs for development and production by allowing increased production of a smaller number of items.*
- *Allows their more effective use because of reduced troop training requirements and simplified procedures for supply and maintenance.* [redacted]

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In industry, according to the former chairman of the USSR State Committee for Standards V. V. Boytsov, standardization "simplifies the solution of diverse and technical problems connected with the rational utilization of natural resources, coordination of economic plans, expansion of trade and economic collaboration . . . and improvement in the products' capability to compete in world markets." [redacted]

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standardization proposals generated by the individual national armed forces, and the CEMA Permanent Commission incorporates the proposals approved by the Technical Committee into its programs and plans for standardization. Measures accepted include:

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- Development of standards for components, ancillary items, and materials that aid in interchangeability and use of specific weapon systems by all or some of the armies.
- Establishment of common documentation systems for technical specifications, designs, technologies, weights and measurements, operation and repair.
- Development of a system of classifying and codifying military production.
- Introduction of common terms, markings, and sizes.



systems. Some NSWP officials reportedly began to occasionally hold back on the technical information they supplied the Soviets.

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Hundreds of CEMA standards for military equipment and many analyses of areas in which further standardization could be achieved have been generated since the late 1970s. The Technical Committee receives reports from the national armies, CAF representatives, and the CEMA Permanent Commission on Defense Industry on the progress made in carrying out these measures for use in its regulation of the list of armaments accepted for Pact use.

The Soviets do accept some NSWP-originated major systems for Pact use. One example is the Czechoslovak DANA self-propelled howitzer, which meets most of the same tactical-technical requirements as the Soviet 2S3 152-mm howitzer but is mounted on a wheeled rather than tracked platform. Such acceptance probably most often occurs when the Soviets see a need for a particular type of equipment that they are not prepared to meet themselves and an NSWP product of similar or higher quality is available.

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Monitoring Arms Deliveries and Assimilation. Pact organizations—supported by CEMA bodies—monitor the implementation of Pact policy. A unified reporting system has evolved that obligates NSWP general staffs⁹ to report regularly to the Combined Armed Forces Staff on all topics relating to the status of the national armed forces, including armaments and equipment. detailed reports on the status of the national armed forces as of 1 January must be submitted to the CAF Staff by 15 February of each year. As of the early 1980s there were reports that the accounting system was to be expanded in scope and detail.

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The USSR appears to use its control over the armaments list to ensure that Soviet-designed systems predominate. Moscow probably does so for a combination of reasons, including standardization, the wish to continue to sell profitable older systems and production licenses, and a belief that most Soviet systems are of better quality.

the Poles developed a command and control system. When the system reached prototype stage, the Poles sent documentation to the Technical Committee and asked for approval of the system before it entered production. The Soviets visited Poland, examined and discussed the prototype, but delayed making a decision. Finally they told the Poles that a system already in the works in the USSR, the Vozdukh-3M, was better and that, therefore, they would not accept the Polish system as official Pact armament. The Poles produced their system anyway and sold it to the Libyans for hard currency. Polish forces, however, were equipped with official Pact armament—the Vozdukh-3M.

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CAF representatives (Soviet nationals) also collect information, through participation in meetings, exercises, and inspections, and through unofficial contacts with national command and staff personnel. Their activities, however, meet resistance. For example, at least until recently Poland has limited their number and isolated them by refusing to allot them offices at the headquarters of the Polish Armed Forces, at the General Staff, at the branches of the armed forces, or at the military districts, and has carefully screened the information shared. Romania has refused to permit their presence entirely. Conversely, the CAF Reps have been given full

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Occasionally, NSWP officials suspected that the Soviets used their control of the acceptance process to steal information about the development of new systems for use in their own

⁹ Called the Main Staff by the East Germans.

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access and great authority in Bulgaria and the GDR. Since the early 1980s, however, the Soviets may have introduced measures intended to standardize both the access and the roles of the CAF Reps in all Warsaw Pact states.



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Between formal meetings, consultations conducted by the CAF Reps, the CAF Staff, and the Technical Committee are used to transmit new information and decisions to the chiefs of the NSWP general staffs. The times and locations of these consultations are formalized in the Combined Command unified training plan. Conferences, also scheduled in the training plan, serve as forums for transmitting the latest technical data to selected groups of specialists.

The CEMA Permanent Commission on Defense Industry probably also devotes a large proportion of its time to monitoring the transactions of its members. On the basis of what we know of the work of other substantive CEMA commissions, we think the Commission probably issues reports on the volume of arms trade between members and the percentage of the planned amount that has been fulfilled. In addition, the Commission is probably active in resolving questions of training equipment, repair and maintenance of weapons and equipment, and deliveries of spare parts.

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the Combined Command uses such meetings to increase its control over the activities of the allied forces by bypassing the national defense bureaucracies to deal directly with concerned experts and functionaries.

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The Planning Process

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Inspections are also used by the Combined Command and the Soviets to monitor the arming and equipping of the Pact forces. Although not formally authorized by Pact statute, comprehensive inspections are scheduled by the Combined Command, usually once a year. These include monitoring the status of arms and equipment, the moral and political state of the troops, and mobilizational readiness and wartime reserves. Results of the formal inspection are given in a special protocol containing the evaluation and recommendations, one copy of which goes to the national minister of defense and another to Moscow.

Plans are the levers that move Warsaw Pact states toward the attainment of armament goals. The Soviets and the East Europeans elaborate defense policy in five-year defense plans—part of their state economic plans—over the course of a highly structured five-year preparation period. As part of the defense plans, military operational plans describe how the armed forces, their equipment, their training, and the national territory should be prepared for war. Military development plans document targets for armaments acquisition and other activities requirements of operational plans.

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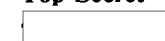
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The Soviet General Staff also conducts inspections among the NSWP forces on an informal and infrequent basis. These are generally narrow in scope and done by representatives of the Soviet Ministry of Defense who have been tasked by the General Staff.

Armaments production and delivery goals are specified in national five-year and annual economic plans, which by design are closely coordinated with defense plans (see appendix A). Other plans related to armaments production are either subsets of the five-year plan or supplement it with more detailed targets:

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- Contingency "Wartime Annual Plans," prepared by each Pact state and verified every five years on both the national and Warsaw Pact levels, have production components envisaging mobilization of all productive forces.

uses as the basis for influencing Pact planning and the domestic armaments planning of each NSWP state.



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- Long-range target programs detail concentrated efforts required for developing selected areas of defense potential.

The Soviet Lead.



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- Joint defense investment planning specifies selected areas of coordinated attention, such as construction of production or test facilities.

about four to five years before a new five-year defense plan comes into force, the Soviet General Staff initiates plan preparation by comparing Soviet and Warsaw Pact forces with those of potential enemies and prepares a threat assessment for at least the next 20 years. In doing so, it also considers internal security conditions, foreign policy developments, previous and current plan fulfillment, and, in conjunction with Gosplan, projections of Soviet economic growth. The General Staff then uses these assessments to arrive at military requirements for the next five-year period.

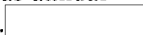
- Joint R&D activity plans direct the sharing of knowledge, helping to minimize duplication of scientific efforts.



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These requirements include proposals for major new weapon development programs, as well as annual weapon production and delivery targets.

These supplemental plans—which may include assignments for original and licensed production, intra-Pact purchases, foreign military aid, and repair and modernization—are adopted on a Warsaw Pact level. The individual Pact nations subsequently incorporate the tasks outlined in the joint plans in their own five-year and annual plans.



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the threat assessment and military development proposals are usually presented to party and government leaders early in the third year of the planning cycle. After being discussed, revised, and approved by the leadership, these proposals become the basis for developing a more detailed formulation of military requirements.¹⁰

We present a generalized analysis of how Pact armaments acquisition planning has worked since 1971 (that is, for the past three five-year planning cycles). As with any such complex procedure involving so many organizations and issues, the process does not always work as described (see the section "Effectiveness of the System," p. 20). We do not know if any significant changes will be introduced with Gorbachev as General Secretary, but his emphasis on the integration of the Soviet and East European economies to solve mutual problems suggests that the planning tools will continue to be used.



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The General Staff then prepares a draft five-year defense plan incorporating military requirements, with contributions from the services and from other military elements responsible for such concerns as armaments, rear services, and construction. This detailed draft plan is approved by Ministry of Defense authorities who in turn submit appropriate parts to Gosplan for elaboration in the state economic plan.



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Generating Requirements and Formulating Plans

Armaments planning for all members of the Warsaw Pact runs concurrently in a multistage process that—except in the USSR—takes place both on an alliance level (through both multilateral and bilateral agreements) and individually within each state. The USSR conducts its own armaments planning, which it then



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although they may be modified later, the defense sector's resource claims are formulated earlier in the planning process than those for the civilian sectors.



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Gosplan informs the leadership of the resource implications of Soviet military requirements. After all remaining major policy guidelines are established, which usually occurs in the fourth year of the five-year planning cycle, Gosplan and the rest of the economic planning apparatus elaborate the complex network of economic plans that will drive thousands of factories, farms, and service organizations. When this has been completed, the Ministry of Defense reviews the results to ensure that needs of the military will be met within the context of the overall state economic plan.

The Pact Response. On the basis of guidelines prepared by the Soviet General Staff in the first or second year of the Soviet planning process, the Combined Command prepares general resolutions for study and acceptance by the Warsaw Pact's CDM, PCC, and Military Council. In these resolutions, the CDM makes recommendations to the PCC, which in turn sets policy guidelines for the planning process. The CDM then drafts directives that establish the primary directions and detailed goals of military development to fulfill the PCC resolutions.

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These goals and directives for the development of Pact forces are then translated into specific tasks for the NSWP forces by the Combined Command Staff, which is assisted in drafting the goals and directives relating to armaments by the Pact Technical Committee. Although Pact planners consider the economic performance data of member states, their access to such information through the participation of NSWP planning officials on the CEMA Permanent Commission on Defense Industry makes it likely that these data are at least consulted.

The tasks—compiled separately for each ally—are issued in the form of recommendations to the military leadership of each NSWP country. These recommendations specify:

- The strength and organizational structure of its armed forces for peacetime and wartime.
- Combat readiness and mobilization requirements, including preparation of its territory to serve as part of the theater of operations.

- The numbers and types of armaments and equipment to be obtained and retained in its forces.

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To support its recommendations, the Technical Committee furnishes data to the individual NSWP defense ministries concerning the recommended arms and equipment. These data—which for the 1976-80 planning cycle covered about 600 items—usually include such information as the name and designator of the equipment, its combat application, general tactical-technical information, and the country expecting to produce it. The Technical Committee also coordinates exhibitions, hosted by the various defense ministries, at which the equipment to be produced is demonstrated.

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On the basis of Technical Committee recommendations—issued about two to three years before the plan comes into force—the CEMA Permanent Commission on Defense Industry prepares a list of CEMA armaments production requirements for intra-CEMA trade. This plan serves as a basis for more specific bilateral agreements between each of the member states.

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The National Response. Concurrently with the Pact planning process, the NSWP nations prepare their own domestic five-year economic and defense plans. NSWP five-year armaments planning is similar to that of the Soviets, except that it begins about a year later. ¹¹ In the USSR, military planning for the next five-year plan precedes national economic planning for that same period by approximately two years; it usually does so by about a year in the NSWP states.

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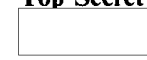
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¹¹ We believe that a similar process takes place in each Pact country, with the probable exception of Romania. Romania's draft socioeconomic plan is submitted for nominal "legislative" approval a full year before those of the other Pact countries reach the same stage, indicating that the whole process works differently there. This is not surprising, given the independence Romania has exercised in all Pact matters.

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As in the USSR, long-term (15- to 20-year) forecasting precedes five-year planning in the NSWP countries. In addition to considering analyses prepared by research institutes and military academies and insights derived from military exercises—regarding domestic economic conditions, military comparisons, the threat, and available technology—the NSWP nations in preparing forecasts must take into consideration the Soviet-generated analysis of Pact requirements.



uses these preliminary requirements to generate control figures for planning for the rest of the economy.



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[redacted] in the first year of the NSWP process the national planning organization gives the general staff information on projected economic growth up to and over the next five-year plan period, the share available for government expenditure, and the degree of previous plan fulfillment. On the basis of these data, [redacted] the general staff—not the planning organization—determines what proportion of net material product¹² should be allocated to the defense sector. [redacted]

The next stage consists of the drafting of formal requirements for developing the national armed forces. Taking into account current and projected economic conditions, the NSWP country takes an official position on PCC and CDM resolutions on development of Pact forces for the coming five-year period, usually by the end of that year. Each NSWP general staff then—on the basis of obligations accepted by the country at PCC and CDM meetings, and taking into account specific Combined Command recommendations—drafts and publishes its guidelines for the five-year armed forces development plan. These are used as the basis for formulating the draft five-year national defense plan, which serves as the basis for negotiations with the Combined Command (see figure 7). [redacted]

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This information is used to prepare a preliminary plan of defense requirements for the coming five-year plan that covers defense ministry expenditures, requirements for domestic production of weapons and military equipment, production and repair facility capacities, needs for capital investment, and imports. This working plan specifies:

- Status of forces to be attained by the end of the current five-year period.
- Status to be attained by the end of the five-year period being planned.
- Forces and means needed for implementation of the proposed developmental projects (personnel as well as weapons and equipment).
- Estimated costs.

The general staff transmits these general requirements to the party and state leadership for preliminary approval about three years before the plan comes into force. The national planning organization then

Establishing Protocols and Contracts

Differing Soviet (Combined Command) and NSWP perceptions of military requirements and the potential to fulfill them are worked out in negotiations on bilateral protocols. These protocols, signed under the auspices of the Warsaw Pact between the Combined Command and each NSWP state, formalize the agreements reached on each country's military development tasks. Separate bilateral protocols are signed under the auspices of CEMA to document each country's armaments production and purchase agreements. These latter protocols, unlike their Pact counterparts, are signed bilaterally by each country with every other country. Negotiations on the final content of these protocols—called Protocols on Special Mutual Deliveries—take place in separate but related Pact and CEMA channels and are a multistage, frequently contentious process. [redacted]

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On the Warsaw Pact side, the Combined Command drafts the "Bilateral Protocols on the Assignment of Troops and Naval Forces of Individual Warsaw Pact Member States to the CAF and Their Development During a Five-Year Period" to serve as the basis of

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¹² Net material product is the Marxian concept of national income. It differs from the Western concept of GNP principally in that it excludes the nonmaterial components of most services (wages, and so on) as nonproductive, and excludes depreciation on fixed capital.



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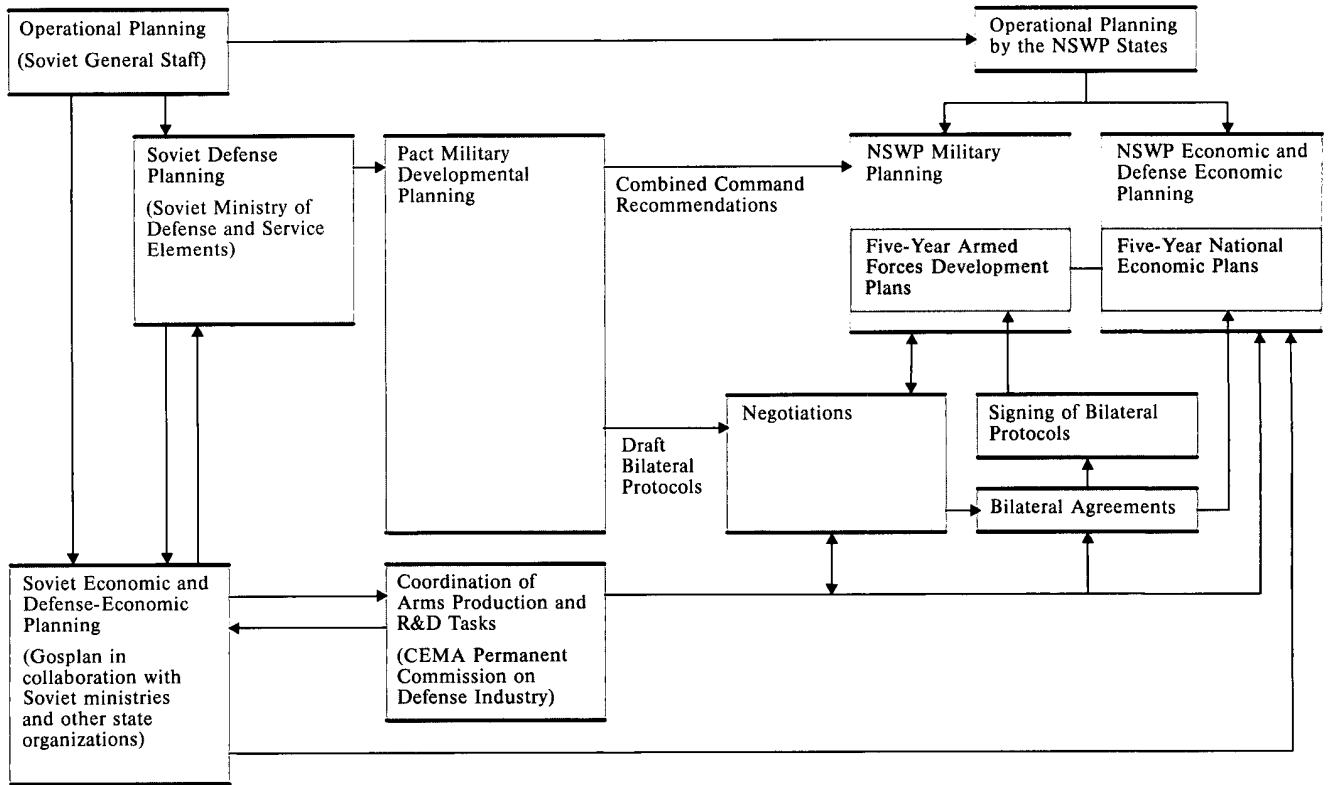


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Figure 7
The Warsaw Pact Five-Year Planning Process



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The Arduous Process of Protocol Negotiations

Bilateral protocols, concluded in the Warsaw Pact between the Combined Command and each NSWP country, document agreements reached on NSWP responsibilities for force development for the coming five-year period. Other bilateral protocols signed by each nation with every other nation in CEMA detail armaments production and purchase agreements.



In the Warsaw Pact, a three-level coordination process for the Warsaw Pact protocols evolved during the 1970s. Talks at each of the different levels are conducted separately between the Combined Command and the appropriate representatives of each NSWP state in the NSWP capital. At the first level, chiefs of the operations directorates of the Combined Armed Forces Staff and the general staffs of the NSWP armed forces attempt to coordinate. The second level involves the chiefs of the CAF and NSWP general staffs, and the third and highest level involves final coordination and signing of the protocols by the CAF CinC and the defense ministers of the Warsaw Pact states. This final stage is usually little more than a formality, usually lasting less than a day, whereas the first two stages can go on for several days with 12- to 16-hour sessions.



Coordination at the second and third levels usually takes the same form with all the national armies. A day or two before the meetings, the CAF CinC sends his draft of the protocol to serve as a basis for deliberations. Agreements are reached in plenary sessions with all members of both delegations participating. The coordination consists of reading the Combined Command version of the protocol and either approval of it or submission of counterproposals by the chairman of the NSWP national delegation. On controversial matters, both sides present their arguments. Some problems are discussed with specialists of the delegation outside the plenary session. Results of the negotiations are reported to the superiors of both parties.

In CEMA, coordination sessions for the protocols on arms and equipment trade all follow roughly the same agenda. They begin with opening addresses by the heads of the host organization, then break up into bilateral consultations, and finally reconvene for closing speeches. Details of armaments agreements are saved for the private one-on-one meetings, with full delegation convocations serving to promote the concept of collegial decisionmaking.



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negotiations between the USSR and each NSWP state. these protocols generally consist of about 60 pages. One chapter specifies armaments requirements for the next five-year plan. An attachment contains tables, organized according to branch of service, listing the numbers and types of weapons and equipment to be in the inventory by the end of the five-year period, and their states of combat readiness.

The Pact protocols are prepared by the Operations Directorate of the Combined Command Staff in collaboration with other sections of the Staff and, in

the case of armaments, with the Technical Committee.



The first drafts of the protocols take about five months to prepare and are coordinated with the Soviet General Staff before they are delivered to the individual states. Negotiations on the protocols' contents take place

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(continued)

one-on-one coordination sessions is similar to that of a labor contract negotiation in which each side tries to obtain the production tasks and purchase agreements it feels to be most in its favor.

domestic production and imports are coordinated, as are commitments of NSWP industry in case of mobilization.

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In the first stage, Soviet recommendations and NSWP proposals may be far apart. NSWP negotiators appear to use this session to "test the waters" to see how far they can go in scaling down Soviet proposals. the purpose of the first stage is mainly to share information. Individual countries inform each other of the principal objectives and guidelines of the first drafts of their five-year plans, including proposals for mutual cooperation.

Contacts between organizations that are to cooperate in the forthcoming plan period continue after the second stage of coordination is completed. The purpose of these contacts is to smooth out the technical and economic details of the proposed arrangements, to reach final agreements on the mutual division of labor, and to prepare work schedules. In special instances, agreements are concluded for the establishment and activity of ad hoc international teams, joint laboratories, and international scientific production associations, partnerships, and enterprises. CEMA organizations for general questions such as planning matters, science and technology, standardization, and material-technical supply prepare recommendations in their areas of expertise to supplement the elaboration of the protocols, which are usually signed at a meeting of the CEMA Permanent Commission on Defense Industry late in the last year of the planning cycle. the third stage in preparing the 1986-90 plan took place in Warsaw in mid-December 1985.

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in the second phase basic decisions on cooperation are made. Discussions cover the performance of the economy as a whole, specific branches of industry, lines of production, major projects, and joint ventures. Orders and deliveries of arms and military equipment from

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between the military leadership of each NSWP country and the Combined Command in a three-level coordination process ¹³ (see inset and appendix B).

Pact. Negotiation on these protocols takes place concurrently with Pact protocol negotiations, in a separate two-stage process. Each stage of coordination is coshorted in special sessions by the Technical Committee and Permanent Commission on Defense Industry and attended by the regular delegations of both those organizations.

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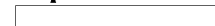
In CEMA, the other set of protocols—for arms and equipment trade—is drafted in the third year of the planning cycle, after Combined Command recommendations have been presented to the allies in the

Final negotiations on the Pact protocols—between each of the defense ministers of NSWP states and the Warsaw Pact CinC—take place after CEMA negotiations are completed and end with coordination of the Pact bilateral protocols. This usually occurs toward

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¹³ During preparation of the 1981-85 plan an additional level of coordination was necessary as a result of the controversial nature of the plan (see inset "Problems in Preparing the Polish Protocol for 1981-85," on p. 23 for more details on the problems encountered at this time).

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the end of the last year of the planning cycle. Coordinated protocols are signed by the chairman of the concerned nation's Council of Ministers. Each Pact nation then finalizes its own five-year defense plan and incorporates final decisions resulting from it and from the CEMA protocols into its five-year national economic plan, which has also been coordinated in CEMA channels (see inset). [redacted]

Foreign trade organizations formalize agreed transactions into bilateral and multilateral contractual agreements. According to a decree of the USSR Council of Ministers, coordinated proposals and drafts of international agreements are delivered to the appropriate national organizations for preliminary processing. In the USSR, the concerned ministries and departments, the Ministry of Foreign Trade or the State Committee for Foreign Economic Relations (GKES), are responsible for conducting negotiations to work out the details of concluded agreements. [redacted]

Military trade representatives negotiate annual agreements for weapons deliveries based on the protocols signed by their governments. [redacted] in the USSR such negotiations are normally completed by the end of February, forwarded in draft to the Politburo for approval, submitted to the purchaser by the end of August for signature, and returned to Moscow by December. In December the Tenth Main Directorate of the Soviet General Staff presents the military trade plan to be included in the coming year's national economic plan. [redacted] each Pact country's foreign trade organization maintains representatives in the other Pact capitals to handle all details involved with military-related transactions. [redacted]

Effectiveness of the System

The Pact planning process now in effect has been used for three five-year planning periods. Although its outline has remained the same, its scope and complexity have increased each time, and it continues to evolve. Results of the planning system have been mixed for both the Soviets and the East Europeans. [redacted]

Similarities and Differences in Bloc Civilian and Military Planning

The armaments planning process of the Warsaw Pact and CEMA parallels the process of coordinating civilian plans in CEMA channels. In both armaments and civilian planning:

- *CEMA commissions meet regularly to monitor implementation of agreements and to arrange new cooperative efforts for subsequent plans.*
- *Protocols are signed at the end of the five-year planning cycle to formalize agreements reached for the coming five-year plan.*
- *Agreed activities are incorporated into five-year and annual plans and annual foreign trade plans.*
- *Soviet and East European foreign trade, planning, and party officials conduct meetings at regular stages to ensure smooth progress.* [redacted]

Military and civilian planning differ in that:

- *Formal five-year armaments planning begins earlier than civilian planning both in the Pact and in each individual state, which allows the military priority in claiming planned resources.*
- *Armament planning goals are formulated by a specific customer—the Warsaw Pact Technical Committee—whose authority exceeds that of the individual bloc states, whereas civilian planning goals are coordinated among national authorities in an organization that grants them putative equal rights.* [redacted]

The real test of the system, particularly from the Soviet perspective, is the difference between the conditions in the Warsaw Pact now and the conditions that would have prevailed if the Pact were still operating along pre-1969 principles. We cannot, however, isolate with confidence the effects of the Pact acquisition system from other factors that may have

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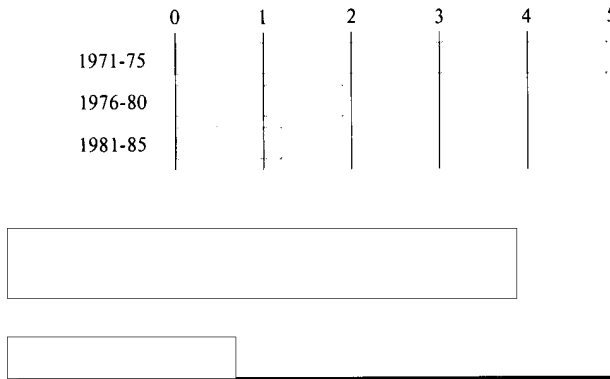
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Figure 8
Growth in the Real Gross National Product of Non-Soviet Warsaw Pact Nations, 1971-85

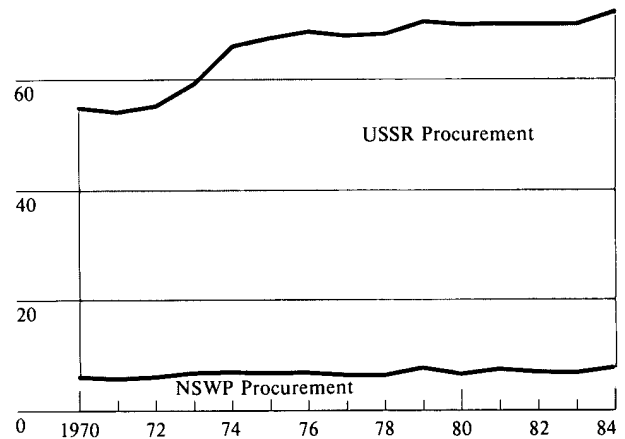
Average annual percentage increase



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Figure 9
Estimated Dollar Costs of Warsaw Pact Defense Procurement, 1970-84

Billion 1983 dollars



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influenced the improvement of Pact combat capabilities. Nevertheless, we believe that much of the progress the Pact has made in equipment, standardization, and development of NSWP defense industry in the past decade is attributable to the centralized system of Pact planning and oversight.

This positive evaluation is based on our assessment that NSWP countries made substantial strides in improving their military capabilities and developing their defense industries despite,

East European reluctance to increase procurement in a time of economic troubles. Since the mid-1970s, the rate of increase of GNP throughout the Warsaw Pact has been the lowest in the post-World War II era (see figure 8). Economic growth throughout the NSWP generally slowed after 1975, and in 1980 and 1981 the region showed negative growth. Moreover, the economic slide in Eastern Europe has been even more severe than in the USSR, partly because of East European problems in managing large hard currency debts to Western countries.

Over the past three plan periods, however, the dollar value of overall NSWP procurement has remained virtually constant (see figure 9). Moreover, our estimates of procurement expenditures do not include component production for weapons assembled in other countries, which we believe has increased,

Increases in other components of the defense budget—such as operations and maintenance, and personnel—as well as activities arranged by the Pact but not included in our defense spending estimates—such as construction of some transportation infrastructure and other preparations of national territory to serve as part of the theater of military operations—

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are similarly not accounted for simply by looking at procurement statistics. All of these represent defense-related activities carried out by the NSWP countries at a time of economic difficulty. We believe that, without the pressure provided by the Pact planning apparatus and process, the East Europeans might have devoted fewer resources to armaments acquisition than they did. [redacted]

armaments programs has grown stronger. [redacted] the Soviets believe that the only determinants of national defense and armaments efforts should be the needs created by war requirements and the capability of the national defense, and that economic difficulties are an internal domestic affair. As a result, bilateral negotiations have become progressively more difficult as NSWP countries seek to modify ambitious Soviet plans. [redacted]

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At the same time, however, Pact planning has not accomplished all it is intended to. One of the primary goals, [redacted] to narrow the gap between Soviet and East European forces—is not being attained. Economic problems and other domestic priorities have led the East Europeans to dispute and occasionally scale down Moscow's ambitious proposals, but even those modified plans are not being met. Most Pact countries have not bought the contracted quantities of increasingly expensive Soviet weapons, and the demands have contributed to political and social strains that have impacted upon their defense industries. Furthermore, having pushed for the development of the modest East European defense industrial base, the Soviets have not always been able to control to their satisfaction the disposition of its output. [redacted]

Perhaps the greatest resistance has been raised by the Poles, whose economic problems reached near-crisis proportions in the early 1980s (see inset). Nevertheless, although economic and political difficulties made it impossible for the Poles to draft a national economic plan for 1981-85 (they subsequently enacted a three-year plan for 1983-85), Soviet pressure forced them to enact a full five-year plan for defense. Although GNP grew more slowly in 1981-85 than in the previous plan period, we estimate that Polish military procurement expenditures grew faster in 1981-85 than in 1976-80. [redacted]

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Pitfalls in Planning

Despite its highly articulated process, evidence shows that, in reality, Pact planning rarely proceeds smoothly. Obstacles imposed by both the Soviets and their East European allies at various times inevitably have caused hard negotiations, slips in the schedule, and modification of Combined Command demands.

One way the Poles have attempted to scale down Soviet armaments plans is by changing the operational plans, the basis for armaments requirements. [redacted]

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Moreover, although the long coordination process is designed to allow each nation to influence the plan, [redacted]

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[redacted] the Soviets have usually proved insistent on their proposals.

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The sheer magnitude of the requirements that the Combined Command levies on the NSWP countries has inhibited the smooth progression of planning. [redacted] since Marshal of the Soviet Union Viktor Kulikov assumed command of the Pact in 1977, the Soviet appetite for arms has increased and the pressure to introduce new



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The Romanians have been the most open in resisting Soviet demands for military cooperation and particularly arms acquisition. [redacted]

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Problems in Preparing the Polish Protocol for 1981-85

Combined Command recommendations for the development of each country's armed forces serve as the basis for negotiations in establishing bilateral agreements on NSWP responsibilities for each five-year period. Although these recommendations usually call for greater efforts than NSWP countries want to expend, the initial Combined Command recommendations for the 1981-85 plan period were particularly onerous. [Redacted] Presented in 1978, these recommendations would have required an almost threefold increase in NSWP defense expenditures. This high level caused consternation among the NSWP allies, but, with the exception of Romania, no NSWP country was prepared to challenge the requirements outright. [Redacted]

3 billion rubles. The Polish General Staff began at the same time to elaborate a series of variants of the new five-year plan based on various potential levels of credit granted. [Redacted]

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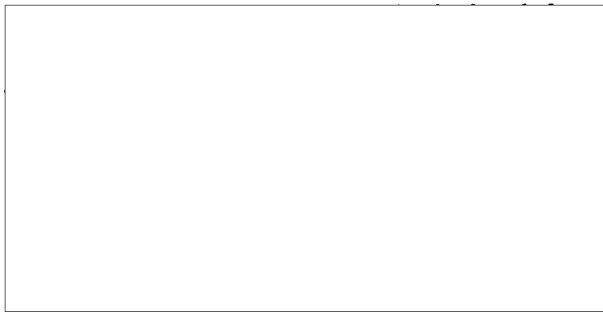
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The Poles, whose economy was faring very poorly at the time, were particularly concerned. In preparing the initial draft of their five-year defense plan, the Poles adopted the position that growth in defense expenditures could not rise by more than 51.8 percent of actual 1976-80 expenditures. This caused them to initially reject a number of force development tasks proposed in the Combined Command recommendations. [Redacted]

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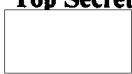
The Poles hit on a new tack through which they hoped both to satisfy Combined Command demands and lessen the military burden on the Polish economy: they decided to ask for a long-term credit of

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Problems with Price Setting

by 1983, Romanian defense plants were supplying about 90 percent (by value) of Bucharest's armaments needs, compared with only 60 percent in the mid-1970s. It is unclear whether the Romanians have submitted to any joint planning for the development of their armed forces. After over 15 years of minimal involvement, however, economic difficulties, the need for greater supplies of Soviet energy, and the need to modernize industry may be contributing to a slow expansion of Romanian ties, including armaments trade, to the Soviets. The USSR's increased control over armaments accepted for Pact use gives it some leverage in dealing with the Romanians, who probably would like to recoup part of the costs of setting up their own armaments base through sales to Pact members.

CEMA trade is hampered by difficulties in reaching agreement on prices. It is usually conducted in the transferable ruble, a nonconvertible currency that usually does not reflect resource costs and, hence, relative prices of the trading partners. Trade transactions are handled through bookkeeping transfers in the International Bank for Economic Cooperation, to which all CEMA states belong. Because a trade surplus generally cannot be spent, there is little incentive for any country to run one. Rather, each country strives to balance its trade with every other.

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Price setting practices exacerbate the financial problems in Pact armaments trade. No market mechanism sets prices. that, as in other areas of CEMA trade, the Pact sets prices for weapons and military equipment on the basis of the prices charged for similar items in the West. Because most weapons do not have close Western counterparts, they do not lend themselves easily to this method of price formulation. Moreover, prices for armaments are set, at least initially, by each seller country. Because most major Pact systems are produced and sold by the Soviets, the Soviets determine most of the prices for Pact arms trade.

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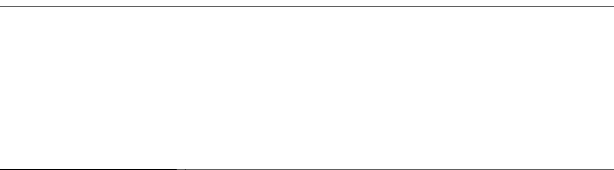
Price setting is another problem that hinders smooth planning. As with all Soviet-East European trade, arranging the terms of trade causes difficulties in negotiations. Each NSWP country attempts to arrange prices favorable to itself, in order to avoid an overall trade imbalance (see inset).

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Soviet price setting and diverse accounting practices lead to relatively higher prices for Soviet-produced equipment. the Soviets include R&D costs in the prices of their own weapons, but they pay their allies prices that only reflect the average unit cost, well into production.



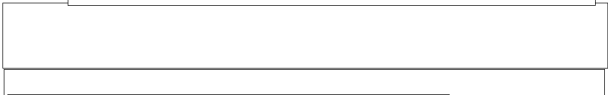
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there was dissatisfaction with the low prices the Soviets paid for the plant's output of mortars and gun barrels, generally believed to be half what other purchasers paid.

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the Soviets charged their allies the same purchase price for older refurbished equipment as for the new.

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to bargaining—haggling over prices is seen as a capitalist practice and not fitting for issues of alliance security—but rather will simply demur from the deal on the grounds that it is too expensive. When this happens, the Soviets will sometimes attempt to arrange further sales of the item to help lower the average unit cost of production and thus convince the ally to produce it after all. [redacted]

equipment as well as convertible currency for purchases of Western equipment—a total expenditure of about 200 million rubles—to modernize six Polish ship repair yards. In return, the Poles will increase the level of repair service rendered to Soviet craft.

[redacted]

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Price-setting problems appear to cut both ways. The Soviets have publicly complained about the high prices of some East European goods, although they never mention military items specifically. According to former Soviet Gosplan chairman Nikolay Baybakov, writing in the Czechoslovak paper *Rude Pravo*, “we are of the opinion that there exists a certain discrepancy between the quality of the individual kinds of products delivered to the Soviet Union, on the one hand, and their high prices, on the other.”

The Soviet tendency to modify agreements in midplan is also an important factor inhibiting the effectiveness of the planning process. [redacted]

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despite the detailed lists of equipment to be acquired or produced contained in the bilateral protocols, the Soviets occasionally call for above-plan acquisitions. Such was the case with the MIG-23 in the late 1970s. Having decided that various NSWP units should be outfitted with these aircraft, the Soviets called upon several of the East European armed forces to purchase a limited number of the planes as training models. Another example of a midplan change took place in the civil sector in 1982, when the Soviets unilaterally announced a cut in the planned level of energy supplies they would deliver to their allies. [redacted]

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[redacted]

Fulfilling Delivery Agreements

Despite the monitoring by the Permanent Commission on Defense Industry, Warsaw Pact defense industry has frequently failed to meet the plans set out for it. All of the countries have had problems meeting scheduled deliveries, although some perform far worse than others. In general, those with the largest and most complex defense production requirements—Poland and Czechoslovakia—appear to experience the greatest difficulties. [redacted]

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NSWP countries frequently attempt to negotiate credit or other arrangements with the Soviets to cover part of their arranged sales. [redacted]

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[redacted]

The number of Soviet complaints about Polish plan fulfillment [redacted] suggests that, of all the NSWP states, Poland has perhaps the worst record in terms of meeting signed contracts. Polish industry suffered the effects of severe civil unrest in the early 1980s, and the defense industries were not exempt. According to a US defense attache who met him at a social event, the late East German Deputy Minister of National Defense for Armaments Werner Fleissner lamented the difficulties of dealing with the Poles. General Fleissner expressed his deep concern over how developments in Poland had adversely affected East German force modernization. He complained that “what the Poles produce is not on

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Another occasional trade arrangement, countertrade, allows the trading partners to swap goods and services for other goods and services or investments. According to the Polish press, for example, in 1986-90 the Soviets will provide the Poles with materials and technical

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time and not in sufficient quantities" and added that he saw little possibility of improvements in the near future. [redacted]

and Czechoslovak T-72 production are delayed frequently. [redacted]

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At least part of the reason for Polish failure to fulfill contracts is the need to occasionally divert resources to the ailing civilian sector. [redacted]

[redacted]

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[redacted]

[redacted]

Problems in fulfilling agreements can come back to haunt the errant parties when their trading partners later point to what they are owed in the course of subsequent negotiations. Additionally, the Soviets probably justify their out-of-planning-cycle demands by pointing to unfulfilled NSWP deliveries under past agreements. [redacted]

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According to a US diplomat who spoke with a Hungarian official, the Hungarians start off with the idea that they will never meet their agreed obligations anyway. Claiming economic or technical difficulties, they manage each year to whittle down the total number of items to be delivered to a level they believe they can handle. Although technically they are obligated to make up the shortfall in the following five-year period in addition to taking on new obligations, the backlog becomes so great that the Soviets are compelled to reduce new demands. [redacted]

Progress in Production Cooperation

Since 1969 new forms of cooperation have evolved, and new military trade relationships have developed.¹⁴ Coproduction of weapons and military equipment¹⁵ and specialization in components and occasionally entire systems became the model for a division of labor [redacted] To varying extents, each country now supplies other countries of the Pact with different types of weapons and equipment—although most are produced under Soviet license. Soviet imports of equipment from the NSWP generally only supplement domestic production of the same system, although the Soviet-designed Polish MI-2 helicopter and Czechoslovak L-39 trainer aircraft are exceptions. Since the late 1970s, we have also seen the

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The GDR and Bulgaria also must deal with industrial difficulties, [redacted]

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[redacted] Romania suffers a great deal of disruption in industry, primarily owing to energy shortfalls. However, Romania's defense industry's relatively minor involvement with the rest of Pact industry prevents this from having a substantial impact on Pact arms production. [redacted]

[redacted]

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¹⁴ Coproduction can include arrangements in which two or more countries produce the same piece of equipment or in which one or more countries produce components for final assembly in another country. [redacted]

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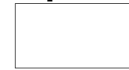
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Soviet supply to East European industry also has proved unreliable. Soviet components for Polish and

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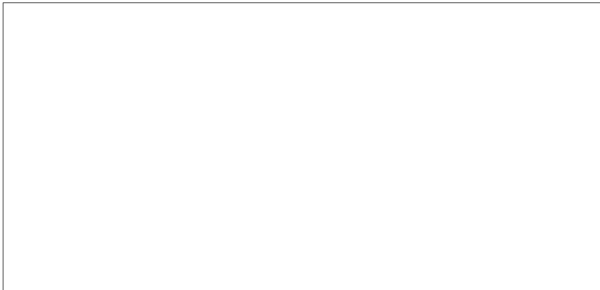
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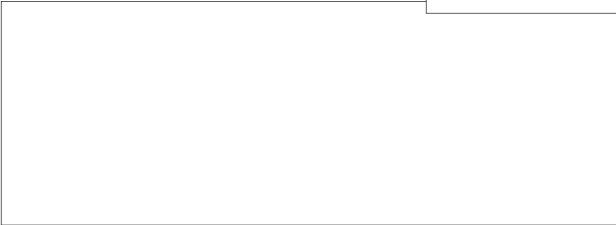
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Soviets import several units of at least one system, the 152-mm DANA gun from Czechoslovakia, which is not and has never been produced in Soviet factories.



Cooperative production arrangements bring many benefits to the Pact weapons industries. Coproduction can allow the quicker mastery of new generation equipment than can production in one country alone. This is particularly important now as the time between generations of weaponry grows shorter. Specialization affords opportunities for realizing economies with long production runs. Specialization in components probably has contributed to wider participation in production programs for major weapons like the T-72. Most important, such cooperative efforts make it possible for the NSWP defense industries, which do not have the extensive domestic support industry that the Soviets have, to take on a larger role in lucrative weapon systems production.

But cooperative arrangements have some drawbacks as well. Specialization has increased individual country dependency on intra-Pact trade. As discussed in the preceding section, specialization also renders programs more vulnerable to disruption because of late or canceled deliveries. Furthermore, not all coproduction and specialization agreements are worked out to the mutual advantage of the participants.



Impact on Pact Forces

Although several factors—such as training, organization, and morale—affect a force's military capabilities, the quantity and quality of armaments with

which it is equipped are among the most important. Since 1970, NSWP nations have made some strides in upgrading their forces. They have:

- Increased the number of armored troop carriers by 80 percent, including a large number of BMPs.
- Increased tube artillery by 40 percent and multiple rocket launchers by 70 percent.
- Replaced much of their towed antitank artillery with vehicle-mounted and man-portable antitank guided missiles and begun replacing towed anti-aircraft guns with mobile SAMs.
- Begun deployment of a new strategic SAM, the SA-5.
- Upgraded tactical aircraft by replacing early-model MIG-21 Fishbeds with more advanced versions and begun to acquire MIG-23 Floggers.

Despite these achievements, however, NSWP forces—because of the East European economic difficulties and foot-dragging discussed earlier—have not managed to significantly reduce the gap between the military capabilities of their own forces and those of the Soviets. By the mid-1970s, NSWP ground forces were some five to 10 years behind the best equipped Soviet forces, and prospects appeared bleak for catching up.

Most disturbing to the Soviets is the fact that NSWP forces are falling behind in precisely those categories of equipment most critical to the Soviet conventional strategy, which is based on integrated firepower and combined-arms maneuver. In the ground forces, for example:

- The East Europeans still do not have the latest Soviet tank (the T-80), and only Czechoslovakia has even a complete division's complement of T-72 tanks. Only a few countries have improved T-55s or T-62s, and several still have World War II-vintage T-34s in active units (see figure 10).
- Antiaircraft artillery remains the principal air defense weapon in most NSWP ground units—by the late 1970s, only the East Germans had equipped their divisions completely with air defense missiles.



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Figure 10
Trends in Composition of Soviet and Non-Soviet Warsaw Pact Forces, 1975-85

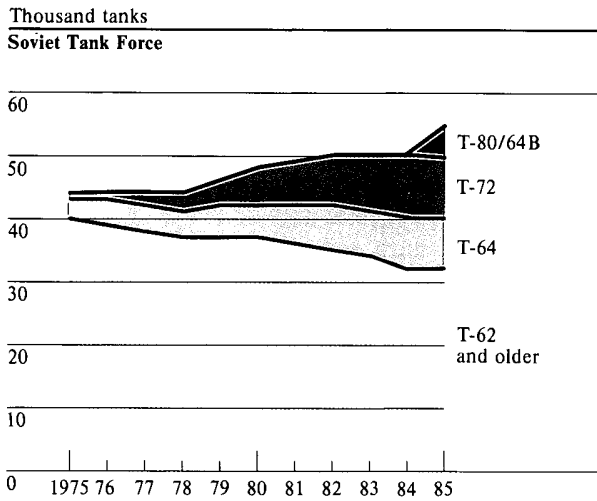


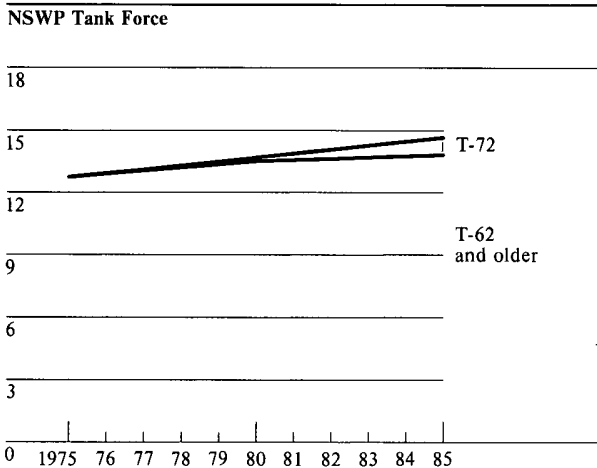
Figure 11. Marshal of the Soviet Union Viktor Georgiyevich Kulikov, First Deputy Minister of Defense, USSR, and Commander in Chief, Combined Armed Forces of the Warsaw Pact.

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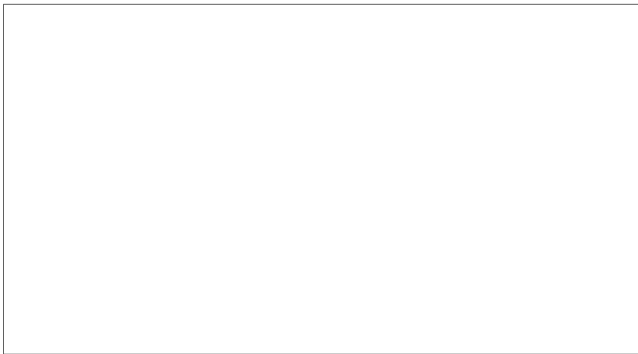
- Most NSWP divisions have few or no attack helicopters assigned to them.

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A similar situation appears to exist in the NSWP air forces. As of 1984, only 40 percent of NSWP aircraft represented models introduced since 1970, compared with 80 percent for Soviet aircraft opposite NATO.



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¹⁷ The Soviets use measures of combat potential to rate the relative combat effectiveness of the Warsaw Pact, NATO, and nonaligned countries. These measures are based on a number of factors, including speed, maneuverability, armaments, and avionics.

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Figure 12. Army Gen. Anatoliy Ivanovich Gribkov, First Deputy Chief of the General Staff of the Soviet Armed Forces and Chief of Staff of the Combined Armed Forces of the Warsaw Pact.



standards set forth in the Unified Standards for Tolerances and Fittings of the Council for Mutual Economic Assistance." In the field, centralized Pact formulation of operational doctrine, the Technical Committee's control of the list of armaments accepted for Pact use, and Soviet supply of most equipment and designs have brought about greater standardization of weapons. Command and control equipment is an example of an area in which the Pact has successfully implemented a large measure of standardization.

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Nevertheless, Pact standardization in both field and factory has not been entirely successful. In the field, for instance, Pact nations currently maintain at least seven types of battle tanks—including the T-34/85, T-54, T-55, T-62, T-64, T-72, and T-80—that require different ranges of gun calibers, required ammunition, engine type, and other features. Pact armies use eight types of personnel carriers. Czechoslovak trucks and artillery vie with Soviet models in the field, and Romania maintains its own line of most types of major weapon systems. Even when the same items are produced, different countries make changes in design specifications, occasionally without approval from Pact military-technical authorities.

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in 1980 the NSWP countries agreed to Soviet demands that, by the mid-1980s, NSWP ground forces would achieve the same quality that Soviet ground forces had in the late 1970s. Although their capabilities improved, no NSWP country met that goal by 1985, and probably few will do so by 1990. We believe the disparity will probably worsen in the years ahead, especially in the NSWP air forces, for which the East Europeans are unlikely to procure enough of the most advanced Soviet models. Nevertheless, we believe that, without the Pact planning and management system, the NSWP forces would be even further behind those of the Soviets.

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In industry, problems with the licensing of technological processes within CEMA have impeded technology sharing and have been another key factor hampering standardization. In accordance with the recommendations of the Second CEMA Session in 1949, each CEMA member was to supply the others with free licenses for technological processes. The only cost to recipients was to be payment for expenses related to making copies of plans, working drawings, blueprints, and technical documentation. But in 1971 a modified system was adopted, called the Sofia Principle, in which members were allowed to charge a fee for this technical information. Because of this, NSWP nations frequently opt to economize on purchases of technical information and to develop some of the support equipment on their own. when the Poles purchased the license and technical documentation to produce the T-72, they did not at the same time purchase the necessary technical documents for the production of special

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The Pact record since the mid-1970s in standardizing armaments and equipment to promote interoperability among Pact forces has also been uneven. In the area of production, CEMA-wide standards have been adopted at an increasing rate—over 5,000 CEMA standards have been created thus far, although we do not know how many of these reported standards are military related. In a December 1981 article in the Soviet weapons journal *Tekhnika i vooruzheniye*, a Soviet author noted that "our industry has now switched over almost completely to manufacturing measuring and cutting tools in accordance with the

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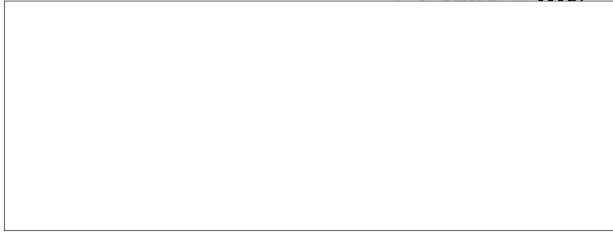
tools and repair instruments. Instead they designed some of the tools and instruments indigenously, thus creating discrepancies between Polish and other T-72 production and repair conditions. 

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Sometimes the problem is not the purchaser's unwillingness to pay for technical documentation, but rather the seller's refusal to provide it. Resistance to information sharing stems primarily from the East Europeans' attitude that once they have devoted resources to developing a technology domestically or paid hard currency to purchase Western technology, they have little interest in promoting sales of the resultant product for their CEMA neighbors' soft currency.

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Trouble comes when the East Europeans decide to export weapons independently, without alerting Moscow. Potential for hard currency earnings makes this an attractive option, and East European governments have on occasion diverted arms from the reequipment of their own forces to sell them to the Third World.



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Progress in Coordinating Foreign Military Economic Relations

Although the USSR has tried to use Warsaw Pact mechanisms to coordinate military sales to non-Pact countries, these sales have also occasionally been a source of contention between the Soviets and their allies. Arms transfers have been one of the USSR's main instruments for advancing its interests in the Third World as well as a major factor in improving its foreign trade and hard currency positions.¹⁸ Together with economic aid, the Soviets have used their military aid programs to replace Western influence in lesser developed countries, to expand trade, and to gain access to strategic raw materials. 

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In the 1970s the USSR became increasingly sensitive to East European arms sales that were arranged without its knowledge or approval. Aside from political reasons, the Soviets were probably worried as well about the implications for their hard currency position. Several of Moscow's major arms clients have sought to diversify their sources of arms, and the number of sellers to whom they can turn has been increasing. The lack of coordination among Pact countries meant that NSWP sales were occasionally directly competitive with those of the USSR. Third World countries, perceiving the opportunity for lowered prices, occasionally took advantage of the multiple Pact sources by playing off several vendors selling similar weaponry in search of a better deal. Adding salt to the wound, many of the weapons and licenses sold by NSWP countries to developing nations originated in the USSR. Finally, economic problems facing most of the USSR's major arms customers threatened to hamper increased sales and earnings. Under all these circumstances, the Soviets may have perceived arms sales by their East European allies as cutting into their own valued hard currency earnings.

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The USSR has sought to use East European arms sales to non-Bloc nations as a tool to supplement its own global efforts. East European countries have complemented the USSR's deliveries of sophisticated fighter aircraft, naval combatants, and surface-to-air missiles by supplying much ground combat equipment, including tanks and armored personnel carriers, to key customers. Arms from the NSWP countries have also helped the Soviets to influence foreign situations without risking public condemnation of their involvement, as in the case of Iraq and Iran. 


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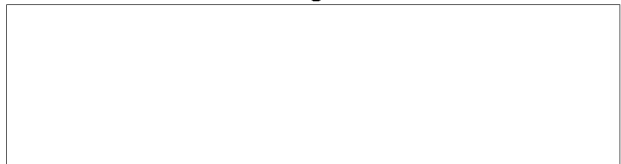
To deal with these problems, the Soviets proposed in the late 1970s to institute formal Pact coordination of military assistance to the Third World, with the Soviet General Staff serving as central coordinator.

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¹⁸ According to analysis of Soviet trade statistics, in 1984 Soviet arms exports to lesser developed countries were worth about \$8.6 billion—more than half of total Soviet exports to these nations and almost 10 percent of total Soviet export earnings worldwide. 

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in land arms—for the development and manufacture of advanced equipment. The system also contributes to Pact readiness for wartime industrial mobilization and provides a larger base on which to draw

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The new proposal, accepted by all Pact countries except Romania, called only for frequent consultations between "competent organs" of all Pact countries on such matters and for greater efforts to coordinate foreign military sales so as not to hamper either Pact force modernization goals or individual countries' foreign sales potentials. It is unclear what effect this watered-down coordination has had, if any.

Militarily, the system has improved weapon quality and standardization of weaponry in the Combined Armed Forces, which in turn facilitates joint operational planning, training, supply, maintenance, and repair. Furthermore, the dependence of each Warsaw Pact army, except Romania's, on many types of nonindigenously developed and/or produced arms would make it difficult, if not impossible, for any of the armies to contemplate any long-term action without securing the guarantee of external logistic support. This helps to ensure that NSWP guns remain pointed at the West.

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The Soviet Union and its allies also occasionally disagree on issues of importing Western technology.

an agreement was signed in CEMA to coordinate all contracts signed with Western firms for the licensing of technology, thereby avoiding duplication.

Politically, the system has served the purpose of tightening the formal cohesion of the Warsaw Pact. Although the planning and management mechanism simulates a far greater degree of consensual decision-making than actually exists, NSWP leaders can hide behind the process to claim that they have not caved in to Soviet pressure. At the same time, however, the system continues to rely heavily on bilateral negotiations, in which the Soviet-led Combined Command has the dominant voice. The system provides a channel for information transfer, vital for monitoring performance, and facilitates the exertion of group pressure on nonconformers.

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the Soviets have complained that the other CEMA nations have failed to comply with this agreement. The Soviets charge that in most cases the East Europeans only report an acquisition after the contract has been signed, thus preventing CEMA influence on the terms of the deal. For example, East European negotiators will seldom press for exclusive East European sales rights because this usually leads Western firms to demand higher licensing fees. Because many East European acquisitions from the West are funneled into Soviet and probably East European defense production, we believe that many of these disagreements are probably aired in the Technical Committee and CEMA Permanent Commission on Defense Industry.

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The system has had both advantages and disadvantages for the NSWP nations. On the negative side, the centralized planning process has formalized the necessity of responding to Soviet proposals on a regular basis, in addition to fulfilling the periodic ad hoc requests the Soviets occasionally levy. Furthermore, it has institutionalized a pattern of production in which NSWP defense industry remains a generation or so behind its Soviet counterpart in terms of both systems produced and manufacturing equipment employed. It has also kept the East Europeans from seriously developing a military R&D base of their own.

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Implications and Outlook

The highly centralized system for armaments planning and management gives the Soviets many advantages. It has allowed them to more closely monitor and better control both the defense industrial capabilities and weapons inventories of their Warsaw Pact allies. By using the system to increase the obligations of their allies, the Soviets have been able to reduce the demands on their own military and economy. With NSWP industries as a secondary supplier, the Soviets have been able to free their own resources—especially

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On the positive side, however, coordinated planning has made it possible to arrange a more efficient specialization of production responsibility among the different nations, and it has helped eliminate costly duplication of effort. Participation in Pact and CEMA channels gives the NSWP countries a formal opportunity to register their opinions and to attempt to influence decisions before they are made. In addition, while NSWP weapon and technology purchases from the Soviet Union meant that the East European military R&D base remained small, the base was thus largely freed for development of profitable goods with both military and civilian applications, such as optics, machine tools, and microelectronics. It can be argued, for example, that neither the Czechoslovaks nor the East Germans would have the hard currency trade in civilian machinery they enjoy today had they been forced to devote greater resources to indigenous military efforts. Finally, the planning process has facilitated weapons trade between all the allies, thus allowing the NSWP states to reap some of the financial benefits of producing as well as purchasing military equipment.

that the defense industries must satisfy. But some elements of the Soviet system do not yet exist in the Pact system—no Pact military representatives are stationed in NSWP plants to monitor quality, no Warsaw Pact organization has the authority to directly ensure coordination of industrial effort, and no central body coordinates Pact foreign military sales.



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If the Soviets do attempt to further integrate the NSWP military R&D and industrial bases, as we expect, they will probably proceed in one or more of four directions, each of which has implications for the future organization of planning and management.



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First, East European industry might increase its supply of components and production equipment to the final weapon assembly plants of other NSWP states and, possibly, the Soviet Union, although the Soviets probably would not allow their weapons producers to become dependent upon a regular supply of East European parts. Significant expansion of such trade might necessitate the creation of Pact organizations to monitor quality control, particularly for advanced and sensitive components such as microelectronic equipment. This quality control function would probably mirror the organization in the USSR, where military representatives subordinate to weapon-specific organizations under the control of the deputy minister of defense for armaments are stationed in all Soviet plants producing for the military. Such a mechanism would not require any radical restructuring, because the position of Combined Armed Forces deputy CinC for armaments already exists.



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Under Gorbachev's industrial modernization drive, great demands are being placed upon the Soviet machine-building sector, producer both of arms and equipment for the military and consumer and of producer durables for the entire economy. The Soviets may be hoping to alleviate some of the stress on this sector through a gradual increase of the NSWP role in Pact military production. Doing so would make it necessary to broaden still further the scope and authority of Pact planning and thus increase the Soviets' influence over NSWP military efforts in the future. New agreements in the civilian field, leadership statements, the changes in NSWP military structures to resemble those of the Soviets, and the growing variety of joint plans, suggest Soviet efforts have been at least partially successful.



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Second, the East Europeans might also be given a larger stake in the licensed production of major weapon systems, as in the T-72 project. This too would require creation of a Pactwide quality control mechanism. Because of the increased opportunity for foreign military sales that this would give the East Europeans, the Soviets might attempt to establish more centralized direction in this area as well.



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Any further integration of Pact armaments planning and management would probably require the creation of new management mechanisms. In the past 15 years, the Soviets have created an overarching structure for the Pact that in many ways resembles their own armaments decisionmaking apparatus. In this structure, the military is the discriminating customer

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Third, the East Europeans might participate, again through license agreements, in the production of more sophisticated weapons, although this would oblige Moscow to overcome its reluctance to sharing sensitive weapons information with its allies. In this case, it would be necessary to create not only a better quality control mechanism, but also an entirely new organization to monitor plan fulfillment and smooth out difficulties in supply and cooperation. Such an organization would probably be modeled after the Soviet Military Industrial Commission (VPK) and would probably include high-level representatives from each of the NSWP defense industries. The CEMA Permanent Commission on Defense Industry could serve as the basis for such an organization, but the Soviets might opt to create a Pact organization instead. Although this would vary from the Soviet model—in which the VPK is an organ of the economic leadership—the Soviets would probably prefer a Pact to a CEMA mechanism, because submission to CEMA rules is only voluntary. 

distance, language differences, security considerations, and other factors. On the other hand, the Soviets have the advantage of already knowing much about their allies' capabilities. Energetic efforts in the past decade to collect information, standardize reporting, and establish data bases would give them a head start in intensifying cooperative efforts if they should choose to do so. 

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The fourth and least likely option the Soviets might pursue would be full integration, in which NSWP design bureaus and plants would serve as lead organizations in selected major new weapons programs. Such integration would entail a loss of Soviet control over sensitive weapons and production data, a decrease in NSWP dependence on Soviet supply of complete weapon systems, and, most intolerable in the Soviet view, a growing dependence on NSWP suppliers. Were they to take this path, the Soviets would certainly require that their plants supply key components, so as to maintain at least some degree of control. In addition to creating quality control and coordination apparatuses, the Soviets would undoubtedly enhance security and military reporting channels to a great extent. 

On balance, the current technological level of the East European defense industries and competing Soviet domestic concerns suggest that the Soviets will primarily emphasize increasing the contribution of their NSWP allies as suppliers of components and production technology. The difficulties experienced by NSWP industry thus far in producing some major systems—the T-72, for example—together with security concerns have probably convinced the Soviets that it would be risky to depend on East European industry to supply whole major systems. The Soviets are probably counting on NSWP industry—in the more limited role of supplier of components and production equipment—to absorb more of the demands being levied upon the Soviet defense industries and to provide still greater support in modernizing that sector. 

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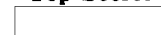
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Any further attempt to strengthen the integration of Warsaw Pact military-industrial planning and management would face opposition from the NSWP leaders and would carry certain difficulties for the Soviets as well. Substantial NSWP participation would create demands for more structured control from the center to overcome the complications of

In any event, the existing system of planning and management is likely to continue to prove useful in furthering the achievement of Pact and Soviet goals. We believe the planning and management apparatus will be instrumental in engendering further progress in modernizing NSWP forces—the primary motive behind the creation of the system in 1969. Furthermore, as the Soviets and East Europeans enter an era of ambitious industrial modernization and escalating weapon costs, the role of the apparatus in managing industrial relations and in distributing the burden is also likely to grow. 

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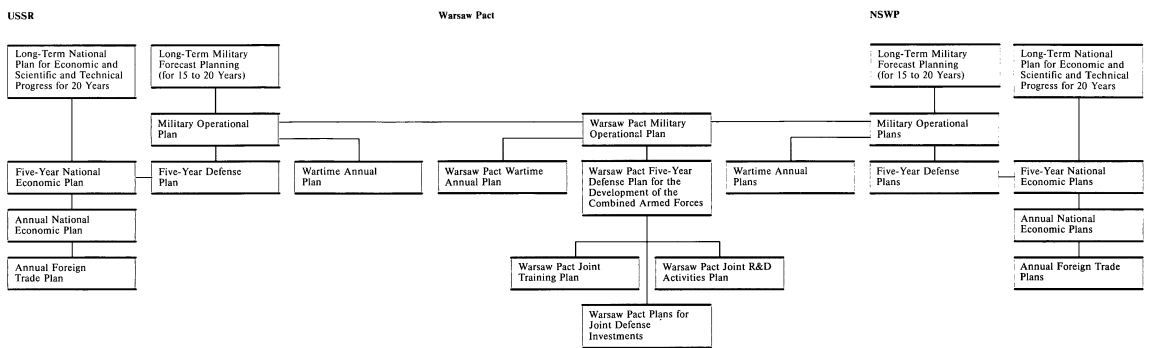
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Appendix A

The Complex Web of Warsaw Pact Armaments-Related Plans



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Appendix B

The Timing of the Warsaw Pact Planning Process*

<p>Defense Planning</p>		<p>Combined Command begins to prepare threat assessment and recommendations for improving Combined Armed Forces (CAF) military potential on the basis of the decisions of the Soviet General Staff.</p>	<p>Combined Command presents proposals for Pact military development to the Political Consultative Committee and Council of Defense Ministers. CAF Staff prepares specific recommendations for next plan period for each NSWP force.</p>	<p>CAF Staff forwards recommendations on force development for next plan period to each NSWP force. CAF Staff prepares bilateral protocols for negotiation. First-stage protocol negotiation at the level of chiefs of operations directorates of CAF Staff and NSWP general (main) staffs. Second-stage protocol negotiation at the level of deputy chiefs of the CAF Staff and NSWP general (main) staffs.</p>	<p>Third-stage coordination at the level of the CAF CinC and NSWP defense ministries. Signing of the bilateral protocols by the CAF CinC and NSWP defense ministers and Council of Ministers chairmen.</p>
<p>Defense Economic Planning</p>	<p>CEMA Permanent Commission on Defense Industry and its related Secretariat department spend first three years of planning cycle studying questions of specialization, coproduction, and sale of production licenses.</p>			<p>CEMA Permanent Commission on Defense Industry, on instructions from Soviet Gosplan, prepares a general plan for Warsaw Pact armaments production assignments and establishes a coordination timetable. Warsaw Pact Technical Committee transmits tactical-technical information regarding recommended arms and equipment to the NSWP defense ministries, and organizes weapons exhibits in the individual nations. NSWP states submit initial commercial offers of domestic production. First-stage CEMA coordination of protocols on weapons trade. Second-stage CEMA coordination of protocols on weapons trade.</p>	<p>Signing of CEMA bilateral protocols. Detailing of protocols in specific contracts and agreements.</p>

* Timing is approximate and may vary somewhat from planning cycle to planning cycle. In addition to steps noted, planning proceeds separately in each Pact country, and ad hoc meetings of party and government officials facilitate the planning process.

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