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Soviet Central Decisionmaking and Economic Growth

A Summing Up

Abraham S. Becker

January 1986

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PREFACE

The Rand Corporation has been conducting a study of "Economic Decisionmaking and Soviet Power in the 1980s" under the sponsorship of Project AIR FORCE and in association with the Office of the Assistant Chief of Staff, Intelligence, Headquarters, United States Air Force. The project sought to enhance the understanding of possible directions of Soviet economic policy choice by examining the interaction between central economic policy formation and decisionmaking, on the one hand, and major sectoral resource allocation problems, on the other.

This report, which concludes the study, summarizes important characteristics of Soviet decisionmaking, examines Soviet prospects under the leadership of Gorbachev, and draws some policy implications.

SUMMARY

This report concludes a Rand project undertaken to study Soviet economic decisionmaking along two parallel tracks, the system and process of central policy formation and decisionmaking for selected key resource allocation problems. Soviet central economic decisionmaking is assessed in light of the Rand studies and other Soviet and Western materials. Prospects for change are examined in terms of Party General Secretary Gorbachev's economic program, and major implications for U.S. policy are drawn.

SALIENT CHARACTERISTICS OF SOVIET DECISIONMAKING

Soviet political theory distinguishes the functions and institutions of *goal/strategy-setting* from *implementation-decisionmaking*. The first is supposedly the exclusive prerogative of the Communist Party, particularly of its highest organs, and the second of the administrative network in both Party and government. However, the reality is far less neat:

- Implementation affects leadership perception of objectives in succeeding rounds of policymaking. The quality of feedback is crucial, but this varies sharply among branches of the economy.
- Goals are set in considerable part by implication in selecting a development blueprint. The latter is shaped by lower-level planning-decisionmaking procedures.
- Policy formation and implementation become an antagonistic game in which the interests of the major players diverge sharply.
- Specialists help clarify policy choices, but politics still dominates economics, science, or technology.
- The Politburo must deal with implementation to provide a realistic foundation for policy, to make policy relevant, and because lower level organizations "pass the buck."
- The Party Central Committee Secretariat exercises power almost indistinguishable from that of the Politburo and transcending the boundaries of authority between Party and government.

Soviet economic decisionmaking is highly *centralized* and *bureaucratized.* Official ideology approves the former with qualifications and deplores the latter, but they reinforce each other as tendencies:

- Differentiation of economic processes leads to greater complexity of central administration.
- Centralization of decisionmaking and taut planning induce ministries and enterprises to practice horizontal integration and conceal real production potential.
- Defense of parochial interests triggers central intervention to reestablish the primacy of central interests.

The *relationship between the center and the periphery in the Soviet economic mechanism is one of its crucial dilemmas.* Efficiency considerations pull to decentralization, but Soviet leaders see a political threat in that direction. This ambivalence results in pendulum swings between the two, although within a narrow arc.

Because central planning is flawed and the periphery defends parochial interests, *priority in resource allocation is the chief instrument for enforcement of central goals.* Priority works best when all actors internalize its rankings and when such high-level institutions as the Military-Industrial Commission (VPK) exist to enforce them. Such institutions have been lacking in the civil sector, even for priority programs. The campaign to develop West Siberian gas was formulated and conducted like a quasi-military campaign, but without a commanding officer, an apparent general staff, or a consistent war plan. The organizational problems of gas development exemplify the general weakness of the Soviet bureaucracy in dealing with interbranch and interregional issues. Development of East Siberia and the Soviet Far East provides other important examples.

The gas campaign, a program of *extensive growth*, was the centerpiece of the 11th Five-Year Plan (1981–85), which was supposed to concentrate on *intensive growth* (higher productivity from existing resources). Apart from systemic barriers to increasing productivity, leadership unwillingness to allow required slack or accept lower growth rates to ease the transition may help explain the divergence of reality from rhetoric.

The instinct to mobilize increased effort may be traced partly to the *short time horizon of decisionmakers*, which is at variance with official mythology. Short-term planning dominates the economic system largely because of the complexities of balancing supply and requirements. Additional important reflections of planners' and policymakers' short-time horizons are:

- Neglect of environmental damage from industrial operations.
- Unduly rapid exploitation of Tiumen' oil reserves.
- Failure to heed specialist warnings about demographic changes.
- Unbalanced development of the eastern regions of the USSR.

PROSPECTS FOR CHANGE

Gorbachev came to power proclaiming an urgent need for a decisive economic transformation. The main lines of the Gorbachev economic program are:

- Restoration of labor discipline in all ranks and demand for conscientious performance.
- Maximum utilization of "reserves" (opportunities to raise output from existing resources).
- No substantial cutbacks in defense or consumption.
- Restructuring investment to emphasize reequipment over new construction.
- Sharply higher rates of investment in and growth of machinery output; investment in the agro-industrial complex will stabilize.
- Dependence on science and technology to pull the economy up to a higher, long-run growth path.
- Changes in organization and management, including universalization of the July 1983 industrial experiment and elimination of "superfluous links" in the bureaucracy.

Gorbachev's program

- Contains no innovative elements, but the package is new and is being energetically propagandized.
- Has discernible stages, attempting to bridge immediate problems and a longer-term solution, but its emphasis is clearly short term. Gorbachev seeks quick results; longer-term programs requiring vast resources are on the back burner.
- Is conventional in its approach to economic reform, attempting to harmonize enterprise initiative and strong central control. However:
  - — Gorbachev seems ambivalent on the conflicting strategies of labor discipline vs. labor incentives.
  - — His emphasis on intensive exploitation of "reserves" may trigger traditional enterprise responses of concealing real potential.

— Measures announced so far are unlikely to end the perennial Soviet debate on the relative merits of political (command) versus economic (incentive) approaches to economic administration.
— Gorbachev appears concerned to improve economic strategy and he was overtly critical of the ability of both the State Planning Committee and the ministries to handle inter-branch relationships.
— Soviet economic reform efforts are seriously hindered by inability to develop a model linking administrative planning and enterprise independence in stable equilibrium.

The economic administrative system will probably remain, as a recent *Pravda* article indicated, "a complex, hierarchical 'pyramid,' subordinated to the center, of functional, interbranch, branch and territorial economic agencies."

IMPLICATIONS

The growth effectiveness of the Gorbachev program can be separated into its short-term and longer-term prospects. The campaigns for discipline and conscientiousness can probably increase output to some degree, if pursued consistently. Whether this will be a one-time effect or result in a longer-term upward shift of the supply curve of effort depends on three factors:

- The magnitude and duration of the pressures applied.
- The regime's ability to raise consumption levels and labor morale.
- The relative strength of worker preferences for leisure over income, which is closely related to levels of consumption.

On balance, campaigns alone, without effective measures to improve incentives and increase consumption, are unlikely to shift the whole labor supply schedule.

Organizational change is not likely to be extensive, and the critical question is whether the rules of the game will be altered significantly. Current rhetoric emphasizes enterprise initiative, but substantial decentralization could threaten

- Unemployment, at least of the frictional sort.
- Increasing interenterprise wage disparities.
- Unplanned labor mobility.

- Disruptions of plans by enterprise reaction to prices.
- Erosion of the raison d'étre of state supply planning.

The center is likely to tighten the reins of control to meet these problems. Moreover, in the pursuit of rapid technical modernization, the regime

- Must determine the volume of resources to be allocated and the general directions of development.
- Will expect ministries to provide strong technical guidance for their branches.
- Will direct central planning agencies to closely monitor the R&D process and its embodiment in investment.

Thus, planned change in organization and management does not appear to offer new solutions to the Soviet economy's traditional problems.

Development of Siberia. As a development problem, Siberia

- Is an extensive long-term growth issue by definition and therefore likely to remain on the back burner in the next few years.
- Poses an operating-cost/investment dilemma as energy and raw material exploitation continues to be the development focus.
- Stretches the capabilities of Soviet central planning to deal with interbranch and interregional problems.
- Will eventually assume a high profile in Soviet strategy
  - — on economic grounds
  - — on geopolitical grounds, in view of the modernization of China and the security problems of the Pacific.

Military-economic organization and resource allocation. Four main pillars supported the structure of military-economic organization under Brezhnev:

- Priority in resource allocation.
- Continuity of funding.
- Science and technology base tied in with military industry.
- Centralized control by a single, demanding user.

All but the last of these supports have weakened over time:

- Priority and funding continuity were interrupted in the mid-1970s.

- Priorities were diffused by major target programs.
- The science and technology base is inadequate for modern military technology and requires integration with civil science.
- Input-output relationships between military industry and suppliers became more complex and wide-ranging.

Once military requirements formed the unquestioned starting point, but a more distinct bargaining process may have begun in the coordination of military requirements generation and plan construction. High technology advances required are dual-use and pose a challenge to central planning for more effective promotion of interbranch and intersectoral R&D.

Implications for the United States. Gorbachev's accession may mean a temporary revitalization of the Soviet economy and perhaps a more confident Soviet leadership. However, a full-scale, matching response to the U.S. military challenge could have serious resource allocation consequences, threatening domestic political stability. Limiting the severity of the external threats by foreign policy and narrowing the inferiority of Soviet technology by domestic development are, and are likely to be, parallel tracks for Soviet strategy.

This implies that military development pressure is the most reliable U.S. bargaining tool, but its validity depends on continuation of Soviet economic stringencies and a Soviet belief that the U.S. threat can be rendered manageable. Therefore, U.S. military pressure should be balanced by a readiness to define conditions of strategic parity and to reach workable agreements translating such criteria into reality.

Such a successful use of U.S. military power to stabilize the environment of U.S.-Soviet relations probably cannot, unfortunately, be complemented by application of U.S. economic power. The principal obstacle is disagreement among the United States and its major industrial partners on the goals and strategy of relations with the USSR, but the U.S. political process is a major contributing factor.

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I. INTRODUCTION

Not many forecasts by Sovietologists can be qualified in advance as practically sure bets. But in the late 1970s a major leadership succession crisis was clearly imminent. One reason for speaking of "crisis" was that it was not just one man inevitably departing the political scene but virtually a generation of leaders that was likely to be replaced. Six of the 12 full members of the Politburo apart from Brezhnev were over 70, another four over 65; four of the nine candidate members were also over 65. The Secretariat was similarly gerontocratic. In the provinces, the Party apparatus was becoming sluggish as local leaders basked in the warmth of Brezhnev's "stability of cadres" policy.

The second reason for speaking of a succession crisis was the extraordinary set of problems the Brezhnev generation was handing over to its successors. Abroad, the superpower relationship had deteriorated rapidly from the halcyon days of SALT I, from the era of burgeoning trade and scientific and cultural exchanges. A new American administration in the early 1980s was both verbally anticommunist and bent on rapid military buildup and modernization. Economic strains and political ferment threatened the stability of Moscow's western flank in Eastern Europe. On the East, the threat was of increasing cooperation among China, Japan, and the United States. To be sure, there were also prospects for geopolitical gain in Western Europe and in the Third World, and the 1970s ended with a major demonstration of Soviet military power in Afghanistan. But the potential gains were both uncertain and unlikely to be of major significance, while the security threats were real and weighty.

Internally, Soviet difficulties covered a wide range of sociodemographic problems, especially in public health. Arguably the most important domestic problem was the sharp downturn in economic growth, which had the potential for deeply eroding the stability of the political order. The retardation itself, by reducing the increments of annual growth, made it difficult to maintain the pattern of national output use—to continue increases of consumption, investment, and defense at the established rates. Indeed, the macroeconomic growth problem may have been a principal reason for the slowdown in the pace of real increase of military expenditure in the mid-1970s, as

estimated by the CIA.[1] Looking to the causes of the shrinking economic growth rate, Soviet leaders in 1975–76 decided on a drastic cutback in the rate of increase of investment, hoping to raise its productivity by changing its structure. Behind the investment problem lay the stubborn Soviet technological backwardness, which also has foreign policy implications in the image and reality of Soviet power in the outside world.

At the turn of the 1980s, therefore, Moscow was apparently confronted with an unprecedented challenge: A new and untried leadership would soon have to wrestle with grave economic and social problems while attempting to maintain its momentum in foreign and military policy against growing resistance by the USSR's main adversary.

The general character of the key growth choices facing the Soviet leadership had been studied in the West. Much less clearly understood was how such choices were made in the Soviet system and therefore how they were likely to be made on the principal issues of the decade. A Rand project was undertaken to study Soviet economic decisionmaking along two parallel tracks, the system and process of central economic policy formation and decisionmaking for selected key sectoral resource allocation problems. Research along the first track produced classified studies of the functioning of two most important central planning agencies. It also yielded an extended survey of the role, structure, and functions of the highest-level decisionmaking bodies in the Communist Party of the Soviet Union and the Soviet government.[2] A study of decisionmaking at the level of ministry-enterprise interaction in three machinery sectors complemented the views of central decisionmaking.[3] The critical problem of energy was examined through the prism of the Soviet campaign to develop and distribute the Urengoi gas resources.[4] Research on the policy toward development of East Siberia and the Soviet Far East contrasted with the intense concentration on

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[1]Abraham S. Becker, *Sitting on Bayonets: The Soviet Defense Burden and the Slowdown of Soviet Defense Spending,* Rand/UCLA Center for the Study of Soviet International Behavior, JRS-01, December 1985.

[2]Sergei Freidzon, *Top-Level Administration of the Soviet Economy: A Partial View,* The Rand Corporation, P-7178, January 1986.

[3]David Apgar, *The Adversary System in Low-Level Soviet Economic Decisionmaking,* The Rand Corporation, N-2111-AF, August 1984.

[4]Thane Gustafson, *The Soviet Gas Campaign. Politics and Policy in Soviet Decisionmaking,* The Rand Corporation, R-3036-AF, June 1983.

West Siberian energy resources.[5] The final effort is a detailed study of Soviet thought and activity in the field of population policy.[6]

This report attempts some summary reflections on Soviet central economic decisionmaking in the light of these studies (Section II) and on prospects for change (Section III). Considerable attention is paid to Gorbachev's economic program, which will heavily influence economic decisionmaking institutions and characteristics. That discussion is the basis for outlining several key implications for U.S. policy.

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[5]Donne E. Pinsky, *Industrial Development of Siberia and the Soviet Far East*, The Rand Corporation, N-2165-AF, September 1984.

[6]Murray Feshbach, *The Soviet Population Policy Debate: Actors and Issues*, The Rand Corporation, N-2472-AF, forthcoming.

II. SOME SALIENT FEATURES OF SOVIET CENTRAL ECONOMIC DECISIONMAKING

This section summarizes some important characteristics of the process and apparatus of Soviet central economic decisionmaking illuminated by the studies done in the Rand project. The discussion draws on these studies and on other Soviet and Western materials. The analysis concentrates on relations among basic institutions and strategic concepts of central economic decisionmaking in the USSR. It is framed in terms of a half dozen key distinctions—between decisionmaking functions (policy formation and implementation), institutional roles (party and government), strategies of economic organization (centralization and decentralization, priority and routine), and economic development (extensive vs. intensive development, short- and long-term horizons).

The material presented here reflects on problems of Soviet decisionmaking and thus naturally emphasizes areas of weakness. They are significant and worthy of attention, but they should not obscure the system's strengths and successes. The Soviet economy is very large in geographical extent and overall size; despite its evident areas of backwardness, it is a modern economy of highly differentiated structure; it has maintained uninterrupted, if fluctuating, growth since the disaster of World War II, 40 years ago; consumer satisfaction has not been its hallmark but living standards have improved markedly, even when the base of the comparison is the late 1950s; and, of course, economic foundations were laid for the development of military power that is properly labeled "super." The results must be attributed in the first instance to immense natural and human resources, but they are also the achievements of a system capable of mobilizing its resources in the service of broad political and economic goals.

POLICY FORMATION VS. POLICY IMPLEMENTATION

To understand the theory and practice of this dichotomy, as well as of the Party-government separation to be discussed next, it is useful to keep in mind a schematic picture of the bureaucratic apparatus administering the Soviet economy. This consists of two pyramidal hierar-

chies, the Party and the government,[1] which can be pictured, with only slight oversimplification, as functioning at four levels of economic decisionmaking:

1. Policymaking—the CPSU Central Committee and the USSR Council of Ministers, through their major organs the Politburo and Secretariat on the one side, and the Presidium and its apparatus on the other side.[2] Freidzon calls these the "directive organs of general leadership of the economy."[3] Departments of the Central Committee staff the policymaking process at the Party apex but they are also deeply involved in planning, as we shall see, and even in supervising branch activity. Thus they have functions interweaving the top three levels of decisionmaking.

2. Functional administration—the central planning organs, subordinate to the USSR Council of Ministers. Freidzon has divided them into first and second rank organs, where the former consists of Gosplan (the State Planning Committee), Gossnab (the State Committee for Material-Technical Supply), GKNT (the State Committee for Science and Technology), and Gosstroi (the State Committee on Construction). These are the organs whose leaders are members of the Presidium of the USSR Council of Ministers.[4] Those of the second rank include the USSR Ministry of Finance, the USSR State Bank and Construction Bank, and the Central Statistical Administration, and nine other state committees. Only the chairman of the USSR Construction Bank is not a member of the USSR Council of Ministers.

3. Branch management—the ministries, departments, and state committees (e.g., the State Committee for Television and Radio Broadcasting) that directly administer the various branches of the economy.

4. Primary unit management—enterprises, production associations, farms, etc.

The Soviet Union is formally a federal system; each of the union republics has its own Party and government hierarchical structures. Although they carry out functions of their own, the republic organizations remain subordinated to their all-union centers. Thus, the

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[1]The hierarchy of Soviets, from the local units up to the USSR Supreme Soviet, is ignored here. Apart from legislative functions, this system plays only a minor role in central economic decisionmaking.

[2]Under "apparatus" I include the permanent branch commissions, one of which, the Military-Industrial Commission (*Voenno-promyshlennaia komissiia*—VPK) is of particular importance. As an organ supervising, coordinating, and monitoring the entire military development sector, it bridges several levels of decisionmaking.

[3]Freidzon, *Top-Level Administration.*

[4]According to V. F. Garbuzov's obituary in *Izvestiia,* November 14, 1985, the deceased USSR Minister of Finance had been a member of the Presidium of the USSR Council of Ministers since 1980. (He was appointed USSR Minister of Finance in 1960.)

republican structures add a further dimension to economic administration, particularly at the second and third levels of the decisionmaking hierarchy. Of course, the Party, which is viewed as the energizing and directing force of all social activity, has the right and duty to oversee all levels of decisionmaking. This is carried out in relation to the government apparatus at or below the level of the corresponding elements of the Party hierarchy.

Soviet-political theory provides a sharp separation of the functions of goal/strategy-setting and implementation-decisionmaking, as well as of the institutions associated with them. The first involves overall objectives for the society and the general means-ends links required to attain them. This function is the exclusive prerogative of the Communist Party,[5] particularly of its highest organs, the Party Congress and the Central Committee, led by the Politburo. The second function is the chief task of the administrative network of the society—the apparatus of both Party and government, beginning with the Central Committee Secretariat in the one hierarchy and the Council of Ministers in the other, but including other transmission systems, such as the trade unions.

Such a function-by-institution distinction of powers is also characteristic of those Western theories of Soviet politics that focus on the authoritarian and hierarchical elements of the Soviet system. The preeminent example is the "totalitarian" school, but much of the "bureaucratic politics" school would fit into that mold too. In contrast, the "pluralist" theories of Soviet politics tend to see a more complex structure in which various groups exert policy influence through multiple channels. By and large, the studies in this vein have not been able to examine the policymaking process at the uppermost levels of the Soviet Party or government hierarchies; their supporting evidence tends to concern secondary issues (i.e., changes in criminal codes rather than the share of national output allocated to defense or investment) and lower levels of decisionmaking (ministries rather than the Politburo).

Nevertheless, even from the sparse evidence available on economic decisionmaking, the distinctions between the setting of goals and their implementation are apparently not as clear as Soviet theory (or the Western authoritarian counterparts) would suggest. First, as organization theorists have long recognized, the process of implementation not only creates a reality different from plan to varying degrees, it also affects leadership perception of objectives in succeeding rounds of

[5]"The Party determines. . . the course of the domestic and foreign policy of the USSR." USSR Constitution, 1977, Article 6.

policymaking. This is more than just the issue of feasibility; when goals are translated into social acts, a new light is cast on their implications and consequences, often altering the structure of the leaders' preference functions. Several Soviet theorists have incorporated this idea into their concepts of the Soviet policy process as a cybernetic model.[6] Given the existence of such a feedback process, the quality of the feedback to the Party leaders is crucial. David Apgar has shown, however, that feedback quality varies sharply among branches of the economy, depending on the nature of the partners in lower-level transactions and the condition of these operations. Often, the policy readings obtained must be dysfunctional.[7]

A more cynical view of the role of ideology in policy formation emphasizes the opportunism of policymakers and the malleability of goals other than that of power.[8] This approach too would deny the existence of a rigid barrier between policy formation and its implementation.

A second reason for blurring the separation of goal-setting and implementation is politically more interesting, because it involves the role of implementers and third parties in the setting of goals themselves. The contribution of implementers arises from an inherent dilemma of goal setting. Policymakers cannot deduce concrete goals of economic development from the principles of Marxism-Leninism, nor do they schedule retreats to contemplate their objectives functions. Goals are set in considerable part by implication in the process of selecting a development blueprint whose structure is extensively shaped by economic reality and planning-decisionmaking procedures. Very infrequently the top policymakers will have a clear sense of their objectives, which may differ from the set internalized by the *apparat*, and impose these directly on the planning process. Gorbachev's rejection of the first draft of the 12th Five Year Plan (1986–90) may be an example, but perhaps that too was more a reaction to the prepared draft

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[6]See, for example, Donald V. Schwartz, "Decisionmaking, Administrative Decentralization, and Feedback Mechanisms: Comparisons of Soviet and Western Models," *Studies in Comparative Communism*, No. 5, 1 and 2, Summer 1974, pp. 146–183.

[7]Apgar, *The Adversary System in Low-Level Soviet Economic Decisionmaking*. Where there are multiple feedback channels, as in the case of consumption levels and standards, for example, leaders may be able to discriminate qualities of information. The creation of watchdog agencies, such as the "control" committees in Party and government or parts of the Ministry of Internal Affairs and the KGB, are one way of attempting to improve the feedback. The party hierarchy itself is probably the most important mechanism fulfilling this function.

[8]This view has a long lineage in the Sovietological literature. For a recent articulated version, see Vladimir Shlapentokh's forthcoming study of Soviet ideology, *Soviet Public Opinion*, to be published by Praeger in the summer of 1986.

than the substitution of independently derived objectives.[9] In any case, the more usual rule seems to be implicit goal-setting through selection of a draft plan.

For example, the share of national product that should be allocated to investment in an economy that deprives consumers of sovereignty is not derivable from the propositions of economic logic. It is therefore a parameter that should be left to top policymakers. But how can they decide whether it should be 10, 20, or 30 percent? The Marxist-Leninist "law" of "proportional development" is of no help. Even the "necessity" for preferential growth of Division I (producers' goods) over Division II (consumers' goods) of the national product may be disregarded as the situation warrants. We have little information on what takes place in the Politburo, but the issue is unlikely to take this form. More probably, in the ordinary course of events, the rate of investment is determined as the consequence of the leadership's acceptance of a variant of a national economic plan. In the preparation of that plan, the central planning agencies keep in constant touch with the Central Committee apparatus, feeling their way to a consensus on key targets and economic relationships. The room for maneuver and choice is narrowed by the procedure of planning "from the achieved level"—the simplification used by central planners to cope with inadequate information (and computing capacity) and top-level pressure to squeeze out system slack—but by the same token this is another major cross-channeling of implementation on policy formation.

In this process of administered *tatonnement* toward a national plan, branch ministries appear to be partners with central planners and the Party's central apparatus. But plan and policy formation is also an antagonistic game in which the interests of the players diverge sharply. Ministries seek easier plans and forms of slack that will not be recognized and appropriated by central planners; the latter, in turn, squeeze the ministries to avoid becoming scapegoats for their failures. At the Central Committee, the power game is more subtle but as intense, and economic success or lack of it can also make or break careers. This relationship—from Central Committee to central planners to branch ministries—is, of course, far from a simple hierarchy of commands passed down and compliance transmitted up. It is also one of mutual dependence: The lower levels of the hierarchy require targets, resource

[9]Gorbachev had no similar problem with the draft 1986 plan in the fall and he is not likely to reexperience the difficulty in the foreseeable future. In the spring he was still operating with a Central Committee *apparat* and top-level Gosplan leadership largely inherited from the past. Extensive personnel changes have been rapidly altering the complexion of top Party and government bodies. He should have substantially his own cadres in place by the time the 27th Party Congress convenes February 25, 1986.

allocations, and rules of behavior from the top; the center cannot operate without information from below. Because the center is neither omniscient nor omnipotent, the three-sided relationship is expressed in multisided bargaining between center and periphery that opens up possibilities for policy influence from various directions and dictates outcomes that deviate from the objectives of all actors in the system.[10]

The development of the plan requires guidance from the top on its major parameters. But even these will not be purely exogenously determined; they will be choices derived from some interplay of forecasts of economic potential[11] and sets of sectoral and regional development plans, shaped by the planning and branch management agencies. Perhaps the most exogenous target in the set of high level directives is the structure and growth of military spending. Presumably, this is heavily conditioned by requirements planning in the military establishment, but even military requirements must be fitted to economic possibilities, in both a macro and a micro sense. The former requires vetting by central planners;[12] and emigré accounts indicate that the military does not necessarily win over the latter. Although we have little direct evidence on the macroadjustment process, the record of the real rate of growth of Soviet spending strongly suggests that such a process does take place.[13]

The role of third parties in policy formation is not dictated by the inherent properties of goal setting but by evolution of the Soviet system. Even under Stalin, specialists contributed to the making of policy, but their involvement in economic decisionmaking became much more prominent and extensive under Khrushchev and Brezhnev.[14] The growing complexity and differentiation of the economic structure probably made inevitable a certain diminution of ideological content and bureaucratization (in the Weberian sense) of the economic system. This process weakened the requirement for witchdoctors and strengthened the demand for scientists and technicians.

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[10]These relationships are further complicated by the fuzziness of the line between functional and administrative organs. Central planning agencies have operational functions, and central planning functions are performed within the Presidium of the USSR Council of Ministers and its apparatus. See also Freidzon, *Top-Level Administration.*

[11]On the role and organization of economic forecasting, see Freidzon, *Top-Level Administration*, Chapter 4.

[12]See Michael Chechinski, *A Comparison of the Polish and Soviet Armaments Decisionmaking Systems,* The Rand Corporation, R-2662-AF, January 1981.

[13]See Becker, *Sitting on Bayonets: The Soviet Defense Burden and the Slowdown of Soviet Defense Spending.*

[14]See Peter H. Solomon, Jr., *Soviet Criminologists and Criminal Policy: Specialists in Policy-Making,* Columbia University Press, New York, 1977; and Richard B. Remnek (ed.), *Social Scientists and Policy Making in the USSR,* Praeger, New York, 1977.

Under Stalin, economics as a discipline was ruled ineligible for participation in government. Engineers and hard scientists were respected and admired, but politics ruled decisively, often even on technical issues. A hallmark of the Brezhnev period was the deliberate and widespread use of experts and consultants, from the Politburo and USSR Council of Ministers down to the working units of the economic hierarchy. Examples abound: We are aware of academic consultants to the departments of the Central Committee. Freidzon depicts groups of nonstaff consultants and advisors attached to the Assistant to the Party General Secretary for Economic Questions. These include high officials and senior staff members of central planning organs but also important figures from the nation's scientific centers (p. 89). Directors of the major scientific centers are said to be members of the permanent commissions on economic issues attached to the Politburo (p. 102). Prominent scientists are said to be members of sections of technical-economic councils attached to the permanent branch commissions of the USSR Council of Ministers Presidium (pp. 211–212). The scientific centers are major constituents of the process of economic forecasting that is vital to long-term planning (pp. 68–74). An Experts Commission played a prominent role in the work of USSR Gosplan (as well as in republican counterparts), independent of the five research and study institutes attached to Gosplan. Various components of the Academy of Sciences apparently are increasingly brought into closer contact with the government. An expanded session of the USSR Gosplan's Collegium on July 21, 1981 discussed the problem of introducing into production the results of basic research in the Ukrainian Academy of Sciences. Participants included senior academicians from the USSR as well as the Ukrainian Academies and government ministers.[15] In the field of population and labor policy, academic specialists forced the Party and government to recognize major demographic changes and to consider their policy consequences.[16]

The increased reliance on specialists in the Post-Stalin era did not mean that "science" ruled. Brezhnev himself warned against a "technocratic" approach to problems of economic administration at the December 1973 Party Plenum. Academics are permitted to help clarify issues but their views may have no reflection in policy.[17] Politics still dominates economics, science, or technology—witness such different examples as the inability of the mathematical economists to impose

[15]"V Gosplane SSSR," *Planovoe khoziaistvo*, 1981, No. 8, pp. 125–128.

[16]See Feshbach, *The Soviet Population Policy Debate*.

[17]Elizabeth Teague, "Reformers Keep Up the Pressure," Radio Liberty Research, RL 242/84, June 18, 1984.

concepts of optimal planning on Gosplan in the 1970s, or the extraordinary volume of investment in agriculture even before the approval of the Food Program at the May 1982 Party Plenum. Nevertheless, specialized assistance in dealing with economic (as well as many noneconomic) issues was sought to an unparalleled degree.[18]

However, by far the most important channel of specialist influence is the interaction between policymakers and the ministerial apparatus. The ministries execute policy, but they also help frame it by virtue of the specialized knowledge often uniquely contained there and the dependence of the center on their informational inputs. In fact, policy often is made in ministries—particularly on highly specialized issues—subject to parameters set out in very general terms by the center.

PARTY VS. GOVERNMENT

Yurii Andropov began the practice, continued by his successors, of publishing brief summaries of the proceedings of (generally) weekly Politburo meetings. These summaries indicate a surprising attention to less than first rank—often, indeed, distinctly minor—economic issues on the part of the supreme political authority. To cite but a few recent examples: The meeting reported in *Pravda* of May 31, 1985 discussed agricultural production in the Russian Non-Black-Earth Zone, but also the development of radio broadcasting and the Moscow subway system. Agriculture is certainly high on the leadership's list of important economic problems and is often on Politburo agendas. The session reported in *Pravda* of April 12, 1985 discussed the spring planting but also a proposal to create a single collective farm fishery system headed by an all-Union Association of Collective-Farm Fisheries. The meeting reported in the March 22, 1985 issue of *Pravda* took time out from an agenda largely devoted to foreign policy to deal with the efficiency of irrigated farming in Rostov oblast. Many or perhaps even most of these issues are likely to have been examined first by the Council of Ministers Presidium, which suggests that the Politburo consideration may often be in the nature of review or confirmation.[19]

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[18]The late Nikolai Inozemtsev, director of the Institute of World Economics and International Relations, told an American reporter: "I can hardly imagine a situation where the political decision would run counter to the majority view among scientists. It is unimaginable." Henry Brandon, "How Decisions Are Made in the Highest Soviet Circles," *Washington Star*, July 15, 1979.

[19]Some items on the agenda may be included pro-forma to make political points with the Soviet citizenry or particular interest groups.

When a many-sided controversy is involved, the Politburo may hold joint sessions with the Presidium.[20]

The Politburo, as is well known, includes a number of regional Party leaders, and several of its members are usually also senior Secretaries charged with supervision of major economic sectors, such as agriculture and heavy industry. The economic functions regularly exercised by these Politburo members by definition involve implementation of policy arrived at by the highest Party organs in some collegial fashion. Conflict with highest government authority generated in the process is inevitable and has required periodic efforts at regulation.[21]

Enough has been said to suggest that the simple dichotomization Party policy formation vs. government policy implementation provides little insight into the actual processes of central decisionmaking. The deficiency is in the understanding of the requirements of decisionmaking and in the sense of the way the apparatus works.

The first factor concerns the feedback characteristics of policymaking. Policy cannot be set in a contextual vacuum. Assuming even that goals are somehow exogenously given, the policy must be grounded in detailed knowledge of the field of activity to which the policy will apply. Presumably, the Politburo relies in part on the government and on the Party Secretariat to acquire such expertise, but it cannot avoid having to dirty its own hands in the empirical loam.

This is all the more true for a second reason. Policy cannot be totally separated from implementation without becoming irrelevant. The day-to-day oversight of policy implementation is one of the main functions of the Central Committee Secretariat, which brings to the Politburo's attention issues considered to require highest level pronouncements. Such consideration is the most powerful weapon the Party possesses to maintain adherence to policy. Thus, the Politburo must devote much of its time to this function of critiquing implementation.

Review of policy implementation provides information also on the deficiencies of the policy itself, which can be adjusted or revised. The data for policy review come from both Party and government sources.

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[20]Freidzon, *Top-Level Administration*, pp. 99–101.

[21]Freidzon, *Top-Level Administration*, pp. 97–98m states that efforts by Politburo regional leaders to squeeze out above-plan resources for their particular regions drew sharp complaints from the apparatus of the Presidium of the USSR Council of Ministers and resulted in procedural rules that (a) elevated the chairmen and first deputy chairman of the USSR Council of Ministers above the Politburo regional leaders, and (b) required all issues of regional development to be dealt with in the Council Presidium, regardless of the rank of the regional Party leader. At the moment, there are only two regional leaders on the Politburo: Shcherbitskii (Ukraine) and Kunaev (Kazakhstan).

The initiative may come from either. In all cases, the issues will be thoroughly vetted by the Secretariat before inclusion on the Politburo's agenda.

Finally, despite its supreme authority, the Politburo may suffer from the same bureaucratic overload in decisionmaking that Ellen Jones found to be "endemic to nearly all committees in the USSR." Throughout the system,

> lower-level officials routinely exploit opportunities to nominate agenda items by crowding the committee docket with decisions that they themselves are responsible for making. Eliciting the approval of a higher-level committee is a convenient way of diluting individual responsibility.

If there is overload on Politburo decisionmaking, it is probably traceable in some part to the failure of the USSR Council of Ministers to fulfill its responsibilities. In turn that organization is burdened by buck-passing from lower organizations.[22]

Thus, the Politburo's task of policy formation inevitably involves it in extensive policy and implementation review. This makes more comprehensible the wide range of issues considered and the degree of detail discussed at Politburo meetings, as reported in *Pravda*.[23]

But how can the Politburo deal week-in, week-out with so broad an array of issues? All the members and candidates have full-time assignments in other Party and government organs—even the reigning member is, after all, the head of the Secretariat—and it is believed that their personal staffs are fairly small. The answer is in part that the issues on the Politburo agenda are staffed out by the Party and government. But the function of the apparatus is even broader and surprisingly more powerful. Freidzon (p. 103) declares that the Politburo's role "in decisionmaking on the allocation of resources amounts to a process of political sanctioning of already prepared draft decisions elaborated by the Party's central economic apparatus, organs of the USSR Council of Ministers, and the collegial structure of various departments of the Party and state apparatus." When the

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[22]Ellen Jones, "Committee Decision Making in the Soviet Union," *World Politics*, 36:2, January 1984, pp. 101, 180, 183–184.

[23]The agenda of Secretariat meetings is also crowded with less than first-rank issues. A Soviet official explained: "Some decisions can be made at lower levels, but there is a reluctance to take responsibility." Nevertheless, the crowded agenda was generally disposed of in 90 minutes, since "most of the work is done outside these meetings, within the [specialized departments and] apparatus." Ned Temko, "Who Pulls the Levers of Power in the Soviet Machine?" *The Christian Science Monitor*, February 23, 1982. The secretary of the Politburo in the 1920s, Bazhanov, claimed that Politburo meetings at that time considered as many as 150 questions. Cited in Michael Voslensky, *Nomenklatura, The Soviet Ruling Class*, Doubleday & Co., New York, 1984, p. 105.

Politburo "sanctions," it does so as the culmination of a process of probing for a solution among the major actors—Secretaries and their subordinate department heads, other Politburo members, and the USSR Council of Ministers Presidium and its apparatus. The Presidium contributes directly to the Politburo's and Secretariat's consideration of economic issues. Central planning organs interact frequently with the relevant Central Committee departments, providing information, judgments, and proposals. Gosplan senior officials seek to diffuse responsibility for decisions on major issues by a process of frequent consultation with relevant Central Committee departments.[24] Government enters even into the advisory organs of the Politburo, according to Freidzon, who states (p. 102) that permanent commissions established by the Politburo are headed by deputy chairmen of the USSR Council of Ministers, assisted by chiefs of branch departments of the Central Committee and deputy chairmen of USSR Gosplan. In such a process of policy formation, the weight of Politburo authority is heavy, but the influence of the other actors in shaping the decision is also strong.

Nevertheless, it is the Secretariat, quite clearly, that exercises the greatest influence. Roy Medvedev accuses the Secretariat of usurping many government functions, executive and legislative, so that action by the Council of Ministers or the Supreme Soviet often becomes mere ratification of Secretariat decisions. In other cases, the Secretariat duplicates the work of government bodies or interferes in matters that should properly be the domain of Gosplan or a particular ministry.[25] Considering indeed that the Secretaries holding major portfolios, including economics, are generally full members of the Politburo, the power of the Secretariat may be practically inseparable and indistinguishable from the power of the Politburo.[26]

This has been the general pattern of Party-government interaction for many years. Freidzon believes, however, that under Brezhnev the highest Party organs significantly gained authority in economic matters at the expense of the highest government organs. He depicts this process as centering on the creation of the office of the Assistant to the General Secretary for Economic Questions, which acquired the

[24]See also Jones, "Committee Decision Making," pp. 177–178.

[25]Roy A. Medvedev, *On Socialist Democracy*, Alfred A. Knopf, New York, 1975, pp. 116–117. Ned Temko's respondents told him that on domestic issues, "especially those involving nuts-and-bolts direction for running the country, the Secretariat was said to make decisions itself" (independently of the Politburo). Formally, the Secretariat cannot direct the government, so some decisions must be confirmed by the Politburo. *The Christian Science Monitor*, February 23, 1982.

[26]For a fuller development of this question, see Voslensky, *Nomenklatura*, pp. 247–275.

controlling reins over the staffing of Central Committee issues: "The key to the formation of the national scheme of resource use in the Soviet economy is in the hands of the economic apparatus of the General Secretary" (p. 88). The Assistant is also said to be the de facto head of the Economic Section of the Secretariat, uniting all the departments involved in economic affairs (p. 121). This development would not only centralize top level policy formation in the General Secretary's hands, but it would also alter the balance of power between the Council of Ministers and the Politburo as well as between their heads, the General Secretary and the Premier. The Premier continued to be answerable for economic matters in the Politburo, but the right of political initiative in discussions of basic directions of Party economic policy moved from the staff of the USSR Council of Minister's chairman to the staff of the Party General Secretary (pp. 89–90).[27] This was the institutional embodiment of Brezhnev's victory in his long struggle with Kosygin for authority in economic matters. The development may also help account for the extraordinary involvement of the Politburo in the detailed implementation of Party policy.

CENTRALIZATION VS. DECENTRALIZATION

The Soviet government attempts to exercise a degree of supervision over the economy that is unparalleled in the Western world. All land is owned by the state, as is almost all fixed production capital; the state claims for itself a total monopoly of foreign trade; the government organizes almost all nonagricultural production, sets prices, allocates (or regulates the allocation of) current material and capital inputs; labor movement and consumption are also subject to state control. The growth and structure of the economy are intended to be planned and regulated in accordance with the aims of the central authority. Thus, the economic functions the government appropriates are far more important in the USSR than they are in any Western state, whatever its ideological hue.

Whether or not it is an inevitable consequence of such a concept of the state's economic role, Soviet economic decisionmaking is centralized and bureaucratized. "More than 150 separate vertically managed organizations (branch ministries and departments) are today involved

[27]Freidzon distinguishes this right of political initiative from that of "raising economic issues at sessions of the Politburo," which lies with both the General Secretary and the Premier (pp. 99 and 109, n. 6).

in the planning and management of the Soviet economy,"[28] generating a mountain of regulatory paper in the process.[29]

The official ideology responds differently to these core characteristics of the economic system, incorporating centralization with modifications but combating bureaucratization. The idealized model stresses the importance of a flow of ideas and influence from the bottom up, but it does not shrink from proclaiming the leading role of top down. In the mythological formula of decisionmaking, the first word is "democratic" but the second and operative is "centralism." However, if the great advantages of a socialist economy are said to be the potential for central planning and the assurance of the priority of national interests—a slogan repeatedly stressed in Soviet writings—no boasts are heard for the bureaucratization of decisionmaking. The official ideology enjoins reducing the bureaucracy's size by innovative organization and curbing its stifling effects by persistent "Party-mindedness."

The disadvantages of centralization in a modern economy and in a country as vast as the USSR are evident to many.[30] Nevertheless, the natural tendency of the system is to greater centralization. When the periphery distorts central purpose, willfully pursuing its own interest or even out of misunderstanding, the center reacts to control the disturbance by tightening the leash. As the economy becomes more differentiated and more complex, the center responds in kind. Between 1967 and 1974 the number of union-republican ministries (those having both a Moscow center and republican counterpart) remained unchanged at 31, but the number of all-union ministries, controlling the branches of the economy entirely from Moscow centers, increased from 23 to 30; during the previous 12 years, the former had increased by three, while the latter decreased by four.[31]

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[28]Leslie Dienes, "Regional Economic Development," in Abram Bergson and Herbert S. Levine, *The Soviet Economy: Toward the Year 2000,* George Allen and Unwin, London, 1983, p. 261, n. 33. Dienes's source was N. N. Kazanskii, Akademiia nauk SSSR, *Izvestiia,* Seriia geograficheskaia, 1979, No. 2, p. 11.

[29]A former Soviet jurist, writing in 1982, estimated that the Soviet Council of Ministers had issued "nearly twenty thousand regulatory directives and that the total number issued by all agencies and currently in force [numbers] one hundred thousand." Olympiad S. Ioffe, "Law and Economy in the USSR," *Harvard Law Review,* 95:7, May 1982, p. 1592. Voslensky (*Nomenklatura,* p. 275) emphasizes regulation by telephone.

[30]M. Anisimov sees a need for "a reevaluation of the organs administering the economy of the country" derived from the sense that detailed central planning is impossible in a country as large as the Soviet Union. "Aktual'nye voprosy metodologii i metodiki narodnokhoziaistvennogo planirovaniia," *Planovoe khoziaistvo,* 1982, No. 5, pp. 76–77.

[31]Boris Lewytzkyj, "Sources of Conflict in Top Levels of Soviet Leadership," *Radio Liberty Dispatch,* RL 3/75, January 3, 1975. Of course, ministerial reorganization has been a perennial feature of Soviet administrative change and is likely to reoccur periodi-

But what are the results of the administrative process of centralization? Powerful ministries commit the sins of departmentalism and parochialism. Central purpose is stymied and even computerization and optimizing management procedures cannot help because ministries refuse to reveal their real production potential.[32] Conservatives react by calling for the intervention of politics—Party pressure.[33] Ironically, therefore, hard-line Marxists call for subjective effort to manage an objective, structural deficiency.[34] Liberals call for new forms of economic organization that will decentralize decisionmaking and harness agent interest to national interest.[35]

The proliferation and centralization of ministries, under these conditions of taut planning and supply uncertainties that are seemingly intrinsic to the Soviet system, trigger a response the Soviets call "universalization." Branch ministries develop or acquire production facilities outside their nominal specialization to meet their basic production plans. As much as one-fifth of the output of industrial ministries is said to be in this extra-specialization category. Almost half of all sulfuric acid output, two-thirds of all plastics production—even a third of all production of forging and pressing machinery—now comes from ministries other than the designated specialists. Sixty ministries and agencies produce building materials and 70 different entities produce sawn timber. The Soviet writer citing these data declared that branch management was turning into "departmental" (*vedomstvennyi*) management,[36] which, of course, complicates the task of designing and implementing strategies of branch development.[37]

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cally. Gorbachev seems to be reacting to economic complexity in part by centralizing moves. See Sec. III.

[32]Academician N. Fedorenko in *Ekonomicheskaia gazeta,* No. 1, January 1985, p. 14.

[33]P. Ignatovskii, "O politicheskom podkhode k ekonomike," *Kommunist*, No. 12, August 1983, pp. 60–72.

[34]What is at issue is, in Marxian terms, a contradiction between the relations and forces of production. This is a delicate subject for Soviet theorists. Chernenko passed it off as largely the problem of laggard enterprises using obsolete equipment and processes and low-skilled labor. The solution was to bring the lagging branches of the economy up to the level of the leading branches. (K. Chernenko, "Na uroven' trebovanii razvitogo sotsializma," *Kommunist,* No. 18, December 1984, p. 5.) According to Freidzon, in the late 1960s or early 1970s, the thought was to work toward optimizing the lead-and-lag process in an effort to harness the creative tension of the contradiction. For modernizers or liberals, the contradictions mirror deep-set difficulties in the economy and must be resolved by more or less far-ranging structural reform.

[35]L. Abalkin, "Teoreticheskie voprosy khoziaistvennogo mechanizma," *Kommunist,* No. 14, September 1983, pp. 28–38.

[36]R. G. Karagedov, "Ob organizatsionnoi strukture upravelenii priomyshlennost'iu," *Eko,* 1983, No. 8, pp. 57–58.

[37]The encouragement of subsidiary production of consumer durables in military industrial plants, in part to use mobilization capacity in peacetime, contributes to this trend.

A much more common Soviet usage of the term "departmentalism" refers to the parochialism of ministerial and enterprise interests and the inability or refusal to take national interests into account. In this sense, departmentalism provides another, more familiar drag on branch development—barriers to the diffusion of innovation: According to one Soviet writer, 80 percent of all new developments (how measured is not clear) are still introduced into production at only a single enterprise, less-than 1 percent at five or more enterprises. He warns: "If we are unable to change this situation, hopes for a fundamental and rapid increase in labor productivity through scientific-technical progress will remain only hopes."[38]

A dualism almost as old as that of centralization and decentralization is administrative measures vs. economic incentives—"not by accident," for they are intimately related. Pending the arrival of the messianic era of perfect computopia, centralization depends on directives, on administrative measures; decentralization must be accompanied by suitable price, profit, and wage incentives. Because central planning depends heavily on extrapolation of production targets from achieved levels and makes considerable errors in tying together resources with their suppliers and users,[39] it generates lower-level concealment of real production possibilities.[40] To modernizers and reformers, this situation has only one solution—extensive decentralization based on economic incentives. Conservatives, however, would respond by tightening central controls. In Soviet economic history, it has often happened that both are done simultaneously. The 1965 reform abolished the regional economic councils, *sovnarkhozy,* restoring the central ministerial structure; it also centralized supply planning and allocation in Gosplan and a new organization, Gossnab (the State Committee on Material-Technical Supply), while attempting to make profit and sales the primary enterprise success indicators. The July 1979 decree also emphasized enterprise incentives, yet it incorporated goals of the so-called "counterplans"—more ambitious enterprise counter-"proposals"

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[38]B. Konovalov, *Izvestiia,* January 30, 1985, p. 2.

[39]The plan is a "vision of growth" more than a feasible program, in the view of Eugene Zaleski (*Stalinist Planning for Economic Growth, 1933-1952,* University of North Carolina Press, Chapel Hill, 1980, p. 483). Plans are inevitably inconsistent—over-ambitious goals, based on unreal assumptions and poor information and embodying planner errors—according to Michael Ellman, *Planning Problems in the USSR: The Contribution of Mathematical Economics to Their Solution, 1960-1971,* Cambridge University Press, 1973.

[40]In turn, planning "from the achieved level" is also one of the simplest ways to overcome lower-level concealment of production reserves.

to centrally directed plan drafts—in the base for judging plan fulfillment, thus institutionalizing another instrument of taut planning.

The relationship between center and periphery in the Soviet economic mechanism is one of the crucial dilemmas of the system. Legitimation of the system depends on an uncritical acceptance of the necessity of central policymaking and central planning; efficiency considerations pull to decentralization. But in that direction the Brezhnev regime saw subversion of the political order (the paradigm is Czechoslovakia 1968), and they pulled back well short of a coherent, consistent program of decentralization. This inevitably generated distortions of central goals, to which the Central Committee responded by tightening central direction—and the pendulum continued to swing, although within a narrowed arc.

PRIORITY AS AN ALGORITHM OF CENTRAL PLANNING

The chief instrument at the Center's disposal for the enforcement of its goals is priority. In a perfectly functioning central planning world, an integrated Party strategy would be embodied consistently in the state plan, which, as the law of the state, would be fulfilled to the letter. Such a vision has never come close to realization. Even under Stalin, lower-level units developed multiple forms of only simulating obedience to the plan, but perhaps the primary problem was the primitiveness of the central planning system. When the craft and technology of planning improved, the discipline of terror had substantially disappeared. Thus, in conditions of far-from-perfect central planning and lower-unit discipline, protection of central interests became and remained dependent on systems of priority in resource allocation.

The *locus classicus* of priority is military production, but in fact the organs of supply planning—Gosplan and Gossnab, predominantly—operate several different schemes of priority for other than purely military products. These schemes are both formal and informal, overlapping and reinforcing but also contradicting each other. Not surprisingly, ministries often seek to get their own inputs onto priority allocation lists, while central planners and the USSR Council of Ministers resist the debasement of priority coinage. Priority appears to work best when imbedded at all levels of the economic hierarchy, when all actors in the system internalize the priority ranking. This is the way the priority of military production has been safeguarded and it is the reason for the conspicuous success of that priority system. The absence of such an imbedding of priority may be a contributing factor to the troubles the energy sector experienced, on which more below.

Priority must be safeguarded not only in the stages of plan formation and initial resource allocation but also in the implementation of the plan. The consensus Western view is that when supplies fall short because of plan errors or various other reasons, military demands tend to be satisfied first. In Yanov's picturesque phrase, "the miliary possesses the *jus primae noctis,* so to speak."[41] The ordering of other needs is often less certain. Here the role of regional Party leaders may be critical, for it is frequently they who can determine which enterprises in their jurisdictions shall receive and which shall remain wanting. The oblast Party secretary's sense of priorities derives from his links with the Central Committee, and the ad hoc priority allocation decisions may also be shaped by communication with the relevant Central Committee departments.

Institutional arrangements are vital for the successful operation of priority. Gosplan and Gossnab act to protect military priorities in the supply of inputs, but there is also a high level organization that oversees military development programs, the VPK (Military-Industrial Commission). The VPK regulates the development process from the stage of applied research to that of preparation for factory production; it assures schedules, quality, and quantity. The VPK is thus a program organization, overseeing the execution and integration of hundreds of individual projects, cutting across the entire ministerial structure.

Few Westerners are surprised to discover the existence of a "czar" of Soviet military development, but what is unexpected is that the VPK has almost no counterparts in the civil sector. This was certainly the case until the last decade and the emergence of interagency commissions on interbranch issues, such as renewable energy sources, computer technology, and useful minerals. But even these organizations do not appear to have anything like the authority of VPK to direct the activity of branch ministries; they seem, on the whole, to be mere consultative organs. The natural candidates for VPK-like roles in the civil economy are the standing branch commissions of the Presidium of the USSR Council of Ministers, of which the VPK is one. Freidzon terms them "the highest organs of state management and executive authority for the general management of technologically similar branches," and his description of their functions is far-reaching (p. 158):

> One of the most complex tasks of organization and planning solved by permanent branch commissions is the general management of branch ministries and production committees to ensure the optimal combination of rates of growth of production with systematic

[41]Alexander Yanov, *Detente After Brezhnev: The Domestic Roots of Soviet Foreign Policy,* Institute of International Studies, University of California, Berkeley, 1977, p. 24.

> modernization of the product mix and the improvement of production technology, in accordance with the demands for S&T progress set forth in the state's technical policy.

As Freidzon acknowledges, there is almost nothing published in Soviet sources on the operation of these commissions, and the contrast between the importance he attributes to them and the almost total silence of Soviet sources on the subject is striking. There may be a hint why these commissions may be less significant than their title and place in the hierarchy suggest in the identity of the civil-sector commissions according to Freidzon: heavy industry; machinebuilding; chemical, petrochemical, and other branches; light and food; construction; agriculture; transport and communication. Most of the civil sector commissions on this list involve direction of several technologically similar branches, as in the Freidzon definition cited above. But the VPK oversees a variety of branches of industry whose common characteristic is the identity of the single ultimate customer, rather than the technology of production. As indicated earlier, the VPK is more a program than a branch organization, apparently not the case with its civil-sector counterparts. Of course, the VPK also supervises the highest priority sector of the economy.

The ineffectiveness of the civil branch counterparts to the VPK has been acutely felt in the development of the sectors they are supposed to supervise. Perhaps the outstanding example is the energy sector. The interrelatedness of coal, gas, oil and other sources, partly in production but obviously in use, seems to require a unified command. But Gustafson found "no evidence that the leaders have been about to create one." In the late seventies and early eighties, the Party Secretariat played a prominent role in energy matters but the staff work had to come from the government apparatus. Gustafson believes that "despite the lack of a single formal policymaking body for energy, something like unified control comes from the fact that the Kremlin has given that sector direct daily attention."[42] But "direct daily attention" was necessitated by the conflicting lines of authority and the absence of a single clear policy line. The program for development of the gas resources of Urengoi and the construction of six giant pipelines to the European USSR, one of which continues on to Western Europe, was formulated and conducted like a quasi-military campaign, but without a commanding officer, an apparent general staff, or an integrated war plan. The gas campaign should have displayed all the virtues of centralized strategic decisionmaking. But as Gustafson demonstrates, none of the basic strategic choices was worked out before

[42]Gustafson, *The Soviet Gas Campaign*, pp. 16–17.

the campaign went into full swing—not the issue of long term vs. short term output-maximization, or that of the relative contributions of Western and domestic technology, or the tradeoff between domestic and export use, as well as many other basic issues of policy. The inadequacy of the planning framework showed up in changes of policy direction, logistical difficulties and, of course, increasing costs.

None of this is to deny the success of the gas campaign in moving huge volumes of gas out of inaccessible areas, thousands of miles across the USSR and eastern Europe, in record time. Thereby it exhibited the classic advantages of centralized economic direction focused on an issue of high priority. It remains remarkable, nevertheless, that the success was achieved despite the absence of an integrated strategy and a unified command. The atmosphere of continuous "storming" contrasted sharply with the steady, moderate pace of the military buildup and exacted a toll in high opportunity costs.

These features of energy development form a salient example of a pattern characteristic of Soviet economic decisionmaking—weakness of the apparatus in dealing with interbranch and interregional issues. The development of the eastern regions of the USSR, East Siberia, and the Soviet Far East, provides other important examples. BAM, the Baikal-Amur Mainline railroad, the major project in these regions, is still not fully operational and is probably far over budget. It has been plagued by personnel turnover, at least in part caused by uncertainty about prospects for infrastructure and other development in the region. BAM may be formally a "national, goal-oriented, long-term program," but it still lacks a simple management agency to coordinate the multiple government bodies involved.[43] Conflict among ministerial bureaucracies and with local interest groups, particularly the regional Party organizations, has characterized the debate on other issues of eastern-region development.[44]

Concern with deficiencies in handling cross-cutting issues of this kind was probably a major reason for the increasing support of systems and matrix approaches in management. The concept of "goal-oriented program methods" has found its way into Soviet plans in the form of line-item special target programs and into economic administration in the form of special commissions of the Presidium of the USSR Council of Ministers to monitor such cross-cutting programs. Such ideas also were an important influence in the reorganization of Gosplan in about 1980. Program planning was made the basic framework, at least on

[43]Interview with A. G. Aganbegyan, Chairman, and V. P. Chichkaner, Vice Chairman, of the Academy of Science's Scientific Council on the Problem of BAM, in *Izvestiia,* November 20, 1984, p. 2.

[44]Pinsky, *Industrial Development of Siberia and the Soviet Far East,* pp. 30–41.

paper, of Gosplan's organizational structure. The issue has also been very much on Gorbachev's mind, as indicated by his administrative reorganization of agriculture and machinebuilding. This is discussed in Section III.

EXTENSIVE VS. INTENSIVE DEVELOPMENT

Priority was one of the key strategic instruments of the Stalinist system of extensive development. However, by the late 1960s some Soviet writers began to speak about the impending need to move from an extensive to an intensive mode of development. In the former, output growth is obtained largely from the increasing application of labor and capital; in the second, productivity is the major source of growth. As output/capital ratios continued to decline, even by Soviet measures, and as the demographic growth trough of the 1980s became more visible, the need to move from one development model to another became official policy. But policy proclamations are not necessarily equivalent to policy adoption, let alone implementation. The centerpiece of the 11th Five Year Plan, whose hallmark was to be intensive growth, was the gas campaign, a classic resource mobilization effort in near-Stalinist style. The prescription for the perennial ills of agriculture was also resource-intensive. Not surprisingly, productivity growth remained an elusive goal. By CIA measure, the aggregate productivity of all factors not only did not grow but was actually negative in every year but one from 1973 to 1984.

Western writings on the Soviet economy have examined the systemic barriers to productivity increase at length. One factor that has not been considered is the psychology of transitioning from extensive to intensive growth. In the short and medium run, an abrupt change could result in lower growth rates than had been experienced in the 1950s (or 1930s).[45] Considerable slack would be required to ease the transition. Both considerations would be distasteful to traditional Soviet leaders. Under Brezhnev at least, it was not clear that Soviet leadership could stop reacting to its development problems by intermittently feverish efforts to mobilize resources in behalf of several high priority targets.

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[45]If relaxation of the pace of investment is considered a move to the intensive model, the abrupt drop in the growth rate of investment in the last half of the seventies may have been an important contributor to the sharp deceleration in general growth in those years. See Gertrude E. Schroeder, "The Slowdown in Soviet Industry, 1976–1982," *Soviet Economy,* 1:1, January-March, 1985, pp. 42–74.

THE SHORT AND LONG TERM

A major aspect of this psychological dilemma is the reluctance of policymakers to adopt a longer development horizon. The campaign instinct in the late Brezhnev period was in part an unwillingness to retreat from the battle for what Khrushchev called "the maximum gain of time."

The official ideology extolls central planning because it makes concrete the economic strategy of the Party, and centralized control of implementation because it enforces the Party's priorities. Decentralization is feared (even when steps in that direction are judged necessary), because it opens up the possibility of systematic divergence of economic results from the Party's goals arising from the conflict between local and national interests. One of the axes of this conflict is the time horizon of economic preferences. The Party has always believed that the actors of the system, if left to their own devices, would abandon the long-term interest of the society in the pursuit of individual and group short-term interests. In other words, a democratically expressed social rate of time discount under Soviet conditions would have been much higher than the regime's preferred rate, resulting in much higher investment/consumption goods price ratios and therefore a lower share of investment in the national output.

Paradoxically, however, it is short-term planning that dominates the Soviet economic system. The consuming problem of Soviet planning is and has been the setting of feasible, balanced, short-term plans. But in fact the plans are not balanced, or bottlenecks develop for other reasons after the targets and allocations are fixed. The resolution of these imbalances creates others that become the basis for the next round of planning. This is also a major reason why five-year plans have had so much less of a role in the Soviet system than annual plans. In the Stalin era, top Soviet leaders treated the five-year plans as approximations subject to continual change.[46] Despite the lip service to the primacy of five-year plans in the past three decades, they have not been conspicuously more successful;[47] the annual plans have remained the operational foundation of the system.

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[46]Referring to the Third Five Year Plan, Molotov declared, "Planning does not consist in a piling-up of figures and tables irrespective of how the plan is progressing. . . . Corrections have to be introduced into the planned figures and time-limits to bring them into accord with the actual process of carrying out the plan." Cited in Maurice Dobb, *Soviet Economic Development Since 1917,* 5th ed., Routledge and Kegan Paul, London, 1960, pp. 356–357.

[47]This is the basis for the apparently frequent practice by both ministries and Gosplan, often denounced by top Soviet leaders, of fiddling with targets at the close of the five-year plan period to improve the fulfillment record of the institutions concerned.

Nevertheless, the longer-range plan is needed to take orderly account of investment processes, including research and development. As the scale and complexity of development has increased with the acceleration of technological change and the lengthening of gestation periods of resource development in new regions of the country, Soviet planners have seen the need for truly long-term—10 or 15 year—forecasting and planning. However, long-term planning was for many years an orphan in the planning structure. It took years of pressure and controversy before long-term general and energy plans were produced in the last years of the Brezhnev period; their relevance is in doubt, judging from the sharp contrasts between five-year and annual investment plans and between plan and fulfillment in the 1980s.

The short-term horizon of planners and policymakers is displayed in many of the major issues of Soviet resource allocation. Environmental pollution began to draw government and Party attention only in the early 1970s; it remains an underdeveloped policy area. In energy, policy changed direction several times in the 1970s as the leadership responded to signals of short-term crisis rather than long-term development objectives. The oil resources of the Tiumen' were partly wasted by frantic efforts to maintain output in the short term; the gas campaign was conducted in a similarly frenzied atmosphere.[48] In population policy, serious top level attention could not be obtained until the demographic trough was virtually at hand.[49] Another major policy area exhibiting the same tendencies was the development of the eastern regions. Not only in West Siberia but in East Siberia and the Soviet Far East as well, development has meant primarily extraction of natural resources and their transportation westward. Infrastructure and other industrial and service development have generally been slighted. The immediate reason, of course, is shortage of funds, but the allocations reflect choices emphasizing short-term contributions to growth in the European USSR over the long-term balanced development of the eastern regions.[50]

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[48]Gustafson, *The Soviet Gas Campaign.*

[49]Feshbach, "Soviet Population Policy."

[50]Pinsky, *Industrial Development of Siberia and the Soviet Far East.*

III. PROSPECTS FOR CHANGE

THE GORBACHEV PROGRAM

The glacial pace of change in the Soviet economic system is not due to the lack of Soviet diagnoses of problems or corrective prescriptions for reform. In 1965 Academician Aganbegyan, in a confidential report that was leaked to the West, declared the USSR's industrial economy "the worst and most backward of all the industrially developed countries." He blamed this situation on "extreme centralism and lack of democracy in economic matters," which was institutionalized in the 1930s.[1] Proposals to alter the planning-administrative structure or the rules under which it operates proliferated before and since. Some of these have been put into practice, more or less faithfully. Western observers have tended to take a skeptical view of the efforts, seeing them as largely offsets to the errors committed in previous changes, bound to require further corrective action in a next round of "reform." Whatever the validity of these judgments, Soviet growth decelerated even faster in the late 1970s and early 1980s, leading to considerable alarm in the Soviet leadership and Western expectations of impending crisis.

In the West reform of the Soviet economic system was regarded as an unavoidable necessity that was being deferred only because of the decrepitude of the Soviet leadership. Thus, when the 54-year old Gorbachev acceded to power with the rallying cry, "We will have to carry out profound transformations in the economy and in the entire system of social relations and ensure a qualitatively higher standard of living for Soviet people,"[2] the West almost seemed to breathe a sigh of relief. The likelihood is that many people inside the Soviet Union were also heartened at the thought that perhaps at last something would be done to "put things in order."

On taking over the reins of leadership in March 1985, Gorbachev bluntly declared his mission and the urgency of fulfilling it:

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[1]Elizabeth Teague, "Debate Over Economic Reform Continues," Radio Liberty Research, RL 188/85, June 7, 1985, pp. 4–5. In his report to the 25th Party Congress, Brezhnev said: "We know our own deficiencies and see our problems better than our critics."

[2]*Pravda*, December 11, 1984.

> We will have to achieve a decisive turn in switching the national economy onto the tracks of intensive development. We must, we are obliged, in a short time to attain the most advanced scientific and technical positions and to reach the highest world level in the productivity of social labor.[3]

With varying emphasis and language, he reiterated this fundamental theme again and again in the next few months—to the conference of economic managers on April 8 (*Pravda*, April 12), at the April Central Committee Plenum (*Pravda*, April 24), on the 40th anniversary of the end of World War II in Europe (*Pravda*, May 9), to the Leningrad Party organization (*Moscow Radio*, May 21) and at the conference on acceleration of science and technology (*Pravda*, June 12).

The main lines of the Gorbachev program for pulling the economy out of its doldrums seem reasonably clear:

1. Shortly after taking office, Andropov declared: "Although everything cannot be reduced to discipline, it is with discipline that we must begin, comrades."[4] Gorbachev is decidedly of the same mind. The anti-corruption and labor discipline drive begun under Andropov are being revived and intensified. This has been complemented by a campaign against alcoholism.

2. More generally, Gorbachev wishes to apply the traditional Party slogan of "exactingness" (*trebovatel'nost'*)—a demand for disciplined, conscientious performance—with renewed and sustained vigor across the ranks of Party and government hierarchies. At the April Plenum, he declared the reinforcement of "order and discipline"

> a pressing contemporary requirement, which the Soviet people interpret in a broad way. In it they include order in production and in the services area, in public life and away from work, in each labor unit, and in every town and village. We will make every effort to ensure that order of this kind is strengthened in the country. . . leaders of collectives, bearing personal responsibility for discipline. . . must be brought more vigorously to account. One not infrequently encounters instances where managers of enterprises forgive indiscipline in workers, hoping that subordinates will in turn forgive their own blunders. We will not tolerate such an attitude of mutual forgiveness.

Ministers are not only being criticized for poor performance but are forced into retirement; provincial Party secretaries are being replaced; the Politburo and Secretariat have been restructured, largely with younger men. The rate of senior personnel turnover is unprecedented.

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[3]*Pravda*, March 12, 1985.

[4]*Pravda*, February 1, 1983.

3. Heightened discipline in all ranks is part of the solution to the problem of extracting more output from available resources. Another is "to use effectively, in a thrifty way, everything that already is available." Gorbachev assures the country that "huge reserves for developing our economy lie here."[5] Among these reserves is energy conservation, although it also has investment implications.

4. In the spring and summer of 1985 Gorbachev was less explicit in discussing overall resource allocation. The option of cutting back on consumption and military expenditure was "ruled out. We cannot embark on the path of curtailing social programs and defense measures."[6] Economic and social needs were great.

> At the same time. . . external circumstances give rise to the need to accelerate social and economic development. We are compelled to invest the necessary funds in the country's defense. The Soviet Union will continue to exert the maximum effort to halt the arms race, but in the face of imperialism's policy and threats, we must not permit it to gain superiority over us. Such is the will of the Soviet people.[7]

Gorbachev said little more on the defense budget, although the anti-American rhetoric of this period was notably loud.

The draft five- and fifteen-year plan published in early November does not answer these questions clearly, either. However, judging from the target for real income per capita and the goals for output of non-food goods and services, aggregate consumption appears to be slated for an increase of perhaps a little over 3 percent per year in the 12th Five-Year Plan (1986–90). At the same time national income is supposed to grow at 3.5–4.1 percent per year and fixed capital investment at 3.3–4.0 percent.[8] There may be room for a planned real increase in the defense share of total output.

5. He has been somewhat more explicit on the structure of investment. The relative weight of new construction is to be cut back sharply and the emphasis placed on reconstruction, and reequipment of existing enterprises is to be increased from a third to "at least" half of investment in the 12th Plan.[9] Very great weight is placed on this, especially on the magnitude of the qualitative change sought:

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[5]*Pravda,* February 20, 1985.

[6]This is the wording of the speech as carried on Moscow TV on June 11 (FBIS, *Soviet Daily Report,* June 12, 1985). *Pravda* of June 12, and *Kommunist,* No. 9 (FBIS, *Soviet Daily Report,* July 24, 1985, Annex, p. 2) delete the last three words.

[7]*Pravda,* June 12, 1985. For differences with both the TV and *Kommunist* versions, see FBIS, *Soviet Daily Report,* July 24, 1985, Annex, p. 2.

[8]*Pravda,* November 9, 1985.

[9]*Pravda,* June 12, 1985; "V Politbiuro Tsk KPSS," *Pravda,* August 2, 1985.

> What we need is revolutionary change, a transfer to fundamentally new technological systems, to the most up-to-date machinery to provide the very greatest efficiency. Essentially it is a matter of reequipping all sectors of the national economy on the basis of contemporary achievements in science and technology.[10]

This requires a sharp rise in the output of machinery: a 50 to 100 percent increase in its growth rate during the 12th Plan (the Plan draft calls for a 40–45 percent increase of output in five years), which will require a corresponding jump in investment in machinebuilding "through partial redistribution" by 80 percent.[11] Evidently, the agro-industrial complex will lose some of its priority: There "the level of capital investment has reached optimal proportions but the return is yet insufficient."[12]

6. As his call for "revolutionary change" in production technology indicates, Gorbachev is betting heavily on the saving grace of science and technology. At the April Party Plenum, he called it "a main strategic lever for intensification of the national economy," the means by which the Soviet Union will attain the world's highest level of labor productivity. By the time of his appearance in Leningrad a month later, it became "the principal strategic lever." More specifically, in June, he named "microelectronics, computer technology, instrument making and the entire information-science industry. . . the catalysts of progress." Presumably, these are the fields in which will be found the "fundamentally new, truly revolutionary scientific and technical solutions, capable of increasing labor productivity many times over."[13] The draft 12th Plan requires growth rates 30–60 percent higher than the average in machinebuilding for machine tools, computers, instruments, electrical equipment, and electronics.

7. No redirection of resource allocation will work without changes in the "economic mechanism." Science and technology and organizational change go hand in hand, he declared at the April Plenum:

> By making extensive use of the achievements of the scientific-technical revolution and by making the forms of socialist economic management accord with contemporary conditions and demands, we should achieve a considerable speeding up of social and economic progress. There is simply no other way.

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[10]*Pravda*, April 24, 1985.

[11]*Pravda*, April 24 and June 12; "V Politbiuro TsK KPSS," *Pravda*, August 2, 1985. The Five-Year Plan draft speaks only of "substantial increase" in investment.

[12]*Pravda*, June 12, 1985. Gorbachev's enthusiasm for the Food Program was apparently limited from its inception. See Radio Liberty Research, RL 206/83, May 25, 1983.

[13]*Pravda*, December 11, 1984.

The need is urgent: "Immediate and energetic measures are needed on the complex of administration problems." Central planning was to be strengthened, but so too would the rights of enterprises and their managers. "Superfluous links" in the administrative hierarchy were to be eliminated. The role of economic incentives would be raised and the influence of users on the quality of output would be strengthened.

In the fall, two administrative reorganizations were announced. A Bureau of Machinebuilding was set up in the USSR Council of Ministers as a permanently operating organ, headed by a deputy chairman of the Council, to direct the activity of the machinebuilding complex.[14] A new ministerial entity, the USSR State Agro-industrial Committee (Gosagroprom), was created in place of the Ministries of Agriculture, Fruit and Vegetable Industry, Meat and Dairy Industry, Food Industry, Rural Construction, and the State Committee for Supply of Production Equipment for Agriculture.[15] The second change created a "supercommittee," amalgamating several preexisting ministerial units, but the first instituted an additional link in the hierarchy. Judging from a forecast by Aganbegyan, who seems to have become an economic adviser to Gorbachev, similar administrative changes are in store for energy and transport.[16]

As for the rights of managers and enterprises, the experiment initiated in 1984 and expanded in 1985 is to be universalized within the next two years. By the beginning of 1986, units producing half of all industrial output were to be operating in this framework. Some additional tinkering with the rules was enacted in the summer, but the degree to which economic incentives will be allowed freer play remains unclear.[17]

So far Gorbachev has said little about changes in agricultural operation, as distinct from overall organization. His views on the legitimacy of private sector activities are not clear.

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[14]The bureau was informally announced in the weekly communique of the Politburo, in *Pravda*, October 18, 1985; the appointment of I.P. Silaev as its head was casually revealed in late November by his appearance on a Moscow TV program.

[15]*Pravda*, November 23, 1985.

[16]See Elizabeth Teague, "Aganbegyan Outlines Gorbachev's Economic Policy," *Radio Liberty*, RL 338/85, October 9, 1985.

[17]See Philip Hanson, "The Reform Debate Expands," *Radio Liberty*, RL 291/85, September 4, 1985; and David A. Dyker, "Technical Progress and the Industrial Planning Experiment," *Radio Liberty*, RL 332/85, October 3, 1985.

REFLECTIONS ON THE GORBACHEV PROGRAM

Gorbachev's program to get the Soviet economy moving again is like a Soviet weapon system of the 1960s. Most of the components are off the shelf, and those that are not display clear design inheritance; further product improvement is an integral part of the package. If the mission is at all successfully met, it will not be by virtue of radical extension of the state of the art but by clever designing around the weaknesses of the individual parts of the system.

It remains to be seen how artful Gorbachev's design is, but the elements of his package are certainly not new. There can be little new about the mobilization of "reserves" through the various forms of discipline campaigns and the injunctions against waste or for conservation. His direct forebear in this is, of course, Andropov, but Brezhnev too exhorted the nation to more rigorous discipline and organization.[18] Considerable differences with Brezhnev will emerge if Gorbachev "really means it," if the effort persists and carries the full weight of high level support.

Neither, of course, is there much new in the principle of emphasizing reconstruction and reequiping of existing enterprises at the expense of new construction. This was the justification for the sharp cutback in the rate of growth of investment instituted in the 10th Five-Year Plan (1976–80) and carried over into the 11th Plan: Such a restructuring of investment was supposed to halt the growth of unfinished investment leading to an increase in the rate of growth of new capital put into operation. And the more rapid renewal of the equipment component of capital would further contribute to raising the productivity of investment.[19] Of course, machinebuilding has always been one of the priority branches of Soviet industry, not the least reason being its military significance.

Gorbachev is also not the first Soviet leader to discover Science and Technology. Few themes received more public attention in the Brezhnev period than the "scientific-technical revolution." Again, the

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[18]E.g., The "Letter to the Soviet People," issued by the Party Central Committee, the USSR Council of Ministers, the Trade Union Central Committee, and the Central Committee of the Komsomol, in *Pravda*, January 14, 1978. At the end of 1979 a major decree was adopted to reduce labor turnover and infringement of labor discipline. For a while, the measures enacted succeeded in reducing turnover, but by Brezhnev's death, apparently, their effect was exhausted. Elizabeth Teague, "Labor Discipline and Legislation in the USSR: 1979–85," *Radio Liberty*, RL Supplement 2/85, October 1985, pp. 9–11.

[19]The policy was not without its critics in the Soviet Union. See Robert Leggett, "Soviet Investment Policy in the 11th Five-Year Plan," in *Soviet Economy in the 1980's: Problems and Prosects*, Joint Economic Committee, U.S. Congress, Washington, D.C., Part 1, 1983, pp. 145–146.

military dimension was surely important, but the link between S&T and Soviet economic growth was a mainstay of Brezhnev's hopes as well. He called for a comprehensive S&T program to link up with a 15-year economic plan at the 24th Party Congress in 1971 and again at the 25th in 1976. At the 26th Congress five years later he declared: "The circumstances in which the economy is to develop in the eighties make the acceleration of scientific-technical progress even more pressing.... The construction of a new society is simply unthinkable without science." Few were surprised, therefore, to find Chernenko declaring in late 1984: "Highly productive equipment, multiplied by universal economic interest in its application, is really the only thing that can make the imminent economic breakthrough a reality, insuring the union of the two revolutions—the scientific-technical with the social."[20]

Little is new, too, with regard to "perfecting the economic mechanism," which term the Soviets now prefer over "reform." If the latter is thought of as a one-time, large scale transformation, the Soviets are right to deny its applicability to what took place in the Brezhnev years. Nothing that was attempted since the mid-1960s corresponds to such a change.[21] However, periodically there were efforts to adjust the system to correct for its apparent deficiencies: for example, combining enterprises into associations in 1973; changes in enterprise success indicators and incentive funds in 1972, 1974, and 1976; the decree of July 1979; and the industrial experiment launched in July 1983.[22] Given a refusal to undertake system change, it was evident that tinkering with the system would have to continue, particularly as each such adjustment inevitably required a correction when the administrative networks reacted to the new rules in correspondence with their own particular interests.

Thus, periodic (sometimes almost continuous) changes in organization and management seem an intrinsic part of the Soviet system. It is never a question whether the Kremlin, whoever the General Secretary

[20]K. Chernenko, "Na uroven' trebovanii razvitogo sotsializma," *Kommunist,* No. 18, December 1984, p. 12.

[21]"We do not use the term 'reform' because it was the term we applied to the measures taken in 1965." Academician A. Aganbegyan in an interview on Radio Budapest, Domestic Service, 1500 GMT, October 16, 1982. Perhaps the more sensitive issue for Party leaders, remembering the Prague Spring, is the connotation of diminished control in the term "reform."

[22]See, CIA, *Organization and Management in the Soviet Economy: The Ceaseless Search for Panaceas,* ER77-10769, December 1977; Gertrude F. Schroeder, "The Soviet Economy on a Treadmill of 'Reforms'," *Soviet Economy in a Time of Change,* 1979, Vol. 1, pp. 312-340; Gertrude F. Schroeder, "Soviet Economic 'Reform' Decrees: More Steps on the Treadmill," *Soviet Economy in the 1980s,* 1982, Vol. I, pp. 65-88.

may be, will attempt further change; it is only a question of extent. Gorbachev seems to be proposing a more generalized and integrated set of changes, but that too recalls Brezhnev's challenge more than a decade earlier: "We must move from individual partial measures to the creation of a unified, overall system of management planning."[23] "Radical reform," like market socialism or any other system-changing set of arrangements, has never been on the Politburo's agenda and Gorbachev has not set out to shock his colleagues.

Finally, even Gorbachev's demand for discontinuous change is not unique to the new era. The call for "profound transformation" cited earlier was in fact made while Chernenko was still formally in power, although possibly too ill to exercise it. Gorbachev's slogan is more urgent in tone but not different in kind from Chernenko's approximately contemporaneous statement: *"Our economy has reached the point at which qualitative improvements and changes in it have become an imperative necessity"* (italics in original).[24] Both of these echo Andropov, although with greater reverberation.[25]

Nevertheless, the *overall* Gorbachev package is new. It is new in terms of the combination of elements—incompletely articulated and integrated as yet, but nevertheless an aggregate that is larger than the sum of its traditional parts. It is different from the programs of his predecessors, above all, in the boldness and energy with which it is being propagandized. The promise of vigorous implementation is both implicit and explicit.[26]

A second striking feature of Gorbachev's economic program is that it has discernible stages, attempting to bridge the immediate and the medium term, but its emphasis is clearly more on nearer than on more distant horizons. In the short term, the inherited slump is to be dealt with by the various means of exploiting existing reserves, particularly by restoring labor discipline in all ranks.[27] Payoffs in the short to

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[23]Cited in Christian Duevel, "Brezhnev on the Proposed Reorganization of Soviet Economic Administration," Radio Liberty Dispatch, March 11, 1974.

[24]K. Chernenko, "Na uroven' trebovanii razvitogo sotsializma," p. 9.

[25]See Andropov's speeches to the Party Plenum on November 22, 1982 (*Pravda,* November 23, 1982), and on the 60th anniversary of the Soviet Union (*Pravda,* December 22, 1982); also his article, "Uchenie Karla Marksa i nekotorye voprosy sotsialisticheskogo stroitel'stva v SSSR," *Kommunist,* 1983, No. 3, pp. 9-23.

[26]Gorbachev differs from his mentor, Andropov, not only in physical health but also in the decisiveness of his initial economic platform. On coming to power, Andropov was diffident about his knowledge of the requirements for economic change; Gorbachev seemed to have no such doubts. Apart from discipline and anti-corruption, Andropov's program remained vague.

[27]As Gorbachev expressed the thought to the Leningrad Party *aktiv*: "We must, as a first stage, take everything and squeeze it on the basis of better organization, a level of responsibility, and on the basis of our working people's conscientious attitude for the matter in hand." Radio Moscow, May 21, 1985.

medium term are to come from the reallocation of investment supported by organizational-management changes. Longer-term hopes are pinned on "unleashing scientific-technical progress at accelerated rates."[28] Perhaps it is in the nature of things that campaigns to curb alcoholism and restore labor discipline are more vivid and clearcut than programs to harness technological change. But he has also said little about inherently longer-term elements, such as the development of East Siberia and the Soviet Far East.[29] This will require vast new infusions of labor and capital, and Gorbachev is now focusing attention on attaining quick results from existing resources.

In his apparent concentration on the short and middle term, Gorbachev may be conscious of the high costs of retardation in the Soviet economy's growth. Of course, he is aware of the burden of defense: In his S&T speech in June, he pointed to the "external circumstances"—the need to invest "the necessary resources" in defense—that compel an acceleration of economic development. He is surely also mindful of the general foreign policy vulnerabilities of a state whose economy is viewed as floundering. He bristled at a *Time* magazine question on the Soviet Union's need for western technology: "Those selling the idea of the USSR allegedly being consumed with thirst for U.S. technology forget who they are dealing with and what the Soviet Union is today."[30] But he may also be conscious of other costs—those of unbalanced development as well as improvisation and frantic firefighting, so well exemplified in energy policy during the last six or seven years of Brezhnev's rule. For leaders obsessed with the need for maximum gain of time, retardation forces hard choices that often result in still larger sacrifices of long-term interests. Restoration of comfortable growth rates would ease the short-term problems of resource allocation among the national product's competing end uses and enable more leisurely, premeditated approaches to long-term development. These considerations may help explain Gorbachev's effort to get the Soviet economy moving again as quickly as possible.

Still, with Soviet growth rates picking up a bit, the tone of urgency in Gorbachev's selling of his economic program seems strange. In part, no doubt, this is because he is attempting to "sell" it to various groups, and the hint of impending crisis helps to mobilize support. He apparently does not wish to be so explicit about imminent dangers as to arouse panic—or, at the other extreme, skepticism—but he evokes

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[28]Ibid.

[29]His speech in Tiumen' on September 6 (*Pravda*, September 7) was largely devoted to West Siberia and its oil and gas industry.

[30]*Time*, September 9, 1985.

images of historical threat and links them to the present. The development problem of today is like that of the 1930s, he declared to the Leningrad Party *aktiv* on May 17: Just as that generation had to accomplish in a decade what other nations did in a hundred years, so "we also have to traverse a long road now but in a short space of time." "History, if nothing else," he hints, deprives the Soviet Union of living "a slightly more tranquil life." To "take things a little easier and relax a bit" would mean facing the choice of cutting back on the rate of improvement in present or future living standards, or, which he leaves unspoken, in defense expenditure. There is no alternative. The echoes of Stalin's 1931 "Russia is always beaten" speech are evident although toned down.

On economic organization and management Gorbachev appears to belong squarely in the mainstream of the decades-long Soviet discussions on this subject. His proposals so far do not threaten a significant departure from the conventional formula. Fifteen years before, an economist had declared: "What is needed is to strengthen the centralized state planning of the national economy and at the same time to extend the independence of the enterprises and to save them from tutelage and continual petty changes."[31] Gorbachev expressed the same idea at the April Plenum:

> While further developing the principle of centralization in resolving strategic tasks, we must move forward boldly along the path of expanding the rights of enterprises, their independence, and introduce economic accountability, and on this basis raise the responsibility and interest of labor collectives in the final result of work.

Enterprise independence is to be promoted by generalization of the industrial experiment, begun in January 1984 with five ministries and extended in 1985. How much independence enterprises will be allowed remains to be seen, but conservative forces—central planners prominent among them—have long been wary of the dangers of enterprise "autonomy." In 1969, a deputy chairman of Gosplan, A. V. Bachurin, rejected it as "leading to the undermining of the regulatory role of the plan and the weakening of the guiding role of the Party and state in the development of the economy."[32] Bachurin was reacting in part to the "Prague Spring," but a present-day *Pravda* article also denounces the "interpretation of self-management according to which the

[31]A. M. Birman, in *Literaturnaia gazeta*, February 11, 1970, cited in Sedulus, "The Soviet Economic Dilemma," Radio Liberty Dispatch, April 28, 1970.

[32]A. V. Bachurin, "V.I. Lenin i sovremennye problemy planirovaniia narodnogo khoziaistva," *Planovoe khoziaistvo*, 1969, No. 11, pp. 12–13.

economy is transformed into an aggregate of 'atomized,' mutually competing corporations."[33]

Like many others who endorse the Janus formula of strengthening centralization and enterprise independence, Gorbachev exhibits some ambivalence. His hopes for a quick restoration of moderate growth rates depend entirely on the success of the various campaigns to "mobilize reserves," of which labor discipline is surely the most important element. It is presumably in this spirit that he celebrated the 50th anniversary of the birth of the Stakhanovite movement.[34] But that symbol of intense top-down pressure to fulfill output quotas at almost any cost seems incompatible with the metaphor of Shchekino—the 1968 experiment under which enterprises could raise wages from savings on increased productivity and the dismissal of redundant labor—which Gorbachev also warmly admires.

The threat of unemployment is probably a major reason why the Shchekino experiment remained just that, but another contributing factor was that to operate effectively, such a system must disallow the ministries' old habit of reallocating resources from stronger to weaker enterprises that have trouble fulfilling their output plans. This may well be one of the key issues of the generalization of the July 1983 industrial experiment. Another relates to the question of plan tautness. The entire tenor of Gorbachev's short-term program is for an intensification of economic activity. At the June S&T conference he announced that the Politburo had sent the draft five-year plan back to Gosplan for further work, at least in part because the productivity targets were too low.[35] If these signals are translated into operational directives by means of the traditional "ratchet" principle of central planning, enterprises will react in equally traditional ways of hoarding resources and concealing "reserves." An article in *Kommunist* in the fall of 1984 extolled the administrative mechanism in the Ural tank industry during World War II ("Tankograd") for successfully combining strong central control with enterprise initiative.[36] If this is what is meant by initiative in the Gorbachev camp, the leader will be in an

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[33]A. Melent'ev, "Ekonomicheskii stroi sotsializma," *Pravda,* August 2, 1985. The condemnation is directed at supercentralization for good measure.

[34]*Pravda,* December 11, 1984.

[35]The draft 12th Five-Year Plan proposes that labor productivity in the material production sphere as a whole and in industry as well increase faster than total output at rates of 3.7–4.6 percent per year. Even more daring is the social labor productivity target for 1986–2000, 5.7–6.3 percent per year.

[36]I. Zal'tsman and G. Edel'gauz, "Vspominaia uroki Tankogroda," *Kommunist,* No. 16, 1984, pp. 76–87. For a perceptive commentary, see Boris Rumer and Vladimir Shlapentokh, "Will Soviets Follow China, or Return to Stalin-omics?" *Christian Science Monitor,* February 7, 1985, pp. 9 and 11.

even more acute dilemma between the requirements for wartime-like discipline and those for operating a highly differentiated, technically sophisticated economy.

One vaunted advantage of the Tankograd organizational structure was its alleged simplicity: "It had no intermediate levels that performed only communication functions." The natural tension between the objectives of strengthened central planning and enhancement of enterprise authority invites sacrifice of some of the intermediate links. There was intermittent discussion during the Brezhnev period and afterward of the desirability of amalgamating ministries into "superministries" or of abolishing the industrial associations, which partly replaced chief administrations of the branch ministries. In the Andropov-Chernenko interregnum, senior academic consultants to Gosplan told Western visitors that the balance of top level opinion was leaning against superministries as conducive to overcentralization. Gorbachev clearly favors eliminating superfluous middle-level bureaucracies, but judging from the administrative changes in machinebuilding and agro-industry, he also looks favorably on some amalgamation of ministries to improve strategic planning, especially in the area of technological modernization.

In the most general terms, to Soviet leaders, the fundamental problem of the decentralization of authority is the threat of the displacement of central purpose by local interest. All efforts up to now to structure incentives and the rules of the game so as to secure a melding of the two—"an organic unity of the plan and *khozraschet*" (economic accountability)—have had indifferent success. That is why the Party continues to debate the relative merits of political (command) versus economic (decentralized, incentive) approaches to economic administration. On the historical record, it is unlikely that the changes Gorbachev will attempt to make in management and administration will resolve the dilemma or put an end to the debate.

For that reason, too, the role of the Party in economic life will remain a major issue. In the past Gorbachev has spoken out against excessive Party involvement in economic decisionmaking.[37] However, since his accession to power, he has given no sign that he intends to preside over a substantial reduction of the Party's role in Soviet economic life. It may be that the decision to give the position of head of state, chairman of the Presidium of the USSR Supreme Soviet, to Gromyko rather than add that to Gorbachev's other titles as General Secretary and head of the Defense Council (as Brezhnev had done in 1977) reflected power considerations as much as or more than

[37]*Pravda*, March 1 and March 27, 1984.

Gorbachev's own desires. But when Gorbachev declared that the Central Committee Plenum

> deemed it advisable for the General Secretary of the CPSU Central Committee to concentrate as much as possible on organizing the work of the Party's central agencies and on uniting the efforts of all Party, state and public organizations[38]

he was referring to a formidable set of tasks that he was setting himself and the country, including the immediate Party responsibilities of drafting a new Party program and set of rules, as well as preparing for the 27th Party Congress. "All this," he declared, "presupposes further strengthening of the Party's leading role in society and calls for increasing intensity of the work of the CPSU Central Committee and its Politburo."

The words are from a familiar mold, but they correspond to the real requirements of coping with the dilemmas in Gorbachev's economic program.[39] The likelihood is that the steps taken by Brezhnev to centralize authority over policy formation in the General Secretary's apparatus, and by Andropov to strengthen the Secretariat's apparatus by forming the Economic Department, will be continued and extended under Gorbachev. With the extensive turnover he has already managed to effect in the Politburo and the Secretariat, he appears to be approaching unchallenged control in the field of economic policy.[40]

What else could Gorbachev intend under the heading of strengthening central authority? At the June S&T conference, he talked of the need:

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[38]*Pravda*, July 3, 1985.

[39]This appears to require the development and diffusion, at all levels of the hierarchy, of a particular type of Party leader. He would combine the traditional virtues of leadership and *partiinost'*, Party-mindedness, with knowledge of science and technology and (perhaps even) economics. Presumably, the model is N. I. Ryzhkov, whose curriculum vitae includes, in rapid order, director of the Ural Heavy Machinebuilding plant, first deputy minister of Heavy and Transport Machinebuilding, first deputy chairman of USSR Gosplan for heavy industry, head of the Economic Department of the CPSU Central Committee, Secretary of the Central Committee, and now full member of the Politburo as well as chairman of the USSR Council of Ministers.

[40]The fact that the Politburo sent back the draft five-year plan for revision does suggest at least a "failure of communication" with the Central Committee apparatus. The model of plan decisionmaking outlined in Section II suggests a process of consensus building in which there are no surprises to the top leadership (but also no distinct phase of choice among plan variants). If there were unpleasant surprises to the Politburo in the spring of 1985, the explanation may be inadequate time to clean house thoroughly in the Central Committee departments as well as in Gosplan (n. 9, Section II), perhaps in combination with lack of clarity in the guidelines handed down by Gosplan.

> to implement in practice Lenin's idea of turning the State Planning Committee into a scientific and economic body that gathers together major scientists and leading specialists. A leading place in plans should be held by qualitative indices that reflect the efficiency of the use of resources, the scale of the updating of output and the growth of labor productivity on the basis of scientific and technical progress.

This did not suggest either much respect for Gosplan's special competence[41] or intention to augment its role substantially. However, when the speech was edited for publication in *Kommunist* (No. 9, June), the injunction to implement Lenin's precept was preceded by the following statement: "The extremely important tasks connected with the scientific and technical revolution demand a substantial improvement in planning and a radical change in the role and responsibility of USSR Gosplan as the central body responsible for administering the planned economy." It turned out that with Gosplan, as with other economic problems, Gorbachev began with the question of personnel. On October 14, Nikolai Baibakov, the head of Gosplan since the mid-1960s, was "retired" at age 74 and replaced by the 56-year old Nikolai Talyzin. In rapid-fire succession Talyzin was appointed a first deputy chairman of the USSR Council of Ministers (Baibakov had been only a deputy chairman) and elected a candidate member of the Politburo (the chairman of Gosplan had not been on the Politburo since Kosygin briefly held the chairman's post in 1959–60).

The specific improvements in planning Gorbachev had in mind in June included, vaguely, making targets for investment in equipment "a kind of supporting structure of the whole plan," giving qualitative indicators the "leading place" in plans,[42] and completing "the transfer of planning into normative methods, both in determining expenditures and in drawing up tasks, based on effectiveness and satisfaction of social requirements." He said nothing further about the content of "enhancing the role and responsibility" of Gosplan.[43] We may speculate that Gorbachev may be most concerned about improving the process of developing economic strategy. Part of the problem with the draft five-year plan the Politburo rejected in the spring of 1985, Gorbachev suggested, was a misperception of priorities. As indicated, he derided Gosplan's inability to deal with interbranch relationships (this

[41]Particularly when he characterized the belief that Gosplan would be able to "study all the chains of interbranch relationships and select the optimal variant" as an illusion.

[42]The *Kommunist* version of the June conference speech also deletes the second sentence of the *Pravda* variant cited above, which may indicate controversy over the relative importance of qualitative and quantitative indices.

[43]Viktor Chebrikov repeated the formula in his speech at the anniversary of the Revolution: "the role and responsibility of the USSR Gosplan as the central link in running the economy is being raised." *Pravda*, November 7, 1985.

appeared in both versions of the June speech). Evidently, the 1980 Gosplan reorganization, which attempted to create an administrative structure for program planning and integrated regional development, had not been translated into more effective operation. To make Gosplan capable of dealing with interbranch problems, the 1980 reorganization would have to be strengthened by changes in its internal operation and probably by more than paper changes in its authority over the branch ministries. In line with the emphasis on lower-level initiative and ministry concentration on "strategy," however, Gosplan may have its short-term planning authority weakened. But this is still speculative.

Gosplan conservatives may have been pleased to see that Gorbachev is apparently not a champion of optimal planning on the basis of mathematical-economic models. The General Secretary is probably all for computerization of information flows throughout the economy, which has actually been in process, laboriously, since the late 1960s. However, he has not made any linkup between computers and central planning, perhaps because of his skepticism on the utility of Soviet economic science.[44]

Gorbachev was also not pleased with the functioning of the State Committee for Science and Technology—GKNT. However, his June prescription seemed to augur a narrowing of GKNT'S functions:

> Without substituting for either the planning organs or the ministries, it must concentrate its main attention on forecasting, on choosing and justifying the priority directions for the development of science and technology, and the formation of a stock of research and development work as a base for making progressive planning decisions.

So far Gorbachev has not discussed the role and operation of any other functional organs. As for the ministries, he noted in June that they, like Gosplan, could not cope with the task of regulating interbranch relationships, from which he concluded: "All this places on the agenda the question of setting up the management organs for large national economic complexes." Ministries are to concentrate on long-term planning and "large-scale utilization" of new technology. "This will make it possible to essentially reduce the administrative apparatus in the branches and abolish its superfluous links." The work of pruning excess administrative links is even more urgent at the republic than

[44]In this mood, too, Gorbachev may be continuing rather than innovating. At the June 1983 Party plenum on ideology, Chernenko (presumably in the name of the Politburo) blasted both conservative and mathematical economists. See also Archie Brown, "Gorbachev: New Man in the Kremlin," *Problems of Communism*, 34:3, May-June 1985, p. 18.

at the union level. In essence, economic administration will become a two-link system: enterprise or production association directly subordinate to a ministry.[45]

CONCLUSION

We will probably learn more details of Gorbachev's organization-management package in the next few months. It is doubtful, however, that what remains to be revealed will be more than a filling in of the ideas and changes he has already unveiled. The economic administrative system will most likely remain, in the words of a *Pravda* article, "a complex, hierarchical 'pyramid,' subordinated to the center, of functional, interbranch, branch, and territorial economic agencies."[46] Some central organs—Gosplan perhaps, the Central Committee apparatus more probably—will gain power; the industrial associations and ministries will be the probable losers, if the former are eliminated and the latter must yield some operating initiative below (to enterprises and production associations) and directive authority above (to superministries or Council of Ministers' bureaus).

What we know about the Soviet system and Soviet economic history indicates that this will not end the almost pendulum-like process of tinkering with the economic mechanism. Where "reform" is ruled out, intermittent "perfection" of the system remains a continued necessity. Before he came to power, at least formally, Gorbachev was aware that Soviet economic science had not yet been able to provide a satisfactory model of moving to an efficient, dynamic economy,[47] within the existing systemic constraints. A West German analyst made Gorbachev's problem more specific: There is no model linking administrative planning and enterprise independence in stable equilibrium.[48]

Gorbachev is counting on two energizers to counter the system's tendency to stagnate—discipline, and science and technology. It remains to be seen whether the former can be made a "permanently operating factor," to recall a Stalinist formula, or whether the limited changes in the economic mechanism will do much to remove the deeply entrenched obstacles to rapid innovation and diffusion of new technol-

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[45]In agro-industry, the new structure is more complicated—a hierarchy of agricultural-industrial associations and committees.

[46]A. Melent'ev, "Ekonomicheskii stroi sotsializma," *Pravda*, August 2, 1985.

[47]*Pravda*, December 11, 1984.

[48]Hans-Hermann Hohmann, *Neue Zuriche Zeitung*, December 25, 1982.

ogy in the Soviet economy. The Gorbachev program still impresses as "invigoration without innovation."[49]

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[49]Terry McNeill, "Ryzhkov: The Limits of Technology," *Soviet Analyst*, 14:20, October 9, 1985, p. 4.

IV. IMPLICATIONS

GROWTH-EFFECTIVENESS OF GORBACHEV PROGRAM

If the hallmark of the late Brezhnev years seemed stagnation, Gorbachev's clear intention is to convey an image of vigor and energy. The consolidation of his power and the concomitant replacement-rejuvenation of the top Soviet leadership has been accomplished with unprecedented speed. An extensive replacement of other leadership cadres is in the making, from Party Central Committee department leaders to local party secretaries, and from USSR ministers down the government administrative hierarchy. The campaigns against corruption, indiscipline, and alcoholism are proceeding without visible letup. Gorbachev's plain speaking and style of leadership, which seemingly take a leaf out of the book of American political campaigning, spreads the message of a new beginning.

The economic effect of this attempt to galvanize a whole society can be viewed in terms of both direct and indirect consequences. How much immediate effect on the growth rate, to get right to the "bottom line," can be expected? In the longer term, what changes can be made in the operation of the economic system and what are their probable growth consequences? There can be no unqualified answers to these questions, understandably, and it would be foolish to attempt quantitative predictions. But it may be useful to try to sort out the significant factors affecting such judgments.

First, there is little doubt that if the various campaigns aimed at the quantity and quality of human effort—whether anti-alcohol or for greater labor discipline—are pursued consistently, they will raise output by some degree. The intermittent mini-campaigns under Brezhnev had almost no noticeable effect because they were largely sham and were quickly forgotten. The efforts under Andropov weakened considerably after a few months, probably because of the leader's illness. There is therefore not much of a track record by which to judge the prospects of the current campaign. Nevertheless, it is safe to assume that concentrated attention to the way the nation performs its work tasks is bound at least to increase the quantity of effort input and in many cases also to provide net qualitative improvements.

The more important question, however, concerns the durability of the change. Will the increase in input or productivity be single-shot, possibly followed by a gradual downturn? Or will the campaign result in an upward shift in the supply curve of effort, indefinitely raising the

aggregate output trend? We can hope only for an informed guess at the answer.

Assuming the campaigns do not dissipate in the near future, three factors seem to be significant in determining the outcome. First is the magnitude and duration of the pressures being applied. In a country where nostalgia for the good old days of Stalin is often encountered, the sheer psychological effect of the sense that "order is being restored" may be expected to have positive consequences in the short run. But unless the pressures are tangible and sustained, the psychological impulse will fade. Also, deploying and maintaining such pressures is not costless, and if the magnitude of pressure required mounts, it is not clear that the Gorbachev regime can meet the bill.

Second, many Soviet writers have stressed the connection between consumption and labor input. Gorbachev is on record as favoring greater differentiation of wage levels to improve incentives, but the issue is presumably real, not nominal, wages: Workers must have something to spend their money on. Here, the large volume of savings recorded in public institutions as well as the probably equally large volume hoarded and unrecorded threatens the success of Gorbachev's wage policy. Moreover, there is an obvious chicken-and-egg problem in raising labor input/productivity and increasing output of consumer goods and services. Raising labor morale also requires transferring millions of workers from manual and arduous jobs, which necessitates extensive investment in mechanization.

The third factor, closely related to the second, is the shape of the workers' preferences between income and leisure. There is some evidence that the preference for leisure is growing stronger. This may be partly the result of the shortage of quality consumer goods. It may also have something to do with the importance of incomes from the second economy. Both explanations suggest feedback loops to another issue of the Gorbachev program—the treatment of private initiative, especially in service sectors.

On balance, considering the possible weight of all these factors, one may reasonably be skeptical that campaigns alone will shift the whole labor supply schedule. More likely is a short-term boost that will threaten to drop off unless bolstered by more substantial measures affecting labor incentives and consumption output.

The institutional framework of central economic decisionmaking will probably not change much if at all. Enhancement of enterprise independence is likely to come largely at the expense of the ministries and the intermediate administrative links. The apparatus of central planning and policymaking in government and Party hierarchies will then remain essentially intact. The critical question is, under what

rules will the apparatus operate? Here, Gorbachev may be trapped by the dilemma of the "slippery slope."

The nub of the industrial experiment ordered in July 1983, and which Gorbachev indicates will be universalized, is greater enterprise (production-association) control over profits and self-financing of investment. These provisions are intended to induce local units to economize on labor, materials, and equipment. But if enterprises are to become more independent, who will bear the losses resulting from operating and investment errors—enterprises/associations? the center?[1] If the former, in the interests of strengthening the incentives to economize, is the Party prepared to accept and deal with unemployment (at least frictional), increasing interenterprise wage disparities and unplanned labor mobility, enterprise reactions to price signals (in the effort to maximize profits) that may disrupt centrally set supply and distribution plans? The answer can hardly be in doubt. Faced by these consequences, the center would surely tighten the reins of control. If the center bears the losses resulting from enterprise independence, however, it is likely to engage in the old habits of central management—redistribution of resources from the strong to the weak, periodic manipulation of success indicators, frequent alteration of quotas and norms, etc. Such a response will bring the system back to the stage of virtually open conflict between center and periphery that the organizational-management changes are intended to short circuit.

The issue is, as it always has been, the coexistence of central directive planning and enterprise initiative, and the problem remains that Soviet theory has no model of a dynamic, stable relationship between the two. The inevitable result is pendulum-like swings in the direction of one or the other pole. At the moment, the rhetoric emphasizes enterprise initiative, and we may expect that to prevail for a while. How much of a swing there will be in this phase is not yet clear—for example, whether enterprises will be empowered to conclude contracts directly with their suppliers and customers. Such a change would threaten the reason for the existence of Gossnab—the central intermediary between users and producers—and perhaps infringe on Gosplan's current prerogatives, too. Will enterprises be promised stable plans, quotas, and norms? How will the center, which is driven to maximize output in the short run, be able to fulfill that promise when confronted by the supply imbalances, revelations of "reserves," and unforeseen shocks (exogenous or endogenous) that are inescapable

[1]In thinking about this issue, I have benefited greatly from an unpublished paper on the July 1979 decrees by Nancy Nimitz, who may not necessarily share the views expressed here.

features of Soviet planning? The attempt to find the right combination of centralized control and decentralized initiative is a delicate balancing act with inherent instabilities.

Gorbachev's main concern is the rate of technological change in the economy, and he seeks to induce the basic economic units of the system to accelerate the diffusion of new technology. However, the center cannot permit the process linking R&D and production to be completely decontrolled. It must determine at least the volume of resources to be allocated to this activity and the general directions of development. The center has priorities that it cannot trust a decentralized process to replicate. Ministries will be expected to provide strong technical guidance to fulfill the purpose for which they were recreated in 1965. Looking over the shoulder of the ministries will be the GKNT (State Committee on Science and Technology), responsible for the development of a unified state S&T policy. Because investment is the vehicle of technological change and control over investment is the system's most important tool of development, Gosplan and, secondarily, Gosstroi (State Committee for Construction) will be key arbiters. If Gosplan (or any other central organ) continues to approve the set of investment projects, the stage will be set for replay of the antagonistic game between ministries, which understate estimated costs and overstate expected returns, and the center, which will use its own (often misinformed) cost-benefit criteria or arbitrarily fit the investment list to a resource ceiling.

To summarize the general question considered here, we might view the overall growth implications of Gorbachev's accession and his economic program in terms of the economy's production possibilities. The standard textbook diagram (Fig. 1) pictures an economy producing two goods, A and B, with given resources and technology. The locus of maximum possible combinations of outputs of the two goods in any period is given by curve PP, whose shape presupposes diminishing ability at the margin to substitute one commodity for the other. Operation at any point along PP also assumes efficient production: No point to the right of the curve is technically possible and all points inside the curve are inferior to those on the curve. Abram Bergson suggested that the systemic inefficiencies of the Soviet economy precluded operation on PP; the limit of Soviet possibilities was the "feasibility locus," somewhere inside PP—say, FF.[2] By the end of the Brezhnev period,

[2]Abram Bergson, *Soviet National Income and Product in 1937*, Columbia University Press, New York, 1953. Whether FF should be parallel to PP is an interesting question that need not detain us here.

the Soviet economy was probably operating short of FF—say, on F'F', which we might dub the "Brezhnev Frontier."

Gorbachev may be interpreted as believing that his first task is to get back to FF, exploiting the short-term "reserves" represented by the slothful habits the economy developed under his predecessors. He may well succeed in attaining this objective, at least in the short run, but remaining on FF in the longer term will be somewhat more difficult.[3] The difficult problems, however, arise in attempting to push FF closer to PP, while keeping within the constraints of present systemic arrangements. We cannot predict to what extent Gorbachev will succeed, but history and our understanding of the functioning of the Soviet planned economy suggest caution in readiness to share his optimism.

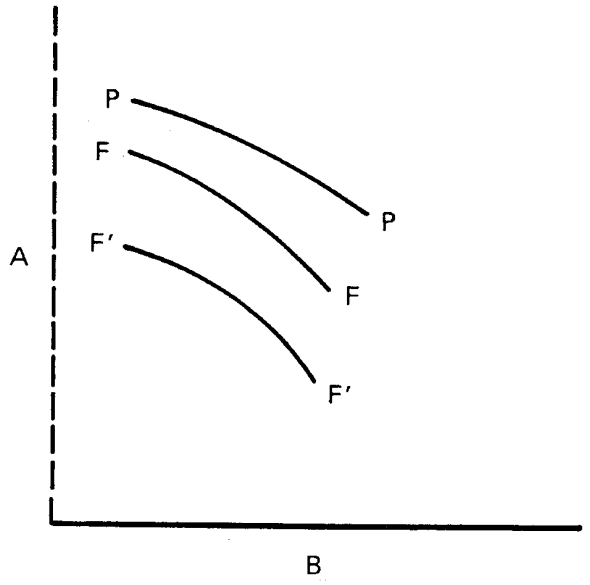

Fig. 1—Production possibilities, feasibility locus and Brezhnev frontier

[3]Figure 1 is, of course, a static picture. The dynamic counterpart may be thought of in terms of sets of curves, one for each schedule in Fig. 1, moving outward from the origin.

THE DEVELOPMENT OF SIBERIA

"Siberia" seems to convey two images in the Russian and Soviet imagination. One is the wasteland of Gulag, of exile and imprisonment; but the other is the storehouse of natural wealth, the counterpart to the American frontier, the guarantor of the nation's future prosperity. The development of Siberia and the Soviet Far East has been on the Soviet policy agenda since the beginning of the central planning era, but as energy and other raw material resources in the western regions of the USSR give out, the need to move deeper into the eastern regions becomes inexorable. Raw material development of Siberia and the Soviet Far East will surely continue at a high level. But the themes of transition to intensive growth and the short-term emphasis in Gorbachev's program militate against a major development push to the East, at least for a while. A multi-pronged development offensive in the eastern regions would be enormously costly, and Gorbachev seems to be putting that on the back burner. Siberia is an extensive growth problem by definition and the watchword of the day is intensive growth.

Siberia as a development problem imposes its own dilemma, however. Despite decades-long debates and official lip-service to the necessity of "balanced" development, including the infrastructure of transportation, distribution, and consumption, Siberia continues to play the role of raw material colony to the western regions' metropole. This is, of course, an investment economizing strategy, whose sole important long-term component in recent years was the construction of the BAM (Baikal-Amur Mainline) railroad north of the Trans-siberian. The other side of the coin is high-cost operation in a naturally unfriendly environment. The operating-cost/investment dilemma probably becomes sharper as the focus of development moves eastward and northward. Gorbachev appears to opt for paying some higher current costs and temporarily avoiding the heavy investment requirements of balanced development.

Siberia also stretches the capabilities of Soviet central planning. For many years Moscow has mobilized a vast assortment of analytical resources to study the multifarious aspects of Siberian development. The value of the product probably has fallen far short of the scale of the effort. But the ability of the center to assess and utilize the analytical product is not the smallest bottleneck in the system. In this problem area particularly, the branch orientation of central decisionmaking has been a major hindrance. A fuller scale development program in Siberia will require more intensive restructuring of decisionmaking in

the interbranch program-planning framework that began to make its appearance in the late 1970s and early 1980s.

In the long run, Siberia will assume a higher profile in Soviet development strategy on economic grounds. Presumably, this will come sooner if Gorbachev's efforts to accelerate growth are successful. But there are geopolitical considerations here too, along the long frontier with China and across a narrow stretch of sea from Japan. The Chinese political-military threat may be kept manageable in the next few years, but the prospect of rapid modernization of the Chinese economy in the long run cannot but worry the Kremlin. The political strategy for dealing with that prospect and the general problem of Sino-Japanese-American collaboration may be sharply debated in the Politburo, but the ultimate need for a denser development of East Siberia and the Soviet Far East is probably not disputed. In the calculation of time horizon and development stages, other factors will also enter—e.g., the economic foundation of Soviet military posture in East Asia and its neighboring arenas but also trade prospects in the Pacific basin. Another key issue is the role of foreign help—from Japan and other industrial powers—in developing Siberia. Once an important basis for Soviet plans in the East, external aid is much less talked about in or outside of the USSR. But for obvious reasons of need, the issue can be revived.

MILITARY-ECONOMIC ORGANIZATION AND RESOURCE ALLOCATION

Four main pillars supported the structure of military-economic organization in the Brezhnev period—priority in resource allocation, continuity of funding over long periods, a S&T base closely tied in with military industry, and centralized control over the entire process from research to production by a single, highly demanding user. The first factor provided not only high levels of quality inputs but also maintained the resource flows in conditions of pervasive disequilibrium in the civil economy. The second meant a smoother rhythm of operation and growth. The third insured the relevance of R&D to procurement needs and contrasted sharply with the general situation in nonmilitary industry. And the fourth acted to assure the quality, timeliness, and usefulness of the product to the customer.

Time has weakened these supports of the military program. Of the four pillars, only central control seems stable and untouchable. All the others have been eroded to some degree. Priority and funding continuity apparently were interrupted in the mid-1970s as real

procurement growth was virtually halted, according to CIA estimates. This seems to be less true of military R&D, which evidently continued to increase smartly, but the estimates of this component are less reliable and have been much less discussed in public than those of procurement. Moreover, priorities were being diffused, at least at the margin, in the late 1970s and early 1980s with the inclusion of several major target programs in the national plan. Brezhnev also began the process of transferring selected, experienced, high-level managers from military industry into the civil sector.

Although the organization of applied R&D in the military sector still serves as a national model, the S&T base is increasingly seen as inadequate to the demands of the rapid development of military technology. Here the call is for help in the other direction, from civil science, for greater integration of the Academy of Science networks in military R&D. Gorbachev's drive for rapid technical advance, which emphasizes such areas as computers, electronics, and robotics and is focused on modernization of machinebuilding, must surely have a significant military dimension. One connection may be to the technical difficulties some Western analysts believe the Soviets experienced in the mid or late 1970s in developing and producing several new systems.[4] Another and related connection is to the historical theme of competition with the West.

One of the enduring generalizations about Russian economic history is that the intermittent episodes of rapid economic development occurred in response to external military challenges to the state—for example, the Crimean defeat and Russian industrialization in the 1870s.[5] Military power was surely a key Stalin development objective, as he avowed in his 1931 "Russia is always beaten" speech. In Russian history, the development periods were usually followed by fallbacks to lethargy. That was not true under either Stalin or his successors.[6] However, the military program of the United States and NATO in the 1980s and apparently the U.S. Strategic Defense Initiative program particularly have reawakened Soviet fears of its own backwardness and the superiority of American technology.[7] Gorbachev has evoked the

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[4]See Richard Kaufman, "Causes of the Slowdown in Soviet Defense," *Soviet Economy,* 1:1, January-March 1985, pp. 16-17.

[5]Alexander Gerschenkron, *Economic Backwardness in Historical Perspective,* Harvard University Press, Cambridge, Mass., 1962.

[6]Detente of the early 1970s was followed by a slowdown in Soviet defense spending growth and steeper retardation of economic growth, but the connection is hardly direct or close.

[7]"Right now, by venturing into an arms race in space, they intend to outpace us in electronics and computers." Gorbachev to the Supreme Soviet (*Pravda,* November 28, 1985).

ghost of Stalin's 1931 speech in his call for intensive concentration on technical modernization. In Russia's past, the military challenges triggered vigorous responses in part because backwardness and lethargy meant vast underemployment of resources. Gorbachev's "reserves" are, in relative terms at least, much less sizable. Nevertheless, the challenge is apparently deeply felt, and a major effort will certainly be made to narrow Soviet technical backwardness.

However, a full-scale matching response implies a sharp reacceleration of Soviet defense spending. Under existing conditions of low growth rates and tight supplies, such a change could have serious resource allocation consequences—short-term bottlenecks, diminished investment growth, and perhaps stagnation in per capita consumption. The threat to political stability implicit in such circumstances is real if not precisely measurable. It should therefore be in the Kremlin's perceived interest to attempt to constrain the external military challenge, by political-diplomatic action in Europe for example, and by attempting to come to arms control agreements with the United States.[8] Limiting the severity of the external threat by foreign policy and narrowing the inferiority of Soviet technology by a domestic package of allocation and organizational measures appear to be parallel policy tracks in pursuit of the same objective. They are likely to persist as cardinal requirements of Soviet strategy.

Just as the threat of economic stagnation must make the burden of defense painfully apparent, success in Gorbachev's effort to accelerate economic growth will enlarge his freedom of maneuver. That need not be used to step up defense spending—there are arrears in consumption and investment to be made up. But it would obviously then be easier to respond more visibly to the U.S. challenge.

To return, finally, to economic organization: Once, the military sector relied on its own resources or obtained its requirements from the civil economy under the protective mantle of undisputed priority. The imperatives of contemporary military-economics under changed conditions are different. Priority is more diffused, the barriers between civil and military economies have to be made permeable for the benefit of both, the input-output relationship between military industry and its suppliers became more complex and wide-ranging.

One implication is a challenge to the administrative organization of military-economic activities and the relationships with civil economic decisionmaking. If military requirements once formed the unquestioned starting point for planned resource allocation, a more distinct bargaining process is likely to have begun, necessitating closer

[8]Becker, *Sitting on Bayonets.*

coordination of the processes of military requirements generation and plan construction. With priority attention shifting to rapid advances in high technology required for both military and civil development, the traditional branch ministerial structure will be an increasingly apparent hindrance. Central planning too will face demands to organize for more effective promotion of interbranch, intersectoral R&D projects. Gorbachev dealt openly with the roles of Gosplan, GKNT, and the ministries. Their functions and relative competence may shift and new organizations may appear on the scene, but the problem is not likely to be solved easily or soon. The simplicities of an earlier day will no longer suffice; the inherent weaknesses of Soviet central decisionmaking are now more likely to influence the decisionmaking environment of military production.

SOME POLICY IMPLICATIONS FOR THE UNITED STATES

Gorbachev's accession and his rapid consolidation of power may bring about some acceleration of economic progress. Whether that would be a temporary stabilization or a more lasting change depends on many factors. Even a temporary revitalization of the Soviet economy is likely to mean a more confidant Soviet leadership. Would that mean a more intransigent Soviet policy?

The connection between the state of the Soviet economy and U.S.-Soviet relations is vitally important in the area of security. Moscow began its cutback in the real rate of growth of military outlays in the last rays of detente's warming sun, whether or not the two are causally connected. But the approximate freezing of real procurement at the mid-1970s' level was maintained even as detente turned sour, the United States began a military buildup, and through the first few years of a more overtly anti-Soviet U.S. foreign policy. The explanation is likely to be complex, but the restraining hand of Soviet economic problems seems an inescapable part. So, too, is the Soviet hope of being able to constrain the scope of the American military challenge by political means. The chilling prospect of accelerated military competition with the United States under conditions of sluggish economic growth and technical inferiority in many of the chief fields of the competition is probably mainly responsible for what appears to be an increasingly brighter outlook for arms control agreement.

The implication that U.S. military development pressure is the most reliable bargaining instrument appears more compelling to wider groups of the American public. Nevertheless, the conclusion is often

oversimplified and therefore rendered possibly dangerously misleading. It depends on two conditions—continuation of the Soviet economic stringencies and Soviet belief that the U.S. threat can be rendered manageable. If the economy does pick up markedly, direct procurement-deployment responses, as indicated, would be made easier. More important, Moscow's perception that it could not accommodate American demands and that a significant threat to its security was in the making would surely be translated into a military development counter, whatever the cost. The true implication of the record of Soviet response to American policy in the last five to ten years, therefore, is the requirement for U.S. military pressure balanced by explicit readiness, in collaboration with the Soviet Union, to define conditions of security parity and to reach workable agreements translating those criteria into reality.

This would be a successful exercise of U.S. military power and the most important possible contribution to stabilizing the environment of U.S.-Soviet relations. Can U.S. economic power be exerted to the same end, especially in view of the Soviet economic weaknesses? For example, will Soviet needs for aid in development of Siberia offer an opportunity to affect Soviet policy? The answer should be "yes," but realism dictates a regretful "probably no." The principal stumbling block is clearly the absence of agreement among the United States and its major industrial partners on the objectives of policy toward the Soviet Union and a viable strategy for attaining them. It is not only the political process abroad that stands in the way, although that is a key obstacle. Changes in policy on agricultural trade over the past decade point up the U.S. political process as a major contributing factor. The history of disputatious Western responses to opportunities for exercising economic leverage on Soviet policy offers no comfort to those who would seek to add economic instruments to the arsenal of Western policy.[9] If the future sees a tangible change, it will probably have to come from Soviet action, but even grievous Soviet offense has not altered the situation in the past.

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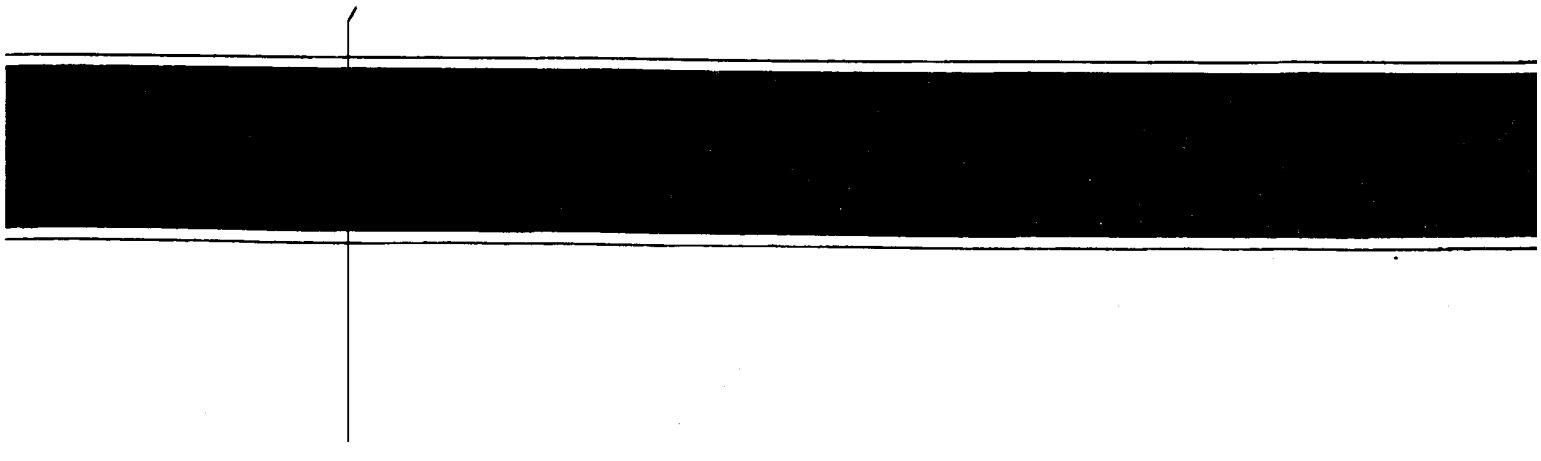
[9]A. S. Becker, *Economic Leverage on the Soviet Union in the 1980s,* The Rand Corporation, R-3127-USDP, July 1984.

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