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SOVIET CAPABILITIES AND PROBABLE SOVIET COURSES OF ACTION THROUGH 1960

Submitted by the

DIRECTOR OF CENTRAL INTELLIGENCE

The following intelligence organizations participated in the preparation of this estimate: The Central Intelligence Agency and the intelligence organizations of the Departments of State, the Army, the Navy, the Air Force, The Joint Staff, and the Atomic Energy Commission.

Concurred in by the

INTELLIGENCE ADVISORY COMMITTEE

on 17 May 1955. Concurring were the Special Assistant, Intelligence, Department of State; the Assistant Chief of Staff, G-2, Department of the Army; the Director of Naval Intelligence; the Director of Intelligence, USAF; the Deputy Director for Intelligence, The Joint Staff, and the Atomic Energy Commission Representative to the IAC. The Assistant to the Director, Federal Bureau of Investigation, abstained, the subject being outside of its jurisdiction.

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SOVIET CAPABILITIES AND PROBABLE SOVIET COURSES OF ACTION THROUGH 1960

THE PROBLEM

To examine the political, economic, scientific, and military strengths and weaknesses of the USSR and to estimate probable Soviet courses of action through 1960.

CONCLUSIONS

Political

1. The totalitarian character of the Soviet political system is unlikely to be altered in any important respect during the period of this estimate. It appears that a struggle for personal power, probably in a context of differences over policy, has been going on within the small ruling group and is as yet unresolved. Although this struggle may be sharpened during the period of this estimate, we continue to believe that it will be confined to the small group at the apex of the power structure, and will not result in open violence involving the police or military forces. *(Paras. 22–26)*

2. The relations between the USSR and Communist China are probably now conducted as between allied powers having common interests and a common ideology, but also separate and potentially conflicting national objectives. Despite the possibility of some frictions between the two countries, they will almost certainly maintain a relationship of close alliance throughout the period of this estimate. The continuing dependence of Communist China on the USSR for support of its military and economic programs gives the USSR great influence over Chinese policy, but this would probably not be decisive in matters which the Chinese believed involved their own vital interests.[1] *(Para. 32)*

Economic

3. Soviet economic policy during the period of this estimate will almost certainly be directed primarily toward a continued rapid growth of basic economic and military strengths and the maintenance of high peacetime levels of military

[1] The Director of Naval Intelligence and the Deputy Director for Intelligence, The Joint Staff, consider that this paragraph overstates the degree of independence which Communist China enjoys in matters of major policy. They believe, therefore, that the last clause should be deleted, and the following substituted:

"We believe therefore that the Soviet leaders would almost certainly be able to apply sufficient pressure, including the curtailment, and if necessary the withdrawal, of economic and military aid, in order to obtain Chinese conformity to Soviet views."

production. Heavy industry will continue to be the primary focus of Soviet economic activity. *(Para. 41)*

4. The *rate* of growth of the Soviet economy has been declining in recent years and will continue to decline during the period of this estimate. We estimate that the annual increase in Soviet gross national product (GNP) by 1960 will probably be slightly less than five percent, compared to a seven percent increase in 1954. Although absolute defense expenditures apparently are to increase markedly in 1955 over 1954, we believe that they will probably increase henceforth at a slower rate and will be about 15 percent higher in 1960 than in 1955. *(Para. 43)*

5. The expansion of agricultural production and the procurement of foodstuffs for the cities are problems which will continue to plague Soviet leaders during the period of this estimate. Some of the more recent agricultural measures like the "new lands" program and the corn cultivation campaign appear to be less realistic than the measures announced earlier. Although the results achieved will almost certainly fall far short of plans for a nearly 100 percent increase, we estimate that, with average weather conditions, there will be approximately a 30 percent increase in agricultural production in 1960 over 1954. Per capita consumption will probably rise, although at a rate far more modest than that held out to the people in the government's statements of 1953. *(Paras. 57–62)*

6. We estimate that in 1960 Soviet GNP will be roughly two-fifths that of the US, as compared with about one-third in 1954; however, the US economy will probably continue to draw ahead in absolute terms, the dollar gap between the two economies increasing from $228 billion to about $269 billion. The USSR allocates an exceptionally large volume of resources to investment and defense — in the case of investment about four-fifths and in defense about one-half the amounts allocated to these sectors in the US economy. *(Para. 42)*

7. The Soviet regime will, in the pursuit of its objectives, continue to face difficult choices in resource allocation. On the one hand, increasingly heavy investment outlays will be needed in order to maintain high rates of economic growth. On the other hand, military requirements constitute the chief competitor for the resources on which investment must draw. Consequently, if the Soviet regime should choose to increase military expenditures at a rate substantially higher than we have estimated in paragraph 4 above, a reduction in the rate of growth of the economy as a whole and in consumption levels would result. *(Paras. 43, 56)*

Military

8. We believe that, generally speaking, the personnel strength of Soviet and other Bloc forces will remain substantially unchanged during the period of this estimate. However, the over-all effectiveness of these forces will increase, mainly because of the following factors:

a. Introduction into the Soviet Air Force during the present year of supersonic interceptors, jet heavy bombers, and four-engine turbo-prop aircraft, probably heavy bombers; an increase in the number of all-weather fighters and jet medium bombers;

b. A great increase in numbers of nuclear weapons, and in the range of yields derived from these weapons;

c. A great increase in the number of long-range submarines;

d. Generally improved and modernized weapons available to Soviet ground forces, together with changes in organization and tactics designed to adapt these forces to nuclear warfare.

If the USSR in fact develops the guided missiles which we estimate to be within its capabilities, these will provide a significant increment to over-all Soviet military effectiveness. *(Paras. 103, 144)*

9. At present the main Soviet offensive strength lies in the capability to mount large-scale ground attacks against Western Europe, together with air attacks against Western Europe and the UK and an extensive submarine campaign to disrupt the flow of reinforcements and supplies from North America. During the period of this estimate the additions to Soviet air strength listed above will increase very markedly the ability of the USSR to launch air attacks against distant targets, including the continental US. The growing submarine force will also pose a greatly increased threat to allied naval forces and shipping. *(Paras. 133–134, 138)*

10. During the period of this estimate the Bloc air defense system will probably be substantially strengthened by greater operational experience and by the introduction into operational units of new fighter types (including all-weather), new antiaircraft weapons, improved early warning and GCI equipment, and guided missiles. However, in view of the increasing capabilities of offensive weapons and improved techniques in countermeasures, Soviet air defense capabilities will probably remain inadequate to prevent attacking forces from reaching critical target areas of the USSR. *(Para. 137)*

11. The chief limitations on Soviet armed forces are likely to arise from the vast size of the USSR, the great distances from main interior sources of supply to several main operational areas, the relatively inadequate road and rail network, and the acute shortage of Bloc-registered shipping. The Soviet rail system would be vulnerable to air attack in general war, and Soviet armed forces would eventually suffer logistical difficulties, especially in operations in the Far East. Other deficiencies during the period of this estimate will probably be in experience and training for long-range air operations, and in certain equipment for air defense, together with lack of capability for long-range amphibious and surface naval operations. The questionable political reliability and relatively low combat effectiveness of many of the Satellite forces will continue to limit their usefulness to the USSR, especially for offensive operations. *(Paras. 103–104, 124)*

Probable Courses of Action

12. We believe that the principal immediate objectives of Soviet external policy during the period of this estimate will be: (a) to promote the political and economic instability of non-Communist states, and to render them incapable of decisive action by fostering and exploiting neutralism and dissensions within and among them; (b) to bring about the withdrawal of US power from its present advanced bases around the periphery of

the Bloc; (c) to impede or offset the rearmament of West Germany and its association with the Western Powers; and (d) to detach Japan from the sphere of Western influence and encourage its closer association with the Sino-Soviet Bloc. At the same time the USSR will continue to pursue its fundamental aim of expanding Communist influence and, as opportunities develop, of extending the area of Communist control. *(Para. 158)*

13. The Soviet leaders probably now believe (a) that general war would present formidable hazards to the survival of their system, and (b) that they can make progress toward their objectives by political action, and in some cases by localized military action. Therefore, we believe that during the period of this estimate the Kremlin will try to avoid courses of action, and to deter Communist China from courses of action, which in its judgment would clearly involve substantial risk of general war. The Soviet leaders are unlikely to believe that Soviet, Communist Chinese, or European Satellite forces can be used in open attacks across recognized state frontiers during this period without running such a risk. However, the USSR or one of the Sino-Soviet Bloc countries might engage in indirect aggression or take action which would create a situation in which the US or its allies, rather than yield an important position, would take counteraction which could lead to general war. We believe, moreover, that the Kremlin would not be deterred by the risk of general war from taking counteraction against a Western action which it considered an imminent threat to Soviet security. Thus, general war might occur during the period of this estimate as the climax of a series of actions and counteractions, initiated by either side, which neither side originally intended to lead to general war. *(Para. 159)*

14. We believe that the USSR will, despite the growth of its nuclear capability during the period of this estimate, continue to try to avoid substantial risk of general war, since the Soviet leaders will probably still not be confident that they could attack the US with nuclear weapons without exposing the USSR to an even more devastating counterblow. However, as their nuclear capabilities grow, Soviet leaders may come to estimate that the US, because of fear for itself or for its allies, or because of pressures exerted by its allies, will be increasingly deterred from initiating the devastation entailed in a full-scale nuclear war. They may therefore come to believe that local wars will be less likely than at present to expand into general war, and thus that superior Bloc military capabilities in certain local areas can be exercised without substantial risk of provoking general war. *(Para. 161)*

15. We believe that Soviet diplomacy during the period of this estimate will not be directed toward a general settlement between the USSR and the West. It will almost certainly continue to combine moves intended to ease international tensions with other moves which increase such tensions, and with political warfare pressures calculated to play upon the non-Communist world's fear of war. At present the USSR is engaged in very active diplomacy on a number of important issues — Austria, disarmament, Yugoslavia, Japan — and has made important concessions, though no apparent important sacrifices as yet. We believe that

the current Soviet diplomatic efforts are directed primarily toward preventing the rearmament of Germany in close alliance with the West, and that the ground is being prepared for new Soviet proposals on this subject, perhaps at Four Power meetings during this summer. We also believe that in connection with the forthcoming peace treaty negotiations with Japan the USSR is likely to make some concessions in the hope of promoting frictions in the relations of Japan with the US and encouraging Japanese neutralism. *(Para. 162)*

16. It is possible, however, that the Soviet leaders also desire a substantial and prolonged reduction in international tensions that would not only prevent German rearmament but also further their other objectives, including US withdrawal from advanced bases and a reduction of the incentive for the West to maintain its present defense efforts. The Soviet leaders may also feel that such a reduction of international tensions is desirable because of the pressure of their own internal problems. *(Para. 163)*

17. The principal objective of Soviet policy in Europe is to obtain a solution of the German problem favorable to Soviet interests. Prevention or slowing down of West German rearmament and blocking the development of West Germany's ties with the NATO powers have first priority. To achieve these aims, Soviet policy will almost certainly make great efforts to influence the situation in West Germany itself. The Soviet leaders probably calculate that by sedulous encouragement of German hopes for unification they can, for a limited time, increase neutralist feeling in West Germany, complicate the relations of the West German Government with its NATO partners, and undermine unity of purpose within the NATO alliance. The settlement of the Austrian problem, together with the recent Soviet proposals on disarmament and the current advances to Yugoslavia, may indicate a Soviet willingness, in the course of further negotiations, to give up control of East Germany in exchange for a guaranteed neutralization of a united Germany and a Soviet share in international control over German armament. We believe that the chances of such a development are less than even.[2] *(Paras. 166–167, 170)*

18. If such measures did not, in the Soviet view, succeed in countering the developing threat of West German rearmament, we believe that the USSR would turn to more rigorous policies, including a sharp build-up of Soviet and Satellite military capabilities. It might also adopt more threatening courses of action against Berlin, or in the Far East, or elsewhere, with the purpose of arousing fear of nuclear war in the West and causing Western peoples to demand that their governments pursue a cautious policy. We believe that even at this stage the USSR would still avoid courses of action which in its judgment clearly entailed the probability of general war. *(Para. 169)*

19. We believe that the USSR is in substantial agreement with Chinese Communist objectives to destroy the Chinese Nationalist Government and to gain control

[2] The Special Assistant, Intelligence, Department of State, believes that the estimate contained in the last sentence of this paragraph should read:

"We believe that the likelihood of such a development is small, primarily because it seems to us that its uncertainties and disadvantages, from the Soviet point of view, would far outweigh its advantages."

of all territory held by it. The primary Soviet interest in issues arising in the area of the Formosa Strait is to exploit them in such a way as to sow distrust of the US among neutral nations and to promote a maximum of discord between the US and its allies. We believe that Moscow might see certain advantages in clashes between Chinese Communist and US forces, provided it believed that the clashes would be limited and localized. However, we also believe that the USSR will seek to restrain Peiping from adopting policies which in the Soviet view would carry grave risks of major hostilities between the US and Communist China, since the Soviet leaders probably believe that such hostilities would also entail grave risk of Soviet involvement. *(Para. 173)*

20. The Soviet leaders probably consider that if major hostilities between Communist China and the US should occur, the USSR would be presented with extremely grave choices. They would probably give the Chinese Communists support in weapons and material, and the scale of this aid would probably increase in proportion to the threat to the Chinese Communist regime. As hostilities expanded and the threat to the Chinese Communist regime increased, they would probably engage Soviet forces in defensive operations, to the extent that they felt they could plausibly deny such involvement. Should the conflict progress so far that destruction of the Chinese Communist regime appeared probable, we believe that the Soviet leaders would recognize that open intervention on their part sufficient to save the Chinese regime would involve extremely grave risk of general war with the US with its consequent threat to the survival of the Soviet system. In deciding upon a course of action, the Soviet leaders would have to weigh the strengths which they could bring to bear in the struggle against those which would be opposed to them, and the dangers to their own regime of a possible global war with the US against the strategic and psychological consequences to them of destruction of the Chinese Communist regime. We believe, on balance, they would conclude that loss of the Chinese Communist regime would be sufficiently damaging and final to cause them to resort to open intervention to save that regime.[3] *(Para. 174)*

21. Southeast Asia will almost certainly appear to the USSR to be the most profitable field for the extension of Communist influence, at least during the early period of this estimate. The Soviet leaders will probably continue, in concert with Communist China, to support Communist subversive activities, and possibly localized military action if circumstances are favorable. *(Para. 175)*

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[3] The Director of Naval Intelligence, and the Deputy Director for Intelligence, The Joint Staff, believe that the last sentence overstates the willingness of the Soviet leaders to risk their own regime and would substitute for the last sentence:

"On balance, we believe that they would not consider the elimination of the Chinese Communist regime sufficiently damaging, or final, to warrant the risk to their own regime which open intervention would entail."

DISCUSSION

I. INTERNAL POLITICAL DEVELOPMENTS

22. The Soviet political system continues to exhibit the essential features which it acquired during the period of Stalin's ascendancy, even though power appears now to be exercised by a small group rather than by a single man. Its totalitarian character, resting on the monopoly of political power held by the small group composing the Communist Party Presidium, remains unaltered by developments since Stalin's death. We think it extremely unlikely that in the period through 1960, despite possible shifts in leadership and policies, the nature of the Soviet political system will change in any important respect.

PROBLEM OF LEADERSHIP

23. Since Stalin's death there has clearly been an unstable situation at the top level of the Soviet power structure. The elimination of Beria and the demotion of Malenkov, together with a number of similar actions against lesser personalities, indicate that the division of power and influence posed a serious problem for Stalin's heirs. It seems unlikely that this problem has yet been resolved, despite Khrushchev's apparent rise to a position of primacy. It is not yet clear whether his position as Party First Secretary, the key position Stalin used to gain absolute power, will enable him to acquire a similar domination over his colleagues in the Party Presidium. Prime Minister Bulganin and other veteran members of this body like Molotov, Kaganovich, and Mikoyan, all of whom hold high governmental positions, are probably not eager to submit to the renewed domination of one man. Alignments among the top leaders, their relative power and influence, or the following that each may have within the Party and Government apparatus are unknown. For the present, major personnel and policy decisions are probably still subject to negotiation among them. There may be factional jockeying for some time, although we incline to the view that sooner or later the Soviet system will revert to a personal dictatorship. This may occur within the period of this estimate.

24. The personal power struggle has probably been taking place in a context of differences over policy. Strongest evidence of such differences has appeared in connection with the agricultural program, and in particular concerning the most effective methods of increasing agricultural production. On other issues the evidence of divergent views is far less clear, but the Soviet leaders may also have disagreed among themselves concerning the allocation of resources among the defense, investment, and consumption sectors of the economy. Except on agricultural problems, however, the Soviet leadership has not publicly exhibited differences of view within its ranks.

25. The struggle over power and policy may be exacerbated during the period of this estimate, unless one of the leading figures succeeds in acquiring a clear dominance in the Party Presidium. As death or ill health thin the ranks of the veteran members of the Presidium, who have probably up to now been able to check the rise of any aspirant to the full array of Stalin's power, the problem of coopting younger proteges may become acute. Moreover, the issues of policy likely to develop during the period of this estimate will present hard choices, the resolution of which may sharpen the struggle for personal power.

26. We continue to believe, however, that the struggles over personal power and policy will be confined to the small group at the apex of the power structure and will not result in open violence involving the police or military forces. We do not believe that the police or military establishments are likely within the period of this estimate to participate as independent factions in the contest over power and policy. They are effectively controlled by the Party, both openly and through penetration by agents, and their leaders are probably

too involved in conflicting personal loyalties and factions outside the professional group to permit independent political action. However, to the extent that issues affecting spheres of activity of the army and police divide the top Soviet leadership, the bureaucratic and professional point of view, particularly of the army, may have a greater influence on policy decisions.

27. Serious and prolonged instability within the top leadership would probably impair the efficiency of the Party and State administration. Insecurity and uncertainty might reach serious proportions if a rapid series of removals, accompanied by charges of disloyalty and trials of those unseated, occurred within the top leadership. In this case the regime might have as much difficulty in carrying out as in reaching its policy decisions. However, the Soviet leaders are certainly aware of these problems of effective administration in their totalitarian state and will be concerned to prevent their personal struggle for power from degenerating into widespread purges which might cause a deterioration in the administrative apparatus. On balance, we think that the regime will surmount dangers of this kind.

RELATIONS BETWEEN THE SOVIET PEOPLE AND THE REGIME

28. The post-Stalin leadership has clearly given increased attention to the attitudes of the Soviet people toward the regime, and in particular it has been concerned to improve morale and to cultivate more positive attitudes toward its goals. Despite the decline in emphasis on the consumer goods program, the regime has not explicitly repudiated the promises made to Soviet citizens in 1953. It will probably maintain the effort to raise living standards to the extent that current defense and investment programs permit. It probably still intends to limit arbitrary and terroristic actions by the secret police as much as it feels is compatible with safety.

29. During the period of this estimate, the attitude of the Soviet people toward the regime will continue to be characterized more by apathy than by dissidence. It is unlikely that the promises made in 1953 to raise living standards, or even the limited fulfillment which followed, have aroused demands and expectations dangerous to the regime. The policies of the regime are likely to be successfully calculated to allay active discontent and at the same time to check excessive demands. However, if there should be such a conspicuous failure of current agricultural programs as to lead to a decline in food supplies, or if the regime should be obliged to resort to greater pressures on the peasantry to extract the foodstuffs essential to feed the cities, a serious deterioration in public attitudes toward the regime might result. Such a development during the period of this estimate would be unlikely to threaten the security of the regime.

30. The attitude of the Soviet people toward the particular dangers of nuclear war is difficult to gauge. Only within the last year has the regime begun to make some information available, and this has been for a limited, largely military, audience. For civil defense purposes, an intensive public information program would appear to be necessary. Even if this is undertaken, popular fears are unlikely to limit the freedom of action of the USSR in a diplomatic crisis in anything like the same degree as would be true for the Western Powers. Nevertheless, the desire to avoid war is strong and articulate in the Soviet people, and the regime, despite its ability to distort and obscure the meaning of events by propaganda, must to some extent adapt its policies to this attitude. It may be obliged to do so in greater degree when the facts of nuclear warfare become better known to the Soviet people.[4]

[4] There will be a fuller discussion of the issues raised in this paragraph in a forthcoming estimate, NIE 100–5–55, "Implications of Growing Nuclear Capabilities for the Communist Bloc and the Free World."

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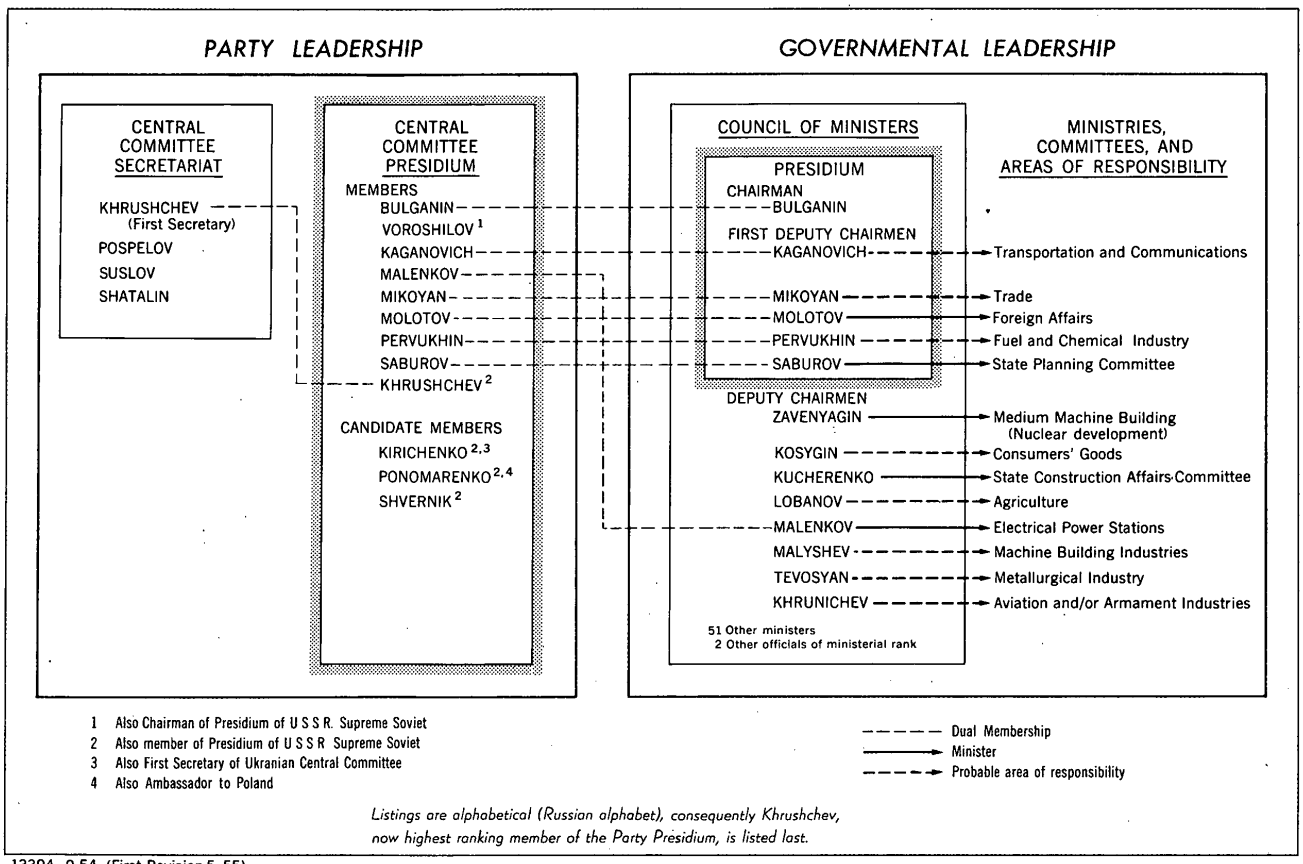
USSR

INTEGRATION OF COMMUNIST PARTY (CPSU) AND SOVIET GOVERNMENT

15 MAY 1955



Listings are alphabetical (Russian alphabet), consequently Khrushchev, now highest ranking member of the Party Presidium, is listed last.

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II. THE USSR'S RELATIONS WITH OTHER COMMUNIST BLOC STATES

SINO-SOVIET RELATIONS

31. Sino-Soviet relations within the last year have been marked by a continuing enhancement of Communist China's status within the Communist Bloc. This was shown by the visit of the Soviet delegation in September-October 1954, by the agreements announced in the 11 October communique restoring Port Arthur and certain joint enterprises to Chinese control, and by the more recent association of Communist China with Communist policy in Europe in opposition to West German rearmament. The trend toward greater Chinese independence from Soviet tutelage probably was inevitable in view of the growing power of the Chinese regime and the international prestige it derived from the Korean War and from Communist successes at the Geneva Conference. Communist China is coming to be accorded a formal status within the Communist world more nearly equal to that of the USSR.

32. The relations between the USSR and Communist China are probably now conducted as between allied powers having common interests and a common ideology, but also separate and potentially conflicting national objectives. Communist China continues to be dependent on the USSR because only through Soviet aid can it maintain or expand a modern military establishment and because its industrialization program is also geared to Soviet support. This dependence gives the USSR great influence over Chinese policy, but it would probably not be decisive in matters which the Chinese believed involved their own vital interests. The USSR probably would not apply so serious a sanction as withdrawal of economic and military aid in order to obtain Chinese conformity to Soviet views, since to do so would seriously threaten the relationship.[5]

33. The USSR and Communist China will almost certainly maintain a relationship of close alliance throughout the period of this estimate, despite the possibility of some frictions between them. The USSR will continue to sell or grant military and capital goods to China but will almost certainly not meet Chinese demands to the extent of overtaxing the Soviet economy. Soviet policy may take a more cautious view than the Chinese of the risks appropriate to the pursuit of Communist objectives in Asia. Some issues will probably cause hard bargaining between the two partners, but not to the extent of endangering the alliance. The interests of both, as well as the ideological gulf which separates both from the non-Communist world, will continue to dictate policies of hostility against the West. The contribution which each makes to the military security of the other may assume even greater importance if the Western alliance is able to add substantial military power in Germany and Japan to its present strength. These considerations, at least during the period of this estimate, will almost certainly outweigh any frictions in the Sino-Soviet relationship.

SOVIET-SATELLITE RELATIONS

34. The USSR's relations with its Eastern European Satellites involve problems of control rather than of negotiation. Effective di-

[5] The Director of Naval Intelligence and the Deputy Director for Intelligence, The Joint Staff, consider that this paragraph overstates the degree of independence which Communist China enjoys in matters of major policy. They believe, therefore, that the following should be substituted for the last two sentences:

"The continuing dependence of Communist China on the USSR for support of its military and economic programs gives the USSR great influence over Chinese policy. Through manipulation of the various pressures which they can exert, the Soviet leaders would probably be able to forestall any development in Chinese policy which they believed would involve a serious conflict with Soviet vital interests. However, if such a conflict should arise, we believe that the Soviet leaders would be prepared to apply these pressures to whatever extent they deemed necessary, even to the point of withdrawal of military and economic aid, in order to obtain Chinese conformity with Soviet views."

rection and surveillance of the small corps of Party careerists in each of the Satellite regimes, together with the presence or proximity of Soviet military forces, have been enough to insure Soviet control. This system does not appear to have lost any of its effectiveness despite the economic difficulties encountered in most of the Satellites during the last two years, and despite the uncertainties Satellite leaders have apparently felt about who among their Moscow preceptors might win the contest for power going on there.

35. There have been two developments of purely external significance not affecting the substance of Soviet control, but which are nevertheless suggestive of the form which that control is likely to take in future. One of these has been the withdrawal of the USSR from the direct forms of exploitation exemplified by the joint stock companies which held important economic assets in several of the Satellites. To replace direct Soviet control through bilateral arrangements it is intended apparently to link all the Satellite economies more closely with each other and with the USSR by a greater degree of joint economic planning in the new Five-Year Plan period 1956–1960. The other organizational development of importance is the recently announced collective defense and joint command structure which will replace the bilateral military arrangements the USSR has had with each of the Satellites. In both the economic and military fields therefore there is likely to be during the period of this estimate a development toward multilateral forms of organization and planning. The result will probably be closer integration and more efficient Soviet direction and control of the Satellite area as a whole.

36. Popular resistance of an organized and active kind is unlikely to appear in any of the Satellites during the period of this estimate. Disaffection showing itself in noncooperation in economic fields and even passive resistance might increase in some of the Satellites if there should be further serious deterioration in living standards. The USSR would intervene with force or by grants of economic aid to check any development of this kind which it believed threatened the security of any Satellite regime. The USSR's actions in the Satellite area will be based on the assumption that effective Soviet control there is an essential security requirement.

III. DEVELOPMENTS IN THE SOVIET ECONOMY

SOVIET ECONOMIC POLICY

37. The fundamental characteristics of Soviet postwar economic policy have been emphasis upon a rapid rate of capital accumulation, maintenance of high levels of military expenditure, and the direction of the major share of new capital to heavy industry. There has recently been added a basic and probably enduring concern for the expansion of Soviet agricultural production, as a result of its continued failure to keep pace with the requirements of population growth and industrial production. In 1953 marked attention was given to consumer welfare and to agricultural problems. However, during 1954 and the early months of 1955 there was a reduction of emphasis on the numerous promises to raise standards of living which were made in official pronouncements in 1953, but the emphasis on agriculture, which was the keystone of the 1953 plan revisions, has continued with increased intensity. There was also a reaffirmation of the central role of heavy industry as the necessary foundation for the entire Soviet economy, including the consumption sector. Reductions in explicit military outlays in 1953 and 1954 are roughly restored to the 1952 level in the 1955 Soviet budget.[6] This increase of military outlays is apparently to be achieved by a reduction in the rate of growth of consumer goods activity and capital investment.

38. The 1955 budget gives little information on details of the current investment program, but it does indicate that investment in heavy industry will increase about four percent and over-all investment expenditures will decrease about one percent from the level planned for 1954. Announcements of some aspects of investment in agriculture indicate increases of as much as 10 percent over the record 1954 level. Nevertheless, total investment in the sectors of the economy related to consumption will be reduced from the levels planned for 1954. These reductions will probably still leave an investment program for these sectors substantially above the 1953 outlay and in most cases above the levels actually achieved in 1954.

39. The traditional Soviet policy of concentrating economic decisions in the central party and government apparatus in Moscow was slightly modified during 1953, and has been further modified during 1954 and early 1955. Although the central apparatus continues to make the basic decisions in economic planning, a large share of the detailed work necessary to implement plans has been transferred from Moscow to regional ministries and local plant managers in the case of manufacturing, and to local (raion) committees in agriculture. Manufacturing and agricultural enterprises have been given the responsibility, and have even been encouraged, to use local materials and techniques, and to make their own arrangements for the purchase of these materials. There have been large-scale reductions in reporting requirements and in clerical and administrative personnel of both the central and the local governmental apparatus. Individuals released from these positions have been largely transferred to production responsibilities, particularly in agriculture.

40. The foreign economic policies of the USSR, although not significantly modified, have been somewhat reoriented during 1953–1954. Soviet foreign trade has always been directed to the expansion of Soviet influence and to the long-run objective of achieving economic self-sufficiency. In the past, the Soviet economy has not been in a position to accomplish much toward the former objective. At present, however, the increased size and diversity of the Soviet economy and the coordination of the European Satellite economies gives the USSR a supply of goods and trained personnel with

[6] The explicit military expenditures in the Soviet budget do not include the outlays for atomic energy and for most military research and development. Expenditures on military plant and tooling in any given year also appear elsewhere in the budget, but these expenditures are believed to be charged against defense outlays in subsequent years.

which it may attempt to increase its economic influence upon the free world. Increases in Soviet offers of technical assistance, particularly in Asia, and extension of the geographical distribution of foreign trade in 1954 indicate Soviet intent to use its industrial economy to extend its political influence as well as to build up its own political, military, and economic strength.

41. Assuming there is no war and in the Soviet view no substantially increased danger of war, Soviet economic policy in 1955–1960 will be directed toward achieving a continued rapid growth of basic economic and military strength and at the same time, as far as is compatible with this objective, a steady improvement in the well-being of the general population. This latter improvement will almost certainly be at a rate far more modest than that held out to the people in the government's statements of 1953. Heavy industry will continue to be the primary focus of Soviet economic activity. Capital investment will continue to absorb a slightly increasing share of Soviet output. Defense expenditures [7] will probably increase moderately as the cost of development, production, and maintenance of modern military equipment increases. A concerted effort will be made to increase agricultural production. A slight increase over 1954 levels of production of housing and other durable consumer goods is also likely in the period 1955–1960. Consequently, a somewhat more balanced production effort in terms of the entire Soviet economy can be expected. Such an effort would result in growth of per capita consumption of the Soviet people at a fairly constant rate, although at a rate considerably slower than that which will obtain for the growth of the economy as a whole.

SOVIET ECONOMIC GROWTH

42. Soviet gross national product [8] (GNP) increased by almost seven percent in 1954, as compared with a gain in 1953 of about 3.5 percent; the latter rate was abnormally low for the USSR because of a poor crop year and the plan revisions then taking place. The 1954 level of Soviet output — about $129 billion — was approximately one-third that of the US at $357 billion. A breakdown of Soviet and US gross national product by end use is presented in Figure 1.[9] From this figure it may be seen that, in dollar values, the USSR allocates to consumption only about one-fifth

[7] In this and the following paragraphs, Soviet "defense expenditures" have been estimated on such a basis as to permit comparison with those of the US; i.e., they include explicit budgetary appropriations to the Ministry of Defense, plus estimated outlays for research and development, atomic energy, MVD paramilitary forces, military education, and some military construction.

[8] Figures for gross national product (GNP) provide the most concise and convenient means of describing the size and composition of the economy of a nation, and (in a rough way) of comparing it with other national economies. However, considerable technical difficulties arise in calculating the GNP of any country. In the case of the USSR the limited nature of the available data makes calculation and interpretation especially difficult. For these reasons the quantitative estimates given in the following paragraphs regarding GNP and its principal components must be considered as approximations. We believe nevertheless that they present a reasonably accurate index of general trends in the Soviet economy.

[9] In order to compare Soviet GNP with that of the US, ruble estimates have been converted to dollars by using appropriate ruble-dollar ratios for the various sectors of the Soviet economy. Only one set of GNP figures in dollars is presented in this estimate. It should be noted, however, that the deficiencies in the basic data on the USSR, the fact that different methods of valuing output can be used with equal validity, and the latitude of judgment involved in converting ruble figures into dollars permit alternative estimates of the size and composition of Soviet GNP. For instance, an alternative calculation of Soviet GNP gives the following results:

	Billion 1954 Dollars	Percent
Consumption	54.1	41.7
Investment	36.5	28.2
Defense	23.8	18.4
Administration	15.2	11.7
Total	129.6	100.0

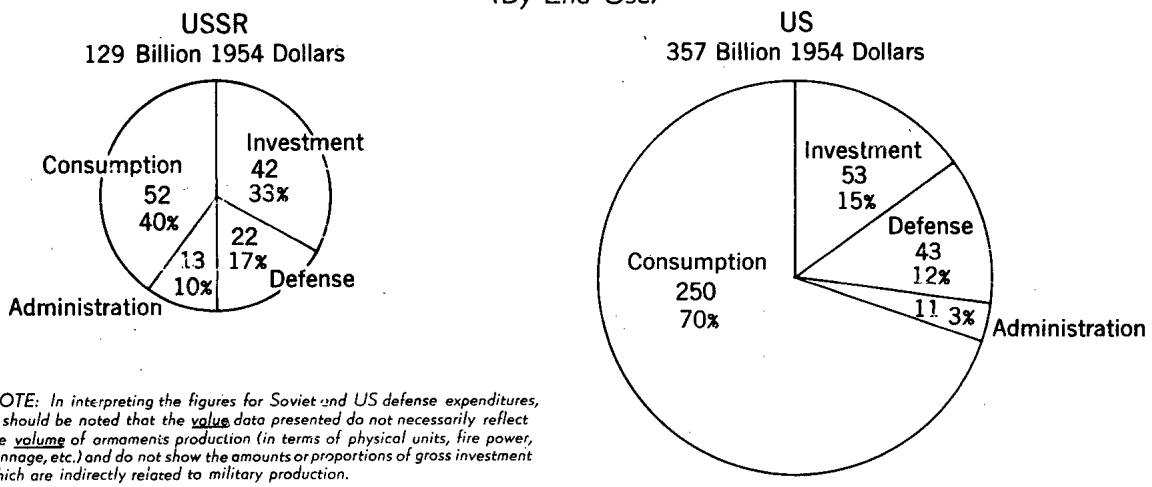
Such differences as these do not materially affect either the discussion of economic growth presented above or the general conclusions regarding the size and structure of the Soviet economy, but they would affect the analysis and interpretation of some of its more detailed aspects.

Figure 1

US and USSR

COMPARISON OF GROSS NATIONAL PRODUCTS, 1954

(By End Use)



NOTE: In interpreting the figures for Soviet and US defense expenditures, it should be noted that the value data presented do not necessarily reflect the volume of armaments production (in terms of physical units, fire power, tonnage, etc.) and do not show the amounts or proportions of gross investment which are indirectly related to military production.

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as much as the US, although its population is 30 percent larger. Moreover, while the USSR devotes larger proportions of GNP to defense and to investment than does the US, the actual amounts thus allocated are considerably less — in the case of defense about one-half, and in investment about four-fifths of the US figures. This manner of allocating resources gives some indication of why the USSR, with its smaller national product, has nevertheless been able to build a large industrial economy and military establishment within a relatively short period of time.

43. The *rate* of growth of Soviet GNP has been declining in recent years largely because of the declining productivity of additional units of capital investment in industry, but also because of the stagnation in agriculture and the heavy burden of military expenditure. We believe that increasing investment in Soviet agriculture, where the productivity of labor is very low, a slowing down of investment in consumer manufacturing industries, where labor productivity is relatively high, and a reduction in the rate of increase in the labor force will tend to continue the recent declines in the rate of growth. We estimate, therefore, that the average annual increase in Soviet GNP by 1960 will probably be slightly less than five percent, compared to the seven percent increase in 1954. Accordingly, we estimate that Soviet GNP in 1960 will be about $183 billion and US GNP about $452 billion. To sustain this estimated rate of growth, investment must increase as a proportion of total product while consumption, defense, and administration decline. Although absolute defense expenditures apparently are to increase markedly in 1955 over 1954, restoring them to about the 1952 level, we believe that they will probably increase henceforth at a slower rate, and will be about 15 percent higher in 1960 than in 1955. This figure compares with an increase of about 50 percent in investment and a GNP increase of about 35 percent. Soviet investment expenditure, concentrated as it is in the heavy and machine industries, constitutes in itself a direct support for a future expansion of military effort.

44. The estimated rate of economic growth in the USSR implies an increase in the ratio of Soviet to US output. Soviet GNP in 1960 will probably be about 40 percent that of the US. However, the US economy will probably continue to draw ahead in absolute terms, the dollar gap between the two economies in-

creasing from $228 billion to about $269 billion. (See Figure 2). There will be a similar relationship between the gross outputs of the NATO countries taken as a whole and that of the Sino-Soviet Bloc. The absolute gap of $425 billion in 1954 will probably widen to about $509 billion in 1960.

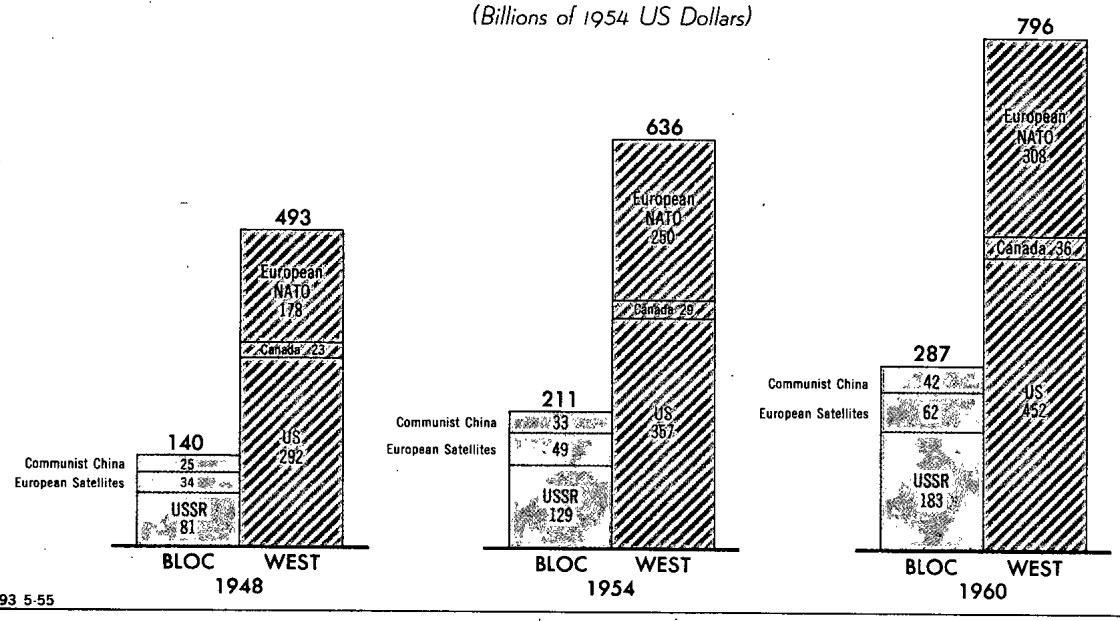
45. Our estimates of Western product for 1960 are based upon historical patterns of economic growth in the West. Our estimates for Sino-Soviet Bloc output in 1960 are based on the assumption, which we believe reasonable, that the Bloc will pursue a pattern of resource allocation comparable to that presently existing and apparently planned for the future. Both the Western countries and the Sino-Soviet Bloc have the capability to alter the pattern of resource use drastically, and thereby to alter the final composition and value of the product. The capability of the West, and especially of the US, to do this is greater than that of the Bloc because of the higher Western product in proportion to population. However, large shifts in the pattern of resource use cannot be as quickly or as easily made in the West as in the USSR where the economy is closely controlled and industry is designed for maximum convertibility to war purposes. If the Bloc and the West continue to maintain full employment, considerable changes in the composition of their respective outputs would have little effect on their total volume of output in so short a period. Should either fail to maintain full employment, the volume of output would be considerably reduced.

DEVELOPMENTS IN SOVIET INDUSTRY

46. Soviet total industrial production approximately doubled during the period 1948–1954, and increased about nine percent during 1954. The current and apparent long-run objectives and limitations of Soviet industrial production indicate that the average annual real rate of increase during 1955–1960 will be over seven percent, and production in 1960 will be about 55 percent greater than in 1954. The substantial and continuing decline in the estimated rate of growth of industrial output is essentially attributable to (a) a reduction in the rate of growth of the industrial labor force; and (b) a reduction in the average yield of annual additions to industrial investment. The greatest production increases during the 1955–1960 period are expected to occur in chemicals, electric power, electrical equipment, and manufactured consumer goods.

Figure 2

SOVIET BLOC AND WEST
COMPARISON OF GROSS NATIONAL PRODUCTS
(Billions of 1954 US Dollars)



ment, and manufactured consumer goods. The smallest production increases are expected in the more established industries with relatively large current production, namely, manufactured food products, forest products, and defense industries.

TABLE 1
ESTIMATED SOVIET INDUSTRIAL PRODUCTION, SELECTED YEARS 1948-1960[1]
Indexes: 1954=100

	1948	1953	1954	1955	1960
Energy	52	91	100	111	172
Metals	45	90	100	108	146
Metalworking & Machinery	41	88	100	114	169
Chemicals	45	88	100	111	172
Construction Materials	39	88	100	111	172
Forest Products	66	91	100	103	124
Food Products	63	96	100	104	134
Manufactured Consumer Goods	45	90	100	115	169
Defense Industry	36	102	100	113	122–132[2]
Total Industry	49	92	100	110	155

[1] The 1955-1960 estimates are projected from recent rates of growth, current investment programs, and such Soviet plans as have been announced for this period.

[2] The lower figure — 122 — is calculated on the assumption that during the period of this estimate there will be some reduction of present levels of production of some military end-items. The higher figure — 132 — assumes that present production remains approximately constant, and that new weapons and equipment programs are added. It should be noted that the estimated cost of the Soviet atomic energy program is not included in the figures for defense industry.

47. Soviet *heavy industrial production* has been increasing at an average annual rate of over 10 percent during the current Fifth Five-Year Plan. Official announcements indicate that production plans for most nonferrous metals, petroleum, and certain capital equipment are not being met, but that the overall plan for heavy industry is generally being met. Production of capital equipment for light and processing industries has almost certainly exceeded the original Fifth Five-Year Plan. Heavy industry will almost certainly continue to dominate industrial production plans for the 1955–1960 period, although more attention will probably be devoted to housing and nonindustrial construction than in the last six years.

48. Soviet *armaments production* almost doubled in value (though not in volume) between 1950 and 1954. US expenditures for military end-items, although less than Soviet expenditures during the period 1946–1950, increased rapidly after 1951, reached a high in 1953, and have since slightly decreased. In terms of what Soviet armaments would have cost at US quantity-production prices, we estimate that the aggregate dollar value of Soviet military production in 1951 was roughly 50 percent more than the dollar value of US armament deliveries, whereas in 1954 the aggregate dollar value of Soviet military production would have amounted to a little less than half that of US armament deliveries. The value of Soviet military end-item production will probably increase by a moderate amount annually through the period of this estimate, assuming no significant change in the level of international tensions. There will be some shift in the relative outlay for various types of weapons, in particular an increase in expenditures for aircraft and naval vessels, and perhaps for nuclear weapons and guided missiles. We believe that it is within Soviet capacity to increase present and estimated future outlays by three to three and a half times in the event of war or international developments which the Soviet leaders might believe required such increases.

49. The *output of consumer goods and services* in 1954 exceeded that of 1953 by about seven percent, increasing at about the same rate as GNP, but at a slower rate than gross industrial production and at about two-thirds the rate of heavy industry. Durable consumer goods, housing and appliances led the advance, followed in order by clothing, transport, and other services. Production of food was limited by continuing agricultural difficulties, and increased only about four percent. Production of consumer goods is expected to continue to increase during the 1955–1960 period, although at a lower average rate than in 1954.

50. The announced Soviet intention to reemphasize heavy industry will have the effect of arresting the 1953–1954 rates of increase in light industry, but will still permit some improvement in the position of the Soviet consumer. Increased emphasis on agriculture

will probably provide an expanding output. Agricultural products are the material base for more than 80 percent of the Soviet consumption pattern. Maintenance of capital investment in both light industry and housing at levels well above those of the 1953 plan lends further support to the estimate that the Soviet consumer will not be deprived of the gains obtained in 1953–1954. The 1955 increases in military production, however, may have the effect of slowing down increases in the production of durable consumer goods.

51. *Industrial Technology.* The quality of Soviet industrial technology as a whole is difficult to assess. Where a particular program has been indispensable to the maintenance of the Soviet power position in the world — for example, in connection with atomic development, in weapons, and in basic industry and construction — the USSR has mobilized its technical resources with great effectiveness. Because of the large number of personnel, and the material and financial outlays required for such technical developments, major efforts such as these have taken a great share of the limited resources the USSR can devote to improving its technology. Soviet technology in lower priority enterprises ranges from the copying of Western design and technique in certain machine industries to admittedly archaic methods of production in a vast majority of light industry establishments. In many of the latter, efforts are made to reduce production costs, but these are largely local efforts made by plant workers and managers who have relatively little training and experience.

52. *Regional Concentrations.* The regional distribution of industrial production shows the impact of Soviet efforts to achieve greater balance between the several economic regions of the USSR, and to make these regions as far as possible self-sufficient. However, production continues to be relatively concentrated in the long established industrial regions of northwest, center, and south. (See Figure 3 on following page). The rapid prewar development of the Ural industrial complex based upon West Siberian coal has continued in the postwar period, and the Urals now produce some 14 percent of Soviet industrial output, compared to 16 and 27 percent respectively in the Ukraine and the Central Industrial region (including Moscow). Although industrial production east of the Urals has grown rapidly since World War II, the base from which it grew was small and much of the production is highly specialized and dependent upon equipment and markets in other regions to the west.

53. *Stockpiling.* There was some evidence that during 1953–1954 Soviet reserve stocks were drawn upon more freely than previously. The scale of stockpiling operations during these years indicates that the Soviet stockpile will fail to meet the 100 percent expansion planned for 1951–1955. However, Bulganin's February 1955 speech gives evidence that the USSR intends to apply renewed emphasis to the stockpile program and to restrict the conditions under which stockpiles may be used to support current production programs. An increase in the scale of the stockpiling program may deprive Soviet industry and Soviet consumers of a portion of the increased flow of goods which would be expected from increased production.

54. *Transportation.* The transport facilities of the USSR continued to increase ton-miles of freight at a rate well in advance of that required by the Fifth Five-Year Plan. The increase in rail freight turnover at the end of 1954 was 42 percent over 1950, compared to an increase of only 35–40 percent planned for the period through 1955. These figures suggest that Soviet planners may have underestimated the transport requirements of their rapidly expanding economy. A rate of investment higher than previously planned will apparently be necessary to permit Soviet transport to maintain growth necessary to support the future expansion of the economy. Highway and waterway freight carriage have also increased rapidly in recent years but not at a rate which will reduce the primary dependence of the economy upon rail transport, particularly in the areas served by the Trans-Siberian Railway.

55. *Labor Force.* A large proportion of the recent growth in Soviet industrial output has

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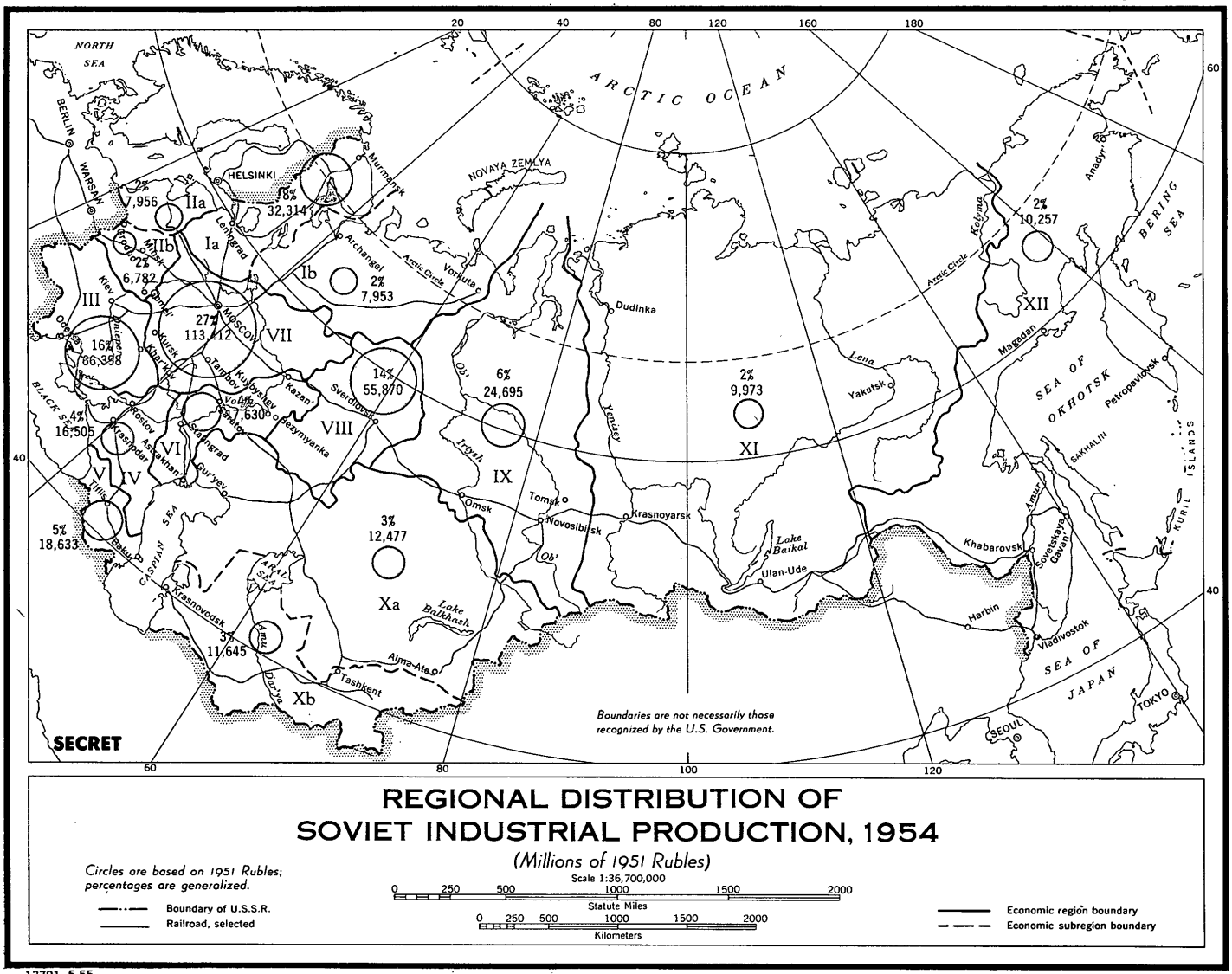
Figure 3



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been achieved by increasing the size of the industrial labor force rather than by increasing its efficiency. The 1951–1955 plan for increases in the nonagricultural labor force was fulfilled by 1953. Planned increases in agricultural production — particularly in livestock and corn, both of which are labor intensive items — and a significant reduction of the annual rate of entry into the labor force during 1955–1960 will deny industrial production a labor force growth during this period comparable to that obtained in the preceding period. (See Table 2). In addition to the labor requirements for agriculture, rates of increase in the industrial labor force will decline primarily because of the effects of the low birth rate during World War II.

TABLE 2

ESTIMATED LABOR FORCE OF THE USSR, 1938, 1947-1956, PROJECTED TO 1960
Yearly Averages in Millions of Workers

	Agriculture	Non-Agriculture	Total Excluding Military and Forced Labor	Total[1] Labor Force
1938	53.3	25.7	79.0	90.3
1947	54.4	30.0	84.4	97.0
1948	53.8	31.0	84.8	98.0
1949	53.1	32.0	85.1	98.0
1950	52.6	34.6	87.2	99.0
1951	51.8	36.2	88.0	100.0
1952	51.0	37.8	88.8	101.5
1953	51.8	38.1	89.9	101.5
1954	52.7	40.3	93.0	104.2
1955	54.1	41.6	95.7	106.5
1960	56.3	46.6	102.9	112.3

[1] Total labor force estimates are subject to a considerable margin of error because of lack of data on the amount of forced labor.

56. A similar decline in the rate of entry to the military manpower pool may be expected. The decline in the annual entries into the industrial labor force in this period will require continued emphasis on measures to increase the productivity of labor. The trend since 1948 of declining annual rates of increase in labor productivity was arrested in 1954. Maintenance of high levels of capital investment and reasonably improved per capita consumption levels — factors which are considered critical to Soviet labor productivity — therefore become essential to the achievement of the estimated rates of over-all industrial and economic growth.

DEVELOPMENTS IN SOVIET AGRICULTURE

57. Soviet agriculture completed its first full crop year under the new agricultural program in 1954. It became clear: (a) that the Soviet leaders were seriously intent upon increasing agricultural production; (b) that the incentives contemplated in the 1953 program had so far done little to improve rural productive effort; and (c) that there had been an increase in the size of the agricultural labor force and some improvement in the quality of technical personnel. Owing in part to adverse weather conditions, 1954 agricultural output probably increased, but only about three percent, and did not reach 1952 production levels. (See Table 3). The 1954 increase was

TABLE 3

ESTIMATED PRODUCTION OF MAJOR CROPS IN THE USSR
1938 AND 1950-1955

	1938	1950	1951	1952	1953	1954	1955
FOOD CROPS							
Million Metric Tons							
Grain	88.6	85.0	80.0	92.0	83.0	87.0	....
Potatoes	73.8[1]	72.3	59.5	69.7	66.4	67.2	....
FIBER CROPS							
Thousand Metric Tons							
Cotton (Ginned)	730	1,140	1,220	1,260	1,300	1,410	....
Flax (Scutched Basis)	600	540	480	400	350	400	....
Wool (Grease Basis)	130	190	205	225	230	235	....
ANIMAL CROPS							
Million head 1 Jan.							
Cattle	59.2	....	57.2	58.8	56.0	57.7	57.6
Swine	31.6	....	24.1	26.7	28.5	29.6	31.8
Sheep & goats	73.1	....	99.0	107.5	109.9	112.0	114.7

[1] 1933-1937 average.

achieved largely as a result of favorable growing conditions in the "new lands," since a severe drought struck the principal producing regions in the Ukraine and Volga. On the other hand, agricultural investment in 1954 increased almost 40 percent, in part by using the increased income of collective farms and also by large increases in state budget allocations. Crop acreage increased by six percent as a result of overfulfillment of the "new lands" program. A return to average weather conditions throughout the USSR during 1955 would result in a sharp increase in agricultural output.

58. Both 1954 and early 1955 saw additional changes in the 1953 agricultural program, all of which aimed at further expansion of output. The "new lands" program, which is to add to the cultivated acreage of the USSR an amount of land equal to the total cultivated acreage of Canada, moved forward ahead of schedule and with favorable crop yields in 1954. The early 1955 announcements outline what is apparently the essence of the Sixth Five-Year Plan for agriculture, and despite the failure of the current plan, they establish a series of agricultural goals for 1956–1960 which are even more ambitious than those set forth in the Fifth Five-Year Plan. (See Table 4).

TABLE 4

OFFICIALLY PLANNED OUTPUT GOALS FOR SOVIET AGRICULTURE

	1960 Index: 1954=100
Meat	200
Milk	200
Eggs	200
Wool	180
Grain	188[1]

[1] This is estimated from the officially announced goal of "not less than" 164 million tons by 1960, and the estimated output of 87 million tons in 1954.

Meat and dairy products, both very costly to produce, constitute the major objectives of the 1960 plan. To achieve the vast growth in animal production, the USSR has embarked on a large-scale program to get an eight-fold increase in corn acreage. The Kremlin has also increased local control over agricultural production and has undertaken a large program to increase the stability and technical competence of the agricultural labor force. In April 1955 there was recruitment of some 30,000 managers, largely from Party ranks, who would replace roughly one-third of the existing collective farm managers.

59. While the measures announced in the fall of 1953 reflected a more realistic appraisal of material, natural, and human resource requirements, this cannot be said of the decrees on virgin land and corn production issued in 1954 and early 1955. A large part of the program approaches the climatic limits of economic production for the land and crops involved. Moreover, the strains and stresses engendered by these campaigns will probably slow up the otherwise possible rate of growth in the "old" regions. Thus the net results will almost certainly fall far short of plans, though there will probably be some increases in production and in state control over agricultural output.

60. The principal problems posed by the agricultural program are: (a) the "new lands" scheme will draw many skilled people from established and more productive areas; (b) the combined "new lands" and corn and livestock programs will require very large additional outlays for machinery, construction, and fertilizer, as well as labor; and (c) climatic conditions in the "new lands" areas are such as to produce frequent crop failures. Moreover, the apparent piecemeal manner in which the program has been instituted raises considerable doubt as to whether the above problems have been adequately assessed.

61. All Soviet agriculture operates under several inherent limitations. With few exceptions, the areas of adequate rainfall in the USSR are areas of poor soil and short growing seasons. Nearly all of the good soils lie in an area of uncertain or deficient rainfall. There are no areas in the USSR comparable to the US cotton belt or corn belt where soil, rainfall, and temperature are favorably combined over a large area to permit high production response with conventional inputs. Less than 10 percent of arable land in the

USSR will yield more than modest increases in output without the addition of extremely large amounts of fertilizer and machinery. Significant increases on most of the arable land would require, in addition, even larger investments in drainage or irrigation. Apart from these natural limitations, the institutional structure of Soviet agriculture, while permitting effective political control over the peasant population, fails to achieve operating efficiency and continues to produce peasant antipathy.

62. In view of these limitations we estimate that, even with average weather conditions, agricultural production in 1960, instead of increasing by nearly 100 percent as planned, will actually increase by only 30 percent. (See Table 5).

TABLE 5

ESTIMATED SOVIET AGRICULTURAL PRODUCTION: AN INDEX OF TEN MAJOR COMMODITIES[1]
1938–1960

1954=100

1938	94
1948	80
1952	103
1953	97
1954	100
1955	109
1960	130

[1] Bread grain, coarse and other grains, potatoes, vegetables, meat, milk, cotton, wool, hemp, and flax.

Further extension of capital investment and labor might make possible additional growth in agricultural output, but such additions would result in a reduction in the average rate of growth for the economy as a whole.

SOVIET CONSUMPTION LEVELS

63. Per capita Soviet consumption in 1954 rose somewhat more than five percent over the 1953 level, a rate of increase slightly higher than had been achieved in the first year of the revised consumer goods program. (See Table 6). Durable consumer goods other than housing showed the most rapid increase, about 20 percent on a per capita basis. Clothing and textile consumption increased about 10 percent and food consumption by only two percent. Per capita consumption of certain quality foods (whole milk) failed to increase and some (meat) even declined. Improvement in consumption in 1954, as in the period since 1950, was not uniform for all income groups; managers and skilled workers were the principal beneficiaries. Middle and lower income groups derived only negligible benefit from increased supplies of expensive fabrics and appliances. For most families in these income brackets, failure of food production to do much more than keep pace with population increases in a period of greater disposable income has meant longer queues, extra visits to the free market, and no improvement in real consumption.

TABLE 6

USSR: ESTIMATED INDEXES OF PER CAPITA CONSUMPTION
1948–1960

1954=100

	1948	1952	1953	1954	1955	1960
Food Products	76	97	98	100	103	116
Clothing	50	82	91	100	112	153
Manufactured Consumer Goods	36	73	83	100	117	160
Transport and Communications	61	87	95	100	105	132
Housing	95	98	99	100	102	109
Urban	95	97	98	100	102	113
Rural	94	98	99	100	101	105
Other Services	89	95	97	100	102	117
Total Consumer Goods and Services	69	90	95	100	106	129

64. Recent increases in real income through increased family income and price reductions have not been matched by commensurate increases in the production of consumer goods. Price reductions in 1954 yielded a negligible increase in the workers' food basket and failed, where preceding price cuts had succeeded, in reducing free market prices. The increased state loan in 1955 and the failure thus far in 1955 to provide the usual annual reduction in consumer goods prices is evidence of a desire to reduce inflationary pressures.

65. We estimate that, given the probable rate of increase in Soviet agricultural production for 1955–1960, *aggregate* Soviet consumption

will probably increase by about 30 percent during this period. However, food and housing, by far the major components for the average Soviet consumer, will increase by less than 20 percent. There were indications in late 1954 and early 1955 that some influential elements among Soviet planners were pressing for a higher rate of growth in consumption than that called for in the 1953 plan. Present agricultural plans indicate that the present Soviet leadership hopes to increase consumption at a more rapid rate than we have here estimated. However, the high cost of agricultural expansion and the competing demands of other sectors of the Soviet economy will probably combine to restrict a more rapid growth in Soviet consumption levels.

66. The disparity between rural and urban scales of living has grown more pronounced since the beginning of the Five-Year Plans. Exact quantification of this difference is exceedingly difficult because the greater part of rural consumption is consumption in kind, but the disparity probably exercises a substantial restraint upon peasant incentive and interest in agricultural output. Despite the fact that the peasants produce the major portion of the Soviet food supply, they eat less well than city people, even though their caloric intake is about equal. The city dweller consumes about 50 percent more milk, two to three times as much meat, and appreciably more fish, vegetable oil, butter, eggs, and sugar. Housing quality is considerably better in the city although the average space per capita is greater in the country. An analysis of retail trade suggests that city people consume three to four times as much manufactured consumer goods as do rural consumers. The grossly inadequate rural transport and market systems will continue to restrict the ability of the Soviet government to eliminate private agricultural production in rural areas. They are also major blocks to the effective exercise of the increased peasant purchasing power which was intended to provide the incentive to support the new agricultural program.

DEVELOPMENTS IN SOVIET FOREIGN TRADE

67. Soviet foreign trade in 1954 increased almost 20 percent over the preceding year. The increase of $1.1 billion represents the largest absolute volume increase since the period prior to the Korean War, and the highest trade level with the free world since before 1948. (See Tables 7 and 8). Total Soviet foreign trade has increased at a rate more than twice that of GNP; the increase is attributable mainly to growing trade within the Sino-Soviet Bloc. Trade with the free world has been increasing since the end of 1950 with the exception of 1953, but remains below prewar volume.

TABLE 7

ESTIMATED FOREIGN TRADE TURNOVER IN THE USSR

Trading Area	1951 Value	1951 Percent	1952 Value	1952 Percent	1953 Value	1953 Percent	1954 Value	1954 Percent
Satellites (incl. Communist China)	3.6	80	4.1	80	4.9	86	5.6	82
Free World	0.9	20	1.0	20	0.8	14	1.2	18
Total Trade	4.5	100	5.1	100	5.7	100	6.8	100

68. Soviet trade with the free world was still primarily with Western Europe, although

TABLE 8

VOLUME INDEX OF SOVIET TRADE TURNOVER
(1948=100)

Year	Total Foreign Trade	With the Bloc	With the Free World
1949	126	191	75
1950	189	347	64
1951	218	399	74
1952	256	464	92
1953	298	577	77
1954	359	690	114

there was a considerable increase in trade with less highly developed areas of the world. The usual export surplus with Western Europe declined slightly in 1954 and the USSR ran a large deficit with underdeveloped areas. It is estimated that the USSR ran a substantial commodity deficit with the free world; gold sales are estimated to have been $100–150 million in 1954. Traditional Soviet exports to the West have been limited by increases in internal Soviet consumption and by the substantial trade program within the Sino-Soviet Bloc; this program has recently included large shipments of grain from the USSR to the European Satellites, which, taken as a whole, were formerly a net grain-exporting area. Although there was some increase in Soviet imports of consumer goods from the free world in 1954, there was little other change in the pattern of imports. Grain exports to the free world declined slightly from the postwar low in 1953, while exports of petroleum and other mineral and forest products increased. In late 1954 and early 1955 there were some indications that the USSR might decrease its imports from the West.

69. According to Soviet data foreign trade turnover with other Bloc nations increased (in value) about 14 percent in 1954, compared to a 50 percent increase with the West. Inasmuch as there was little change in the estimated volume or composition of Sino-Soviet trade, most of the increase in Bloc trade probably took place between the USSR and the European Satellites. The USSR apparently serves as an intermediary for much of intra-Bloc trade, and in part for this reason it is difficult to ascertain the real volume of increase in trade among the various members.

70. Soviet technical assistance programs within the Bloc continued to constitute an integral part of Soviet political and economic control. There was a further increase in the intensity of Soviet propaganda and in negotiations to extend the area of technical assistance to non-Bloc countries, particularly to underdeveloped countries of Asia. For the first time, there were actual movements of technicians and equipment (into Afghanistan), and a contract for the construction of a steel mill in India was signed early in 1955. More overtures like these will probably be made as the Soviet economy grows, especially if the USSR does not substantially increase the scale of its military effort.

71. The 1955–1960 pattern of Soviet foreign trade will be subject to so many conflicting factors that any forecast must be conditioned by possible changes in the international climate and in the respective capabilities of the trading partners. The USSR is still sufficiently behind Western technology to have a continuing need for Western capital equipment. Although Soviet food supply is adequate for the immediate future, failure to increase present agricultural production would eventually lead to additional requirements for food products from outside the Bloc. The USSR has the capability at present to expand export of certain raw materials and is rapidly approaching a position in which it could export a substantial volume of manufactured goods and capital equipment. Thus the capability for an increase in trade with the West exists.

72. Soviet programs and policies, however, will probably preclude any rapid expansion of trade with the West, and will probably confine any increase in this trade to a level approximating over-all Soviet economic growth. The level of trade within the Bloc will continue to increase, but at a somewhat lower rate than in the recent past. The amount of trade within the Bloc would be greatly increased if the USSR encouraged a greater degree of national specialization among the Bloc states. We believe it more likely that the USSR will maintain a Bloc-wide division of labor not much changed from the present structure and will continue to restrict trade between its associates and the free world.

IV. SCIENTIFIC AND TECHNICAL DEVELOPMENTS

MAGNITUDE OF SCIENTIFIC ASSETS — POLICY AND PRIORITIES

73. The USSR has consistently given strong support to the development of science and technology. As a consequence, Soviet scientific and technical capabilities have increased at a rapid pace, especially since World War II. We believe that these capabilities will increase throughout this period, and will continue to provide ample support for essential economic and military programs. However, there will continue to be limitations on Soviet scientific resources which will make careful allocation mandatory and circumscribe the number of major programs that the USSR can undertake concurrently, especially in view of the increasing scientific demands within the Bloc as a whole. Soviet military and heavy industrial requirements will probably continue to be the primary factors influencing scientific planning and allocations of technical resources, although increased attention will probably be given to the application of science to agriculture.

74. At present the scientific assets of the USSR (the number and quality of trained personnel, facilities, and equipment) are smaller than those of the US, and the assets of the Sino-Soviet Bloc are far smaller than those of the West. Soviet financial support for science, while increasing, remains considerably below that of the US, possibly about one-half. However, with respect to scientists of the very top rank, whose numbers are few in any country, the USSR probably has in many fields men who are as able as their counterparts in Western countries. During the period of this estimate the USSR will provide the great bulk of Bloc scientific assets, and its proportionate share will continue to grow. However, East Germany, Czechoslovakia, and to a lesser extent Poland and Hungary, will continue to contribute a substantial increment. On the other hand, Communist China, because of an extreme shortage of scientific and technical manpower and facilities, is unlikely to contribute to Soviet Bloc technical resources during the period of this estimate.

75. The USSR has a large number of organizations, laboratories, institutes, etc., engaged in research in all fields of science. In general, organizational control and laboratory facilities are sufficient for effective utilization of scientific talent. Important Soviet laboratories conducting high priority research projects are adequately equipped. However, complex research instruments and equipment are somewhat less readily available in the USSR than in the United States or the UK. Consequently, some specialized lower priority research projects are probably delayed longer than similar projects would be in Western nations. Although the USSR continues to import some scientific instruments from Western nations, it is now manufacturing or can obtain within the Bloc practically all types of scientific instruments for laboratory research, and also limited numbers and types of industrial instruments for plant operations and control. Research and development in electronics will dominate the science of instrumentation within the USSR during the period of this estimate, with emphasis on better recording and controlling instruments.

76. There is no evidence that Soviet ideology has seriously hampered the development of the physical sciences, especially in applications directly affecting industrial and military capabilities. In certain fields of the biological sciences, however, officially sponsored ideological doctrines have probably exerted a retarding influence on research, although the present weakness in these fields is probably due more to the heavy official emphasis laid on other fields of research than to ideological restraints. There are indications that even in the biological field ideological restraints are likely to be of less consequence in the future than they have been in the past.

SCIENTIFIC EDUCATION AND MANPOWER

77. Prior to World War II the general quality of Soviet higher education and research in most scientific and technical fields was markedly below that of the US. In the postwar period, however, it has been generally good, and has approached US standards. Only in some areas of biology, particularly in the agricultural sciences, does it appear that the present quality of Soviet education and research may be decidedly below that of the US. However, by 1960, in view of the probable greater emphasis upon agricultural development, this deficiency is likely to be considerably reduced.

78. About 1,560,000 Soviet citizens have scientific or technical degrees from colleges and universities, of whom about 785,000 are postwar graduates. The number of university or technical institute graduates employed in the scientific-technical field in the USSR (1,240,000) compares closely with that in the US.[10] It is estimated that 175,000 scientists are engaged in advanced research or teaching at higher level institutions in the USSR, compared with about 265,000 so engaged in the US. Because of the greater stress on the biological and health sciences, however, the USSR has only an estimated 85,000 in the physical sciences, as compared with about 210,000 in the US. Soviet scientists in research and development in all fields of science (excluding those primarily engaged in teaching) number about 100,000, about one-half of the number similarly occupied in the US. During the period of this estimate the Soviet scientific manpower pool will probably increase considerably more rapidly than that of the US.

79. The USSR is not as well supplied with technicians, mechanics, and maintenance men as are the Western countries, where broader sections of the population have acquired mechanical skills over a considerably longer period. Standards of maintenance for all kinds of mechanized equipment are in general lower than in Western countries and rates of deterioration higher. In addition, the number of skilled mechanics and technicians which would be available to the armed forces in war is far smaller than in the West. However, Soviet engineers have sought to compensate for these deficiencies by building machines and equipment which are simple in design and easy to maintain and repair.

SCIENTIFIC AND TECHNICAL DEVELOPMENT OF MILITARY SIGNIFICANCE

80. The capability of Soviet scientists and technicians in those basic scientific fields (e.g., physical sciences, mathematics) which are related to the development and production of weapons and military equipment is sufficient to insure the development of modern arms for Soviet forces. In response to new requirements and conditions created by the application of advanced technology to war and war preparations, the USSR appears to be placing great emphasis upon development of new scientific fields and techniques to maximize the return from Soviet resources, both human and non-human (e.g., human engineering, mental conditioning, casualty therapy, computer research, automation).

81. The USSR probably has the scientific and technological capability necessary to develop most weapons and military equipment equivalent to, and in a few cases possibly better than, those of other nations. However, in a number of weapons categories, especially those involving new and complex equipment, the USSR lags behind the West. Moreover, the USSR probably does not have sufficient scientific resources to program vigorous weapons and equipment research simultaneously in all fields, and this deficiency, while possibly decreasing, will probably continue through 1960. Nevertheless, Soviet espionage potential, coupled with the free nations' inherent inability to guard their secrets, compensates in some degree for deficiencies in the Soviet scientific effort.

[10] Numerical estimates of Soviet scientific personnel are believed to be correct to within plus or minus 10 percent. For a detailed comparison of USSR and US scientific personnel, see graphics on following page.

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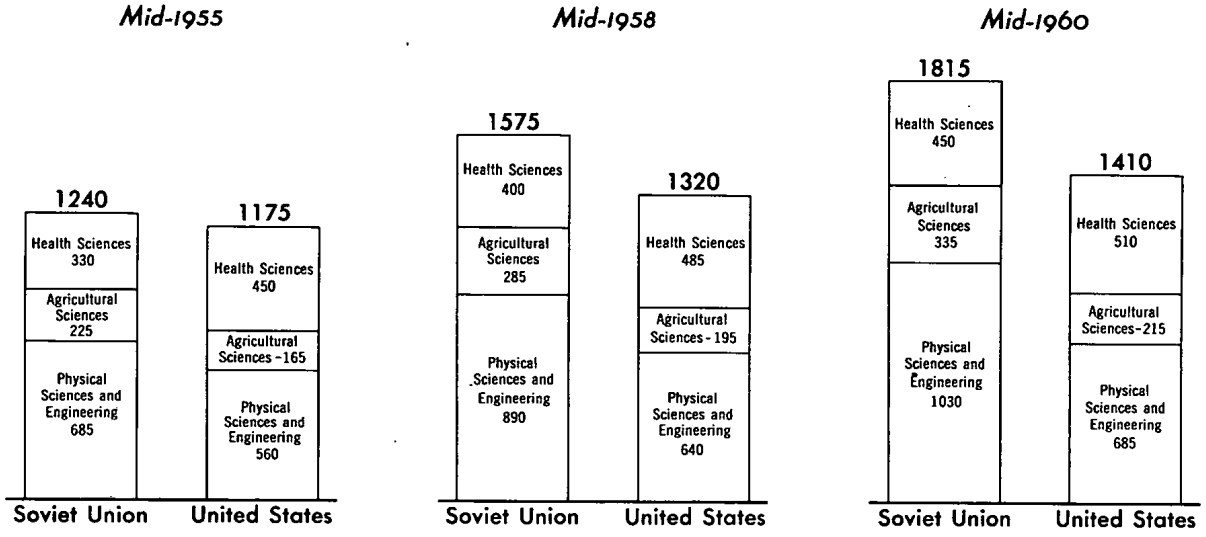
US AND USSR

COMPARISON OF MAJOR SCIENTIFIC GROUPS*

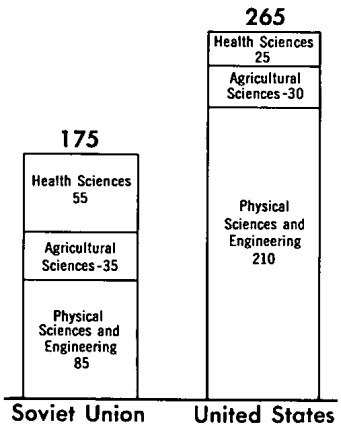
(In Thousands)

GRADUATES EMPLOYED IN SCIENTIFIC FIELDS

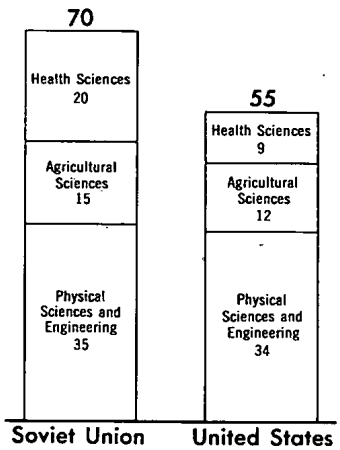


"SCIENTIFIC WORKERS"

(Professional scientists in research institutions or teaching in higher educational institutions)



SOVIET KANDIDATS AND AMERICAN Ph.D.'s IN SCIENTIFIC FIELDS



*Numerical estimates of Soviet scientific personnel are believed to be correct to within plus or minus 10 percent.

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Nuclear Weapons[11]

82. The Soviet atomic energy program, directed primarily toward the production of nuclear weapons, will continue to receive special emphasis through 1958. The USSR had tested by the end of 1953, small and medium yield weapons and has employed thermonuclear boosting principles to produce an energy yield up to 1,000 kilotons of TNT. The 1954 test series showed stockpile types in the medium yield range and extensive development in the small yield ranges, but there was no further development in the large yield range. During the immediate future, the types of weapons stockpiled will probably have the general characteristics and explosive powers of weapons already tested although the quantity of the large yield type that could be produced would probably be limited. Within the limits of technological capabilities as of the end of 1954, Soviet military requirements will govern the allocation of available fissionable material to various types of weapons, with consideration probably being given more to operational requirements than to the largest total energy yield attainable.

83. In order to provide an example of Soviet stockpile capabilities, we have assumed that: (1) one-third of estimated uranium-235 is utilized in large-yield weapons (500 to 1,000 KT); (2) two-thirds is utilized in medium-yield (70 KT) composite weapons; and (3) the remaining plutonium is divided equally between medium-yield (40 KT) and small-yield (5 KT) weapons. For purposes of comparison this allocation of fissionable material is carried through mid-1958. If the Soviet stockpile were allocated in this manner it would be as follows[12]:

	Mid-1955	Mid-1958
Large-yield weapons (500-1,000 KT)	15	50
Medium-yield weapons (40-70 KT)	320	950
Small-yield weapons (5 KT)	155	250

84. However, due to continued Soviet nuclear progress, other allocations of fissionable material might become more likely toward mid-1958. The USSR will probably continue work on larger-yield weapons as well as on smaller-yield and small-dimension weapons. We estimate that by mid-1956 the USSR could have weapons with ranges of yields from 0.5 KT to 10,000 KT or more. Such developments would permit more flexibility in the use of nuclear weapons. Assuming such progress on the part of the Soviets, and an increased allocation of fissionable material to large-yield weapons, one of the ways in which their 1958 weapons stockpile could be divided would be as follows:

Large-yield weapons (500 to 10,000 KT)	230
Medium-yield weapons (5 to 500 KT)	440
Small-yield weapons (0.5 to 5 KT)	570

85. Soviet fissionable material production capabilities for the period beyond mid-1958 are subject to even greater uncertainty than noted in footnote 12, because of the lack of information on long-range plans and the unpredictability of new developments in this field. However, long-range extrapolations can be carried out on the basis of assumptions of the growth pattern the Soviet nuclear program could follow during the period in question. Alternate assumptions, which indicate a range of growth capabilities, are:

(a) No expansion of Soviet fissionable materials production facilities after 1958 (Assumption A); or,

(b) Continued expansion of Soviet fissionable materials production facilities after 1958 at the same rate as estimates for the period 1949 to mid-1958 (Assumption B); or,

(c) Expansion of the Soviet program after 1958 at a rate which will increase its requirements for uranium to approximately 7,000 to 10,000 tons per year by 1964 (Assumption C).

86. In view of the broad spectrum of weapon types which will probably be available to the

[11] See Nie 11-2-55, "The Soviet Atomic Energy Program," *Restricted Data,* dated 25 April 1955 for details of Soviet nuclear energy program.

[12] In view of the range of error applicable to the estimate of Soviet fissionable material production, the actual figures for the end of 1955 may be as much as one-third lower or higher than the figures given above. Uncertainty increases as estimates are projected into the future and the actual figure for mid-1958 may be as low as one-half or as high as twice the figures given in the table.

USSR, it becomes increasingly difficult to make specific estimates of the detailed make-up of the Soviet stockpile as it is projected into the future. The following example of a possible Soviet weapon stockpile will indicate the general magnitude of the Soviet capability under each of the three assumptions given above, utilizing the same percentage allocation of fissionable material to large-, medium-, and small-yield weapons as in paragraph 84 above.

EXAMPLES OF POSSIBLE SOVIET NUCLEAR WEAPONS STOCKPILES — 1959–1960

Assumption A	Mid 1959	Mid 1960
Large-Yield Weapons (500-10,000 KT or more)	280	340
Intermediate-Yield Weapons (5-500 KT)	550	660
Small-Yield Weapons (0.5-5 KT)	710	850
Assumption B		
Large-Yield Weapons (500-10,000 KT or more)	290	360
Intermediate-Yield Weapons (5-500 KT)	560	700
Small-Yield Weapons (0.5-5 KT)	720	900
Assumption C		
Large-Yield Weapons (500-10,000 KT or more)	320	450
Intermediate-Yield Weapons (5-500 KT)	630	880
Small-Yield Weapons (0.5-5 KT)	810	1130

87. There is no direct information on the nature of the Soviet control organization and facilities for storage, handling, and distribution of nuclear weapons. However, we believe that Soviet nuclear weapons will be handled by a special organization within the Ministry of Defense and will be stored at both a few large reserve-stockpile storage sites and a large number of smaller sites. These small sites will probably be located at or near airfields, guided missile sites, and other delivery vehicle installations in advanced areas.

88. *Radiological Warfare.* It is most unlikely, for technological reasons, that the USSR will be able to stockpile militarily significant quantities of radiological warfare weapons during the period of this estimate. However, the significance of radio-active fall-out following large nuclear explosions should be considered in connection with Soviet capabilities to produce explosions in the megaton range.

Guided Missiles[13]

89. We believe that the strategic requirements of the USSR would dictate a major effort in the field of guided missiles, and the evidence which we have concerning the large number of personalities and activities believed to be involved in the current Soviet missile program leads us to the conclusion that it is a large one. On the basis of our extensive knowledge of Soviet exploitation of the wartime German missile experience and our estimate of Soviet capabilities in related fields, we believe that the USSR has the basic scientific and technical capabilities to support a comprehensive missile research and development program. The USSR also has an adequate economic base for a sizeable production program. It is probable that the USSR now has some guided missiles in operational status, and that a growing Soviet guided missile capability will develop within the next several years. However, we have no firm current intelligence on what particular types of missiles the USSR is presently developing, or may now have in operational use.

Electronics and Communications

90. The USSR has made substantial progress toward catching up with the West in electronics by expanding its manufacturing facilities and adapting Western equipment. The magnitude, diversity, and past successes of the Soviet research and development program in electronics indicate the probable development of new and improved devices. Air defense capabilities will probably be improved as a consequence of significant advances in detection, warning, interception, and data-handling equipment, which are expected dur-

[13] For a discussion of Soviet guided missiles, including estimates of the dates at which various types of missiles might appear in Soviet operational use, see NIE 11-6-54: "Soviet Capabilities and Probable Programs in the Guided Missile Field," published 5 October 1954. No evidence has appeared, since the publications of that estimate, which justifies a change in its conclusions.

ing the period of this estimate. Those aspects of communication theory which have a direct bearing on communication techniques, radar, computers, automatic guidance devices, and telemetering are under continuing study by Soviet scientists. Such research will result in practical applications and may within the period of this estimate lead to a communication network exceedingly difficult to intercept or jam. During the period of this estimate the USSR will improve its electronics capabilities in the following categories.

91. *Early Warning Radar (EW)* — The USSR has a large variety of EW radars in use. These include World War II sets, native sets based on Western designs, and sets of purely native design. Most of these will continue in use through 1956 and will afford fairly reliable coverage against medium bombers at maximum ranges from 125 miles (up to 60,000 feet altitude) to 180 miles (up to 45,000 feet altitude). Against fighters these maximum ranges are from 85 miles (up to 45,000 feet altitude) to 135 miles (up to 30,000 feet altitude). Continued use of low-frequency radars (in the 72 mc/s region) through 1959 is indicated. By 1958 the USSR will probably have developed one or more EW radars capable of detecting an object the size of a medium bomber at 60,000 feet up to a distance of about 200 nautical miles. The problem of low altitude coverage will still exist but probably will be greatly lessened by the use of moving target indicators and gap-filler radars. By 1960 the performance of the early warning radar estimated to be introduced in 1958 will probably be increased somewhat.

92. *Ground Control Intercept Radar (GCI)* — We estimate that by 1958 the USSR will have GCI radars of several types, including the V-beam sets presently in use, which should be capable of coverage on medium bombers at maximum reliable ranges of 150–200 nautical miles and on fighters at maximum reliable ranges of 55–85 nautical miles, depending on altitude, location, and other factors. More recent than the excellent V-beam sets are the paired combinations of long-range azimuth indicating sets (GAGE) and height indicating sets (PATTY CAKE), which collectively can provide GCI data. We believe that by 1960 GCI coverage will be increased to the order of 200 nautical miles; this will necessitate the use of transponder beacons in interceptor aircraft. Maximum reliable altitude coverage up to 60,000 feet, though at less than maximum ranges, will be achieved by 1959.

93. *Airborne Intercept Radar (AI)* — There is confirmed evidence that the USSR now has airborne intercept radar in at least limited operational use in widely separated geographic areas. The equipment is probably comparable to existing Western types. It can probably be installed on current types of Soviet fighter aircraft. Within the period of this estimate the Soviet air defense system will probably have improved AI radar in general operational use.

94. *Fire Control Radar* — The WHIFF radar, the Soviet version of the SCR–584, will almost certainly continue to be used in quantity. Meanwhile, development work on radar sets with greater accuracies, range definitions, and reduced vulnerability to jamming will proceed during the period of this estimate, and new sets might appear at any time. The X-band probably will be used for newly developed fire control radars.

95. *Blind Bombing and Navigational Radar* — The USSR currently has in operational use an X-band (three centimeter) set developed in the postwar period and capable of further improvement. By the end of 1957, the best Soviet blind bombing and navigational radar should be capable of operating at altitudes up to 50,000 feet and have a range of about 125 nautical miles for navigation. Bombing and navigation equipment will permit accuracies equivalent to those of present US equipment. The use of frequencies higher than X-band is unlikely by mid-1956, but operational use of the higher frequency equipment may be achieved by mid-1960.

96. *Electromagnetic Warfare* — The USSR presently has the capability of seriously disrupting Western long-range communications and navigational systems. Soviet achievements in related electronic fields indicate that the USSR is also able, by an intensive effort,

to develop electronic jamming equipment which could be effective up through 12,000 megacycles and possibly through 46,000 megacycles. It is estimated that by 1960 the USSR can have jamming equipment in operational use in frequency ranges up through 30,000 megacycles.

97. *Microwave Radio* — Microwave communication equipment is in wide use in East Germany, and fixed networks exist in the Soviet Union. Based on the reported procurement of microwave relay equipment from both East Germany and Hungary, the present inventory of the Soviet Bloc is estimated at approximately 3,000 sets. By 1960, mobile microwave sets of eight channels will probably be standard military issue to divisions and higher echelons. VHF equipment for ground-air, ship-ship, and ship-shore communication, already in use, will find more widespread use with increased numbers of channels and improved reliability. Techniques such as "flash" transmissions will be used to transmit important messages with a minimum susceptibility to countermeasures and maximum of message security.

Biological Warfare

98. Firm evidence on Soviet activity in the biological warfare field is exceedingly scanty, and is likely to remain so because of the relative ease with which such a program can be concealed. The USSR has, however, the technical knowledge, trained personnel, and facilities necessary for a program of research and development in biological warfare, and such a program is probably in progress. The USSR is capable of producing BW agents and disseminating devices suitable for small-scale clandestine attacks against certain crops, against livestock, and against personnel in buildings or concentrated in relatively small areas. Soviet capabilities for large-scale attacks are more difficult to estimate. Antilivestock BW against the US need not be large-scale to be effective. Anticrop BW against the US would probably not substantially affect US crop production unless carried out on a very large scale and under favorable seasonal and environmental conditions. The USSR is probably capable of large-scale production of antipersonnel BW weapons.

99. Soviet capabilities for defense against BW are inferior to those of the US because of Soviet deficiencies in public health, sanitation, livestock management, and plant protection. Gradual progress will probably be made to correct these deficiencies during the period of the estimate. Because widespread shipment of livestock is not practiced in the USSR, Soviet vulnerability to small-scale antilivestock attacks is probably less than that of the United States.

Chemical Weapons

100. During World War II, the Soviet Union is known to have produced most of the standard chemical warfare agents as well as the necessary auxiliary equipment. The USSR has the facilities and scientific knowledge necessary to produce at least one of the nerve gases and could employ these agents during the period of this estimate. Published Soviet research in fields closely allied to chemical warfare — organophosphorus chemistry, aerosol formation, cholinesterase, alkaloids, and adsorption — indicates a scientific capability for the development of new or improved chemical agents, dissemination equipment, and protective devices. We assume that the stockpile of standard agents and munitions accumulated during World War II has been maintained and that the facilities for CW agents production are being maintained on a standby basis or operated to produce other chemicals or materiel. The USSR is able to engage in chemical warfare on a large scale.

V. SINO-SOVIET BLOC MILITARY STRENGTH

SIZE OF FORCES, SCALE OF EFFORT, TRENDS

101. The USSR is both the foundation and arsenal of Communist Bloc military strength, and thus the primary source of Bloc military capabilities. The main contribution of the other Bloc states is manpower, although industries in the Eastern European Satellites supply some military equipment. Sino-Soviet Bloc forces-in-being now total more than 8,000,000 men (of which about 4,000,000 are Soviet and 2,400,000 Chinese) not including security forces. The forces of the East European states, for all practical purposes, are under direct control of the Kremlin. The Communist Chinese forces, while heavily dependent upon Soviet aid, are outside direct Soviet control.

102. In the postwar period the USSR has produced armaments at a relatively high rate, which has made possible an extensive re-equipment program. Since 1950, Soviet production of armaments has been at an average rate of roughly 25 percent of capacity. The levelling off of military expenditures as indicated in the 1953–1954 budgets apparently resulted in a reduction in output of some weapons, many of which were already stockpiled in quantity. The announced increase in the military budget for 1955, however, suggests that the cutback in production was temporary and may have reflected transition to the production of newer models, especially aircraft. Assuming no significant changes in the international situation, we have estimated above that Soviet defense expenditure after 1955 will probably show a relatively small annual increase — of the order of three percent per year on the average.

103. During the period of this estimate the personnel strength of Bloc forces-in-being will probably remain substantially unchanged. However, the over-all effectiveness of these forces will almost certainly increase, primarily due to the improved weapons available to Soviet forces, and to changes in organization, doctrine, and tactics designed to adapt these forces to nuclear warfare. The major weapons changes will be the increases in the numbers and types of nuclear weapons, in aircraft, especially bombers and all-weather fighters, and in long-range submarines. There will also be progressive modernization of weapons and equipment, particularly those incorporating electronic guidance and control. Limitations on Bloc armed forces during the period of this estimate will derive from: deficiencies in experience and training for long-range air operations, and in certain equipment for air defense, together with lack of capability for long-range amphibious and surface naval operations.

104. Logistical problems will continue to place a considerable limitation upon the Sino-Soviet Bloc's capability to wage intensive warfare over an extended period. These problems are due to the vast size of the USSR, the great distances from main interior sources of supply to several main operational areas, and the relatively inadequate road and rail network and the acute shortage of Bloc-registered shipping.[14] In order to offset these disadvantages the USSR has maintained large forces and military stockpiles in forward areas. Stockpiles of POL, ammunition, and other types of supplies consumed at a relatively constant rate, are probably sufficient to maintain a force of 300 line divisions together with air and naval forces in Europe and Asia for an extended period (i.e., up to six months depending upon the scale of conflict). During the period of this estimate the Soviet logistical situation will probably improve as a result of continued stockpiling and the development of a more flexible and mobile transport system. However, logistical problems will probably continue to be a considerable limitation upon capabilities for extended offensive operations, especially in the Far East. If the USSR were subjected to inten-

[14] For a breakdown of the Sino-Soviet Bloc merchant fleet, see Appendix, Table11.

sive nuclear attack, its capability to support extensive military operations, especially outside Soviet borders, would be markedly curtailed both in magnitude and duration.

SOVIET MILITARY FORCES

Ground Forces[15]

105. The Soviet Army has been reorganized and modernized since the end of World War II, and now totals about 2,500,000 men. There are sufficient trained reserves and stockpiles of equipment to expand the army to about 300 line divisions plus supporting troops with a total strength of 7,500,000 by M+30. The estimated maximum mobilization potential is about 12,500,000 men. In the absence of general war, we believe that the Soviet ground forces will remain at approximately their present size and disposition through 1960. The concentration of Soviet ground forces in East Germany, the Western USSR, the Caucasus, and the Far East provides for the defense and security of the most important and vulnerable areas of the USSR, while facilitating administrative support.

106. The Soviet Army is well-trained, discipline is good, and morale is almost certainly high. The 30 Soviet divisions located in East Germany and the European Satellites are known to be well equipped. This force is well trained and combat ready, although its readiness is somewhat lowered in the late fall of each year when new recruits have replaced trained men. Intelligence concerning the remaining divisions, particularly those in the interior of the USSR, is considerably less extensive. However, it is probable that the latter are maintained at a stage of war readiness sufficient to permit their early deployment to a combat theater.

107. During the last year the Soviet Army has placed considerable emphasis upon training exercises to improve ground force defense against nuclear attack. There is also evidence that army offensive and defensive tactics envisage the use of tactical atomic weapons by Soviet forces. Emphasis is placed on mobility and maneuverability, greater initiative, dispersion, deeper objectives, reconnaissance, and individual protective measures. Soviet offensive doctrine emphasizes allocation of a substantial number of nuclear weapons for use against enemy defensive positions, air facilities, reserves, atomic capabilities, and encircled enemy units. The assault following a nuclear attack would employ tanks and armored infantry in order to develop maximum speed of exploitation. Doctrine for the defense emphasizes deep revetted trenches and other protective construction, dispersion in width and depth, and larger and more mobile reserves.

108. The Soviet Army is currently embarked on an extensive program of improvement of its ground weapons systems which will greatly increase its mobility, flexibility, and firepower.[16] Armored cars and armored personnel carriers have been introduced. It is estimated that in East Germany alone there are now about 2,000 armored personnel carriers, each capable of transporting 15 men. General issue of new weapons has included a medium tank (T–54) mounting a 100–mm gun, mortars of 160–mm, and of 200 to 240 mm calibers, a track-mounted rocket launcher, and a new family of antiaircraft guns, and possibly a new heavy tank (JS–4). During this period the Soviet Army will probably have new and improved heavy artillery of large enough caliber to utilize nuclear projectiles, an infantry antitank guided missile, and infrared night driving and firing aids. By mid-1960 it is estimated that a new medium tank and a heavy tank, substantially superior to the current T–54 and JS–3 (or JS–4), will be in operation.

109. During the period of this estimate, the combat readiness of the Soviet Army will almost certainly continue to increase. The addition of improved equipment and weapons, more flexibility in logistical operations, a considerable increase in mobility and changes designed to meet requirements for nuclear warfare will improve the effectiveness of the

[15] For detailed estimates of strength and disposition of these forces, see Appendix, Tables 1 and 2.

[16] For a comparison of Soviet and US production of major ground force weapons for 1953-1954, see Appendix, Table 8.

Soviet Army for a nuclear war and also increase its capabilities to engage in highly mobile, conventional type actions.

110. *Security Forces.* Soviet internal security forces are controlled by the Ministry of Internal Affairs and number about 400,000. These troops are a select group, well trained and equipped, and provide a significant increment to Soviet military strength-in-being. However, their primary responsibility for maintaining internal control would probably prevent their becoming available for operations outside the USSR. About 150,000 are in the border troops, disposed along all accessible land and sea frontiers. The remaining 250,000 include troops responsible for suppressing any organized resistance in the country, for guarding shipments of prisoners, strategic cargoes, and labor camps, and for maintaining the security of high-level government and military communications.

Air Forces[17]

111. During the postwar period the USSR has continually improved its air force both in size and quality. Although in World War II the USSR gave primary emphasis to the ground support role of air forces, in the postwar period increasing attention has been given to the development of the interceptor and strategic bombing arms. We estimate that the current over-all authorized (TO&E) air strength is about 20,300, including about 10,400 jet fighters, 3,200 jet light bombers, 1,160 piston medium bombers, 200 jet medium bombers, and 20 jet and 20 turbo-prop heavy bombers. Over-all actual strength is probably about 85 percent of authorized strength. We believe that replacement of TU–4 aircraft by jet bomber types and growing numbers of all-weather jet fighters will almost certainly be the most important developments in the Soviet air forces during the period of this estimate. We estimate that by 1960 the over-all authorized strength (TO&E) will have increased to about 21,400 aircraft, which will include about 10,900 jet fighters (about 40 percent all-weather), 3,100 jet light bombers, 700 jet medium bombers, and 400 jet and 300 turbo-prop heavy bombers.

112. The Soviet aircraft industry has accounted for about 95 percent of total Bloc aircraft production in the postwar period. Estimated Bloc production of fighter and bomber aircraft during the period 1946–1954 has been roughly equal to that of the NATO countries in numbers of aircraft, although substantially below that of NATO in terms of total airframe weight.[18] During the latter part of this period (1952–1954) Soviet Bloc production of fighters and bombers, both in numbers and weight, was considerably below that of NATO. During 1954 the Soviet aircraft industry was operating at about 25 percent of capacity, and produced about 8,500 to 9,000 aircraft, including about 5,300 fighters and bombers. We believe that during the period of this estimate it will operate at about 25–30 percent of capacity, with annual production at about 9,000–10,000 aircraft, including about 5,000 to 6,000 fighters and bombers. Aero-engine industries will probably continue to operate at about 35 percent of capacity, with a total output of about 30,000 to 35,000 engines. In view of the requirements of the operating forces, these rates of production are insufficient to permit any significant stockpiling of the latest aircraft types, aircraft engines, and electronic devices. Conversion of the aircraft industry to full capacity production would probably require 18–24 months.

113. Airfield development in the USSR and the European Satellites during the postwar period has generally kept pace with demands created by the introduction of new aircraft into operational units. The principal exception is in Northeastern Siberia opposite Alaska and along the Northern Arctic coast. In these areas air operations would at present be limited by relatively undeveloped base facilities and by logistical difficulties even though airfield construction and development has been in progress there for some time. Under its airfield development program the USSR has created an interlocking network of air-

[17] For strengths of the Soviet Air Forces in aircraft, personnel, and by major combat components and geographic distribution, see Appendix, Tables 1, 3, 4, and 5.

[18] For detailed comparisons, see Appendix, Table 9.

fields along perimeter areas in Europe and internal approach lines within the USSR. We believe that during the period of this estimate the Soviet airfield construction program will be continued, and will receive special emphasis in the Far East and possibly in Soviet Arctic areas.

114. Combat effectiveness of Soviet military aviation is, on the whole, below that of the US. The chief limiting factors have been lower average aircrew proficiency, lower standards of maintenance and training, and lack of certain aircraft types. During this period the introduction into operational units of new jet types, including a supersonic interceptor, an all-weather fighter, and medium and heavy bombers, plus a four-engine turboprop aircraft, together with the training appropriate to these types, will lead to a significant increase of combat effectiveness. However, assuming that the US maintains its present standards, over-all Soviet air combat effectiveness will almost certainly remain below that of the US during this period, especially in night and all-weather operations and in long-range operations.

115. The MIG–15 (Falcon) and MIG–17 (Fresco) are now standard equipment of Soviet Fighter Aviation of Air Defense as of other components of the Soviet Air Force. The MIG–17, which began to replace the MIG–15 in 1953 and now constitutes nearly half of fighter aircraft, is estimated to have a maximum speed of 635 knots at sea level, and a combat ceiling of 58,000 feet. We believe the USSR will have a supersonic interceptor in operational use early in the period. Aircraft with AI radar have been introduced into operational units, and by 1960 all-weather fighters will probably make up about 40 percent of the whole fighter force.

116. The TU–4 (BULL) medium bomber is now obsolescent, but remains for the present the principal aircraft of the Soviet long-range aviation. However, series production of a twin-jet medium bomber, the Type 39 (BADGER) is now under way, and a four-engine jet heavy bomber, the Type 37 (BISON), and a turbo-prop heavy bomber (BEAR) have probably entered series production. We estimate that these new jet types will rapidly replace the TU–4 medium bomber and that the authorized bomber strength of Soviet long-range aviation throughout the period will be as follows: [19]

Aircraft Type	Mid 1955	Mid 1956	Mid 1957	Mid 1958	Mid 1959	Mid 1960
TU–4	1,160	840	400	100	0	0
Type 39	200	400	650	700	700	700
Type 37	20	80	200	350	400	400
Turbo-prop	20	80	150	250	300	300

There is no firm intelligence on the planned balance between the types and categories of long-range aircraft or on their future authorized organizational aircraft strengths; the above figures represent our estimate of the most probable way in which Soviet Long-Range Aviation would be proportioned during the period and is predicated on the assumption (a) that no change will occur in the total authorized number of aircraft in long-range units; (b) that the Bear turbo-prop heavy bomber is currently in series production; and (c) that the USSR is devoting a major aircraft production effort to the development of a massive intercontinental air attack capability.

Naval Forces [20]

117. During recent years the Soviet Navy has been greatly strengthened by an intense and rapid building program; this program has not included aircraft carriers, battleships, or heavy cruisers, but has concentrated on light cruisers, destroyers, and submarines. The Soviet submarine fleet is now the largest in the world and is still growing; about half its strength consists of long-range craft of which a significant and increasing proportion are modern types. Most of the major surface vessels and all of the modern submarines will probably be kept active, but the present rate

[19] For estimates of the performance characteristics of Soviet long-range aircraft, see Appendix, Table 6.

[20] For strength and disposition of Sino-Soviet naval forces, see Appendix, Table 7. For strength of the Soviet Naval Air Force by aircraft type, see Appendix, Table 5.

of new construction is such that the Soviets might elect to create a substantial reserve fleet of submarines. It is believed that all such reserve or inactive units could be activated by M+180.

118. Soviet Naval Aviation, comprising nearly 20 percent of the total strength of Soviet military aviation, has converted completely to jet aircraft in the fighter and light bomber categories. The number of jet reconnaissance aircraft in service has also increased, but attack and transport aircraft continue to be piston engine types. During the period of this estimate, Soviet Naval Aviation is expected to remain approximately constant in strength, while continuing its program of modernization of equipment. Improved all-weather jet fighters will probably be introduced, and possibly jet medium bombers for attack, reconnaissance, and airsubmarine operations.

119. We estimate that in mid-1955 the main strength of the Soviet Navy will consist of 31 cruisers, 142 destroyers, and 374 submarines, including 13 light cruisers, 85 fleet destroyers, and about 150 long range submarines of post-war design. Naval construction in the USSR is presently estimated at about 175,000 NSDT which represents about one-third Soviet capacity and one-fifth total Bloc capacity. Battleships and carriers could be built in all fleet areas except the Far East. Presently one "capital ship" of unknown type is believed to be under construction in the Baltic area and possibly one in the Black Sea area, and these vessels may become operational during the period of this estimate. It appears, however, that the USSR will continue to place primary emphasis upon the construction of long-range submarines, while continuing the construction of cruiser and destroyer types.[21]

120. The Soviet Navy is now concentrating on the construction of two long-range submarine types developed since World War II. These are equipped with snorkel. The "W" type has an operating radius under combat conditions of about 4,700 nautical miles; the "Z" type, 6,700 nautical miles. By early 1955, 107 (including 20 "Z" type) of these had joined the fleet; the present building rate is estimated as 75 (including 15-20 "Z" type) per year. The Soviets have the technical capability for modifying either of these types for launching guided missiles. The USSR is known to have continued development of the Walther closed-cycle engine for submarine propulsion, and an experimental submarine powered by such an engine could be operational now. It is also possible that, during the period of this estimate, nuclear propulsion for Soviet submarines will have been developed. However, there is no evidence that the USSR is constructing submarines equipped with either of these types of propulsion.

121. Soviet naval capabilities can be expected to improve throughout the period due to the building program, technological development, and intensive training. While the operational efficiency of the Soviet Navy is still below that of the navies of the major Western Powers, it will continue to improve during this period. Little is known of the operating efficiency of the submarine force. It is probably still inferior to that of US and German forces of World War II, but performance standards will probably rise steadily during this period. Personnel of the submarine force are the pick of the Soviet Navy, and their morale is high.

122. The principal weakness of the Soviet Navy derives from the wide separation of the sea frontiers of the USSR, and from its inability to control the sea routes between these areas. The USSR is thus deprived of the strategic mobility traditionally enjoyed by naval powers, and is compelled to maintain four separate fleets together with their supporting facilities. The inland waterway system connecting the White and Baltic now permits the interchange of vessels up to the size of small destroyers and including all current submarine types. During this period, possibly by 1957, improvements in the system will extend this interchange capability to include the Black Sea. However, parts of the waterway system are open only on an average of five months a year because of

[21] For estimated Soviet production of major vessels, 1955–1960, see Appendix, Table 10.

weather conditions. Increased use of the Northern Sea Route, which is open for a six to eight week period in the summer, may also improve the situation. The lack of adequate supply lines to the Northern and Far Eastern areas is an additional handicap. Limitations on sustained offensive operations derive from the land-locked position of the fleets in the Baltic and Black Seas (containing roughly 60 percent of Soviet naval strength), the exits from which are controlled by the NATO Powers, and from the lack of advanced bases. The long-range capabilities of the Soviet Navy are further reduced by lack of aircraft carriers, long-range reconnaissance aircraft, auxiliary vessels suitable for underway logistic support, forward bases, and by the lack of experience in long-range operations.

123. There is no force in the Soviet Navy comparable to the amphibious forces of the US Navy, although the naval infantry components have received some training in amphibious warfare. While capable of mounting short range lifts in considerable force in the Baltic and Black Seas and in the Sea of Japan, the Soviet Navy does not possess sufficient amphibious craft to launch and sustain long-haul amphibious operations.

EASTERN EUROPEAN SATELLITE MILITARY FORCES[22]

124. Soviet control of the Satellites has in effect moved the Soviet military frontier into Central Europe, and the USSR has given a high priority to the development of this area for military operations. The Satellite ground and air forces now constitute a substantial element in the balance of military power in Europe. However, their over-all effectiveness is only fair, and the political reliability of some national units is questionable. During the period of this estimate the over-all capabilities and usefulness to the USSR of the Satellite forces will probably increase. However, many of the current deficiencies will continue to limit the military usefulness of these forces to the Soviets, especially for offensive operations.

Ground Forces

125. The Satellite ground forces' present strength is about 1,085,000 men, organized into 81 line divisions. In general, the Satellite ground forces (not including those of East Germany) have probably reached the desired peacetime strength level. By 1957, primarily through an increase of East German forces, Satellite ground personnel will probably increase to about 1,200,000, a figure that probably will not change significantly through 1960. The Satellite armies, which are presently equipped largely with Soviet World War II material of good quality, will continue to be largely dependent upon the USSR for major items of equipment, particularly tanks, self-propelled guns, and medium to heavy artillery.

Air Forces

126. The Satellite air forces now have an estimated TO&E strength of 3,850 aircraft (approximately 2,700 actual), and during this period their TO&E will probably increase to about 4,800 aircraft. During this period emphasis will probably be placed on the strengthening of the Satellite fighter and light bomber establishments, and the further integration of the Satellite air forces into the Soviet air defense system. The Satellites will continue to be greatly dependent upon the USSR for logistic support, and virtually all aircraft will be Soviet types. Satellite production, almost exclusively Polish and Czechoslovak, while growing, will probably not exceed 15 percent of the Bloc total.

Naval Forces

127. Owing to their small size, their meager equipment, and the unreliability of personnel, the Satellite navies provide only a minor contribution to Soviet naval strength. However, ports and bases in some of the Satellites provide the USSR with a considerable extension of naval logistic and operational facilities.

[22]For detailed strength figures by country, see Appendix, Tables 1, 2, 3, and 7. See also NIE 12-54, "Probable Developments in the European Satellites through Mid-1956," dated 24 August 1954.

COMMUNIST CHINESE MILITARY FORCES[23]

128. The military forces of Communist China constitute the most formidable Asiatic fighting force. The Kremlin exercises no direct control over these forces. However, the nature of Sino-Soviet relations, especially the dependence of Communist China upon the USSR military support in weapons and supplies, provides the Kremlin with considerable leverage for influencing Chinese military developments and policy. As a consequence the military frontiers of the USSR, in a practical sense, have been extended deep into the Asian land mass, a factor which greatly increases the Soviet power base and potential.

Ground Forces

129. The Chinese Communist Army is well adapted by tradition, training, and the characteristics of its individual soldiers to the type of warfare likely to be encountered in the extremes of weather and terrain of the Asian region. These forces now number about 2,300,000 men organized into 37 armies and 125 line divisions plus supporting troops. Any expansion during this period would be dependent upon the acquisition of weapons and equipment from sources outside China. The Chinese Communist forces have been primarily infantry, equipped with a heterogeneous assortment of foreign-made weapons. A recent extensive reorganization and reequipment program has reduced the number of divisions, increased the number of combat and service units, and is standardizing equipment to that of Soviet and Chinese manufacture. Communist China now produces its own requirements of clothing, food, small-arms, rocket launchers, recoilless rifles, and certain types of ammunition, and progress is being made toward self-sufficiency in submachine guns, light machine guns, and mortars. It will continue to be dependent upon the Soviet Union for heavy equipment, motor vehicles, artillery above 70-mm, and POL. The combat readiness of the Chinese Communist ground forces will continue to increase during this period, primarily due to the reequipment program, to standardization of equipment, and to improved combat and service support.

Air Forces

130. The Communist Chinese Air Force now has a TO&E strength of about 2,400 aircraft (about 1,700 actual). It is equipped primarily for defensive operations, but the acquisition of some piston medium and jet light bombers has given it a limited capability for offensive operations. The combat effectiveness of the CCAF is only fair, but it will probably improve somewhat throughout the period of this estimate, mainly through increased proficiency of flying personnel, improved quality of aircraft, and more numerous and improved air facilities. However, since Communist China will probably not produce combat aircraft during the period of this estimate, over-all effectiveness will be largely determined by Soviet willingness to continue to supply additional aircraft, especially jet fighters, jet light bombers, and medium bombers, together with the necessary parts and equipment.

Naval Forces

131. Communist major vessel strength probably now consists of two destroyers and 5-7 submarines (2-4 long-range and three coastal types). These were obtained from the USSR, most of them probably during the last year. There are also at least 55 torpedo boats, 56 landing craft (LST, LSM, LSIL),[24] 17 frigates, and several hundred small patrol craft. The Soviet Far Eastern naval forces are providing training, advisors, and logistic support to the Chinese Communist naval forces. The USSR will probably add modestly to the Chinese Communist naval strength during the period of this estimate.

[23] For strengths and dispositions, see Appendix, Tables 1, 2, 3, and 7. For strengths of additional Bloc forces in Asia, see figures for North Korean and Viet Minh forces given in Tables 1 and 2.

[24] In addition there are 25 landing craft of these types operating in the Chinese Communist merchant marine.

VI. MILITARY CAPABILITIES OF THE USSR

WORLD BALANCE OF MILITARY FORCES

132. During the postwar period a rough balance of military power has existed between the Communist Bloc and the Western coalition. During most of this period the USSR's main military assets have been a marked superiority in organized military manpower and in conventional weapons, and the ability, because of the strategic advantage of its "heartland" position, to concentrate these forces against such strategically vital areas as Western Europe and the Middle East. At the same time the principal offsetting strengths of the West have been its greater economic potential and its nuclear capabilities. The effectiveness of the latter has been greatly contributed to by the development of bases around the periphery of the Sino-Soviet Bloc. Since 1951 the margin of Bloc numerical superiority in forces-in-being and conventional ground and air armaments has been narrowed markedly; in fact Western strength in modern aircraft is now greater than that of the Soviet Bloc. On the other hand, although the West has greatly increased its nuclear weapons production and delivery capabilities, the growing Soviet capabilities in these respects are progressively reducing the significance of the superiority.

133. During the period of this estimate the West will probably continue to maintain its lead in the development and introduction of new weapons. The West will also retain its sizable lead in trained air and naval personnel, and to the extent that West German and possibly Japanese rearmament take place, the Soviet superiority in ground forces-in-being may be reduced. On the other hand improving air strengths will give the USSR a greatly increased capability to conduct long-range air operations against the West, probably including two-way refueled missions to the US. Its modern long-range submarine fleet will pose an increasing threat to Allied naval forces and to shipping carrying supplies and reinforcements to Allied forces. Trained reserves, plus stockpiled equipment, permit a rapid mobilization of additional units to augment their already strong ground forces. These developments, along with other increasing Soviet strengths such as a significant increase in nuclear weapons would reduce the significance of the Western nuclear and logistics superiority, and possibly reduce the military value of the superior western economic potential.

134. The development of nuclear weapons and of the ability to deliver such weapons on target will probably be the most decisive single factor that could alter the relative military power of the Communist Bloc and the US-NATO coalition. At present, the USSR's principal capability for delivering nuclear weapons lies in attack by aircraft; the improved new bombers becoming operational during the period will greatly increase this capability. In addition, although specific evidence is lacking on the types of guided missiles under priority development in the USSR, Soviet capabilities for nuclear attack by means of guided missiles will probably become significant, especially in the period 1958-1960. Nevertheless, provided there are no significant alterations in present political alignments or US-NATO military programs, the USSR almost certainly will not achieve by 1960 any such gains in relative military power as would permit it to launch general war with assurance of success. While trends in weapons developments will increasingly give an advantage to a power capable of launching a massive surprise attack, the USSR will almost certainly not be able, during the period of this estimate, to launch such an attack with assurance of escaping an even more devastating retaliatory attack.

SINO-SOVIET BLOC AIR DEFENSE CAPABILITIES[25]

135. The air forces of the Sino-Soviet Bloc are capable of attacking the US and Allied bases,

[25] NIE 11-5-55, "Bloc Air Defense Capabilities, 1955-1960," scheduled for publication in July, will provide a detailed treatment of this subject.

especially those on the periphery of the Bloc, or the carrier task forces from which Western air operations could be launched against the Bloc. In a strictly defensive sense, the air defense system of the USSR provides for the potential employment of virtually all Soviet and Satellite fighters — about 14,000 aircraft, including 3,700 fighters in the Soviet Aviation of Air Defense — (PVO). In addition, the Chinese and North Korean Communists have about 900 jet fighters which to some degree contribute to the defense of the Soviet Far East. The assignment of an air defense role to the fighter forces does not cancel their other missions and responsibilities, but results in a "multiple mission" for most fighter forces.

136. The capabilities estimated below are substantially limited to the areas of dense air defense concentration (European USSR, Eastern Europe, and the Maritime-South Manchuria area of the Far East). Air defense capabilities in other areas would probably be considerably less than indicated below and virtually nonexistent in the North Siberian area, the greater part of China, Indochina, and Albania.

a. Against daylight bomber formations between 10,000 and 30,000 feet in clear weather the Soviet Bloc air defense system is believed capable of inflicting severe losses against piston bombers and moderate losses against high-speed jet bombers. Above 30,000 feet altitude this capability would begin to diminish, and above 40,000 feet would fall off markedly, due to problems of target detection and tracking, loss of AAA effectiveness, and reduced GCI capabilities. Under certain circumstances, such as persistent visible contrails, these capabilities would, of course, be markedly increased. Primary limitations would then be the numbers and individual capabilities of fighter interceptor aircraft available.

b. Against multiple-pronged penetrations utilizing altitude stacking, diversionary tactics, and electronic countermeasures, the Soviet Bloc air defense system is subject to serious breakdowns which would tend to degrade its effectiveness progressively.

c. Against air attacks conducted under poor visibility conditions the Soviet Bloc air defense system is capable of offering only limited resistance, owing to inadequacy of equipment and training for all-weather operations.

137. During the period of this estimate the Bloc air defense system will probably be substantially strengthened by greater operational experience and by the introduction into operational units of new fighter types, new antiaircraft weapons, improved early warning and GCI equipment, and guided missiles. However, in view of the increasing capabilities of offensive weapons and improved techniques in counter measures, Soviet air defense capabilities will probably remain inadequate to prevent attacking forces from reaching critical target areas of the USSR.

OFFENSIVE CAPABILITIES[26]

138. The main Soviet offensive strength at present lies in the ability to mount attacks against Western Europe and the UK. Air attacks of great weight involving nuclear weapons could be launched with little or no warning. Submarines could be employed in an extensive effort to disrupt reinforcements and supplies from North America. With its ground forces the USSR could launch a surprise attack against Western Europe using 25 to 30 Soviet ground divisions now in Eastern Europe. By prior concentration of greater forces west of the Oder-Neisse Line, involving almost certain loss of surprise, the USSR could attack with 50 to 60 divisions. A buildup to 75 to 140 divisions could be accomplished by D + 90. Satellite units could be used to reinforce the above attacks, but it is unlikely that European Satellite armies would be used independently, except as security forces or to protect Soviet lines of communication, or in isolated cases against traditional enemies (e.g., Bulgaria vs. Yugoslavia).

139. Air support of land campaigns in Western Europe could come from the approximately 2,200 aircraft presently stationed in

[26] No estimate of the success of the offensive operations described in this section can be made without considering the effects of the actions of opposing forces.

East Germany and the Satellites, with reinforcements available from the nearly 5,000 aircraft stationed in the Western USSR. However, a large proportion of these aircraft are fighter interceptor types in units which currently have an air defense responsibility as well as a tactical support role. This responsibility would to some degree limit commitment of fighter aircraft to participate in land campaigns. The probable increase in satellite air defense capabilities during this period may reduce this limitation.

140. Utilizing only those aircraft belonging to the Aviation of Airborne Troops, the USSR could lift about 9,000 well-equipped and well-trained troops with one drop on D–Day or about 14,000 with two drops. These troops could be assembled in ten days, and could be delivered to Rhine River crossing sites and nearby military installations by aircraft using bases in Poland and Czechoslovakia. For a five-day operation the Aviation of Airborne Troops could lift approximately 23,000–25,000 troops depending on whether one or two drops were executed on D–Day. This lift capacity could be increased by an average of 1,800 troops for every 100 transports borrowed from the 3,500 transports of the military air forces and civil air fleet. However, at least during the early period of the estimate nearly all of these forces would have to be carried in the low performance transport Li–2 (approximately C–47 characteristics), and this would place a significant limitation upon the effectiveness of such an operation. Soviet airlift capabilities will probably increase through 1960, but the lack of a large force of modern transport aircraft will probably continue to be a limitation.

141. In the Far East, Soviet capabilities for long-continued full-scale war are considerably limited by the capacity of the Trans-Siberian railway, the only route by which supplies in large amounts could be brought from other parts of the USSR. However, the USSR has about 30 divisions in the Far East, together with more than 5,000 aircraft and a sizable naval force. There are stockpiles of supplies sufficient for a considerable period of combat. These Soviet forces could, in conjunction with Chinese Communist forces, renew hostilities in Korea. They could probably launch an invasion of Japan with an initial assault strength of one airborne and two or three waterborne divisions, with about six divisions supporting. These attacks could be launched concurrently with campaigns in the Middle East and in Western Europe.

142. The USSR is now capable of undertaking concurrent air bombardment operations against strengths located in the US, the UK, continental Europe, the Middle East, Japan, and the island chain of Asia. This capability will improve considerably during the period of this estimate with the introduction of new jet medium and heavy bombers. Present Soviet capabilities for air attack on the continental US are limited by the relatively small numbers of operational heavy bombers and by the relatively undeveloped base facilities in forward areas. They are also probably limited by the lack of a developed inflight refueling capability. The forward base capacity and the performance characteristics of aircraft estimated to be available to the Soviets will continue to impose limits upon the number of strike aircraft which can be launched at one time in a intercontinental attack upon the United States. However, the increase in numbers of heavy bombers, and continued Long-Range Aviation training programs, together with the probable development of an inflight refueling capability and extensive improvement of the forward staging areas would result in a substantial increase in Soviet capabilities for attack on the United States, during the period of this estimate.[27]

143. At the present time, it would be technically feasible for the USSR to attack targets within the US with missiles launched from long-range aircraft and from submarines. The USSR could at present have V–1 type missiles with nuclear warheads for launching from submarines, and by late 1955 could have

[27] For a full discussion see NIE 11-7-55, "Soviet Gross Capabilities for Attacks on the US and Key Overseas Installations and Forces Through 1 July 1958," dated 17 May 1955.

for this purpose a subsonic guided missile with a maximum range of 500 nautical miles. We believe that it will not be within Soviet capability within the period of this estimate to attack continental United States with guided missiles launched from Soviet Bloc territory.

144. If the USSR in fact develops the guided missiles which we have estimated to be within its capabilities, the following possibilities for attack would exist during the period of this estimate:

a. At present, from advanced bases in Eastern Europe, targets could be reached in Western Europe as far west as London, Paris, and Rome, and in the southern half of the Scandinavian peninsula. In the Far East, if launched from Soviet or North Korean territory, these weapons could reach targets in western Japan and Alaska; if launched from Chinese territory, they could reach targets in the Ryukyu Islands and Formosa.

b. In 1957,[28] Soviet guided missiles could reach all of the UK, France, Italy, Scandinavia, and Turkey. In the Far East, if launched from Soviet or North Korean territory, these weapons could reach all of the Japanese islands, and if launched from China they could reach all of Luzon.

c. In 1958–1960,[28] Soviet missiles could reach US North African bases in Tunisia, in addition to the targets listed above.

145. During the period of this estimate Soviet offensive naval capabilities will still be limited to undersea warfare, surface operations involving vessels no larger than cruisers, and air operations utilizing shore-based naval aircraft. The Soviet submarine force will greatly increase its capability to undertake offensive patrols and mining operations along most of the world's strategically situated sea lanes, and possibly to launch guided missile attacks against targets on both the Atlantic and Pacific seaboards of the US. Major Soviet surface units and supporting shore-based naval aircraft will probably continue to increase their capability to undertake offensive operations in Bloc coastal areas, especially in the Baltic and Black Seas, and to protect the seaward flank of ground campaigns. The Soviet Navy will almost have no long-range amphibious capability within the period of this estimate, but it will remain capable of mounting short-range amphibious lifts in considerable force.

146. We estimate that the USSR now has a stock of over 500,000 mines and has the capability to employ mine warfare to interfere seriously with allied sea communications. In the European area, this effort could include all the ports and approaches of the UK and Western Europe. In the Far East, most of the vital allied port areas and sea lanes around the perimeter of the Bloc could be similarly attacked.

[28] These have been estimated to be the earliest *probable* dates of the availability of the missiles described; it is *possible* that the date might be still earlier. See NIE 11-6-54 "Soviet Capabilities and Probable Programs in the Guided Missile Field," dated 5 October 1954.

VII. SOVIET ESTIMATE OF THE WORLD SITUATION

THE FACTOR OF COMMUNIST IDEOLOGY

147. The policy of any state is conditioned by the particular view which its leaders have of the world situation and of the dangers and opportunities which it presents to them. The Soviet leaders' view of the world situation is affected by their Communist ideology and by their isolation from the general currents of world opinion. It is of particular importance in estimating Soviet courses of action, therefore, to take into account the fact that events outside the Communist Orbit or developments in relations between the USSR and the West may frequently have for the Soviet leaders a meaning quite different from that which they have for non-Communist statesmen.

148. The ideological heritage of the 1917 revolution remains a principal determinant of the Soviet view of developments in the world situation. The Soviet leaders still view world developments in terms of an irreconcilable conflict between the "camps" of Communism and Capitalism which will continue until Communism has triumphed throughout the world. In large part, this view both determines their long-term objectives and colors their interpretations of Western actions and developments. We believe that the validity of the guiding principles of Communist ideology has in Soviet eyes been confirmed in the main by the course of events in the war and postwar periods.

THE POSTWAR BACKGROUND

149. Soviet leaders recognized towards the end of World War II that a situation favorable to Communist expansion existed in a large part of the non-Communist world. Hence they pursued their advantage as fast and as far as they could in expanding the Communist sphere and extending Soviet influence. After some time their progress slowed down, especially in Europe, and ran against increasing opposition as the non-Communist world gradually re-established stability. The Soviet leaders are probably aware that it was the advance of Soviet power in Central Europe and in Asia that called forth an increasingly stubborn Western counteraction and consolidated Western opposition. Beginning in 1947, and at an accelerated rate after 1950, the Western nations built up their power and cohesion to the point where further Communist expansion in Europe, and even in some parts of Asia, could no longer be accomplished without risk of general war. At the same time, an accommodation with the West, even if the USSR had wished it, came to depend upon concessions so costly to the USSR's power position that the Soviet leaders clearly regarded them as unacceptable.

150. Faced with a world situation increasingly inhospitable to their aims, the Soviet leaders have sought to find a middle way between the alternatives of war or accommodation at unacceptable cost. They have proceeded on the assumption that both Western fear of war and hope for peace could be manipulated to advance Soviet objectives. Consequently, a policy of alternating menace and conciliation was adopted to encourage the view in the West that Soviet expansionist aims would be moderated if the Western Powers refrained from measures in their own defense which the USSR portrayed as provocative. This policy required no abandonment of expansionist aims nor any cessation of Communist aggression, at least where such aggression could be carried out without grave risk of general war. In the period after Stalin's death, however, Soviet policy began to place relatively more emphasis on the element of conciliation, possibly in some degree because of the pressure of Soviet internal problems, but apparently mainly in the belief that for an interim period at least such tactics were more likely to weaken Western opposition.

THE SOVIET VIEW OF CURRENT DEVELOPMENTS

151. The Soviet leaders probably believe that the US remains firm in its intention to oppose Communist expansion, and that it means to

persist in its effort to bring all important strategic areas peripheral to the Bloc into closer linkage with the US defense system. They probably also estimate that the US is unlikely deliberately to initiate general war during the next few years. The Soviet leaders probably believe that, due to their increasing nuclear capability, a situation is approaching in which a general war involving use by both sides of nuclear weapons would bring about such extensive destruction as to threaten the survival of both Western civilization and the Soviet system. They probably estimate that a situation of mutual deterrence could develop in which each side would be strongly inhibited from initiating general war or taking actions which it regarded as materially increasing the risk of general war. However, they probably estimate that the US would not be deterred, by fear of the consequences of general war, from using its full military capabilities if it believed that its security was imminently threatened. The Soviet leaders almost certainly believe that overt armed aggression by Bloc forces against any state formally allied with the US would result in the employment of US military power as necessary to counter such aggression. They probably also estimate that such aggression against a state not formally allied to the US would involve risk of US military reaction, but that the degree of this risk, and the dimensions of the US reaction, would depend upon the importance to the US of the country attacked, the circumstances of the attack, and the political situation within the US and non-Communist world generally.

152. The Soviet leaders probably recognize that the success of the US effort to prevent further Communist expansion depends heavily upon the ability of the US to establish and maintain cohesion in the non-Communist world. Some developments of the last year, such as the failure of the Western Powers to present a united front at the Geneva Conference, their subsequent inability to associate more Asian states with the defense of Southeast Asia, and the unwillingness of most Western and Asian states to support US policy toward Communist China, may indicate to the Soviet leaders a decline in US ability to maintain such cohesion. They probably believe that the influence of India will continue to grow, and that it may become the leader of a group of states capable of an independent role in world affairs. They may also believe that Germany and Japan will become increasingly capable of taking an independent position. On the other hand, they probably now recognize that certain aggressive actions by the Sino-Soviet Bloc tend to increase the willingness of the non-Communists to follow US leadership. At the same time they probably estimate that there are areas and problems in which such actions would have the opposite effect. While they may not expect during the next few years to accomplish the defection of any states formally allied with the US, they probably believe that their own policies can encourage frictions within the Western alliance, undermine the willingness of US allies to support the US in policies of firmness, and weaken US influence among uncommitted states.

153. The Soviet leaders probably believe that trends in the development of Western military strength do not present them with any immediate threat, either of war or of a weakening of their position in negotiations. While Western nuclear capabilities will continue to improve, this development will not alter essentially the situation which the USSR has faced throughout the postwar period. Moreover, the West's advantage in this respect is being reduced as the USSR develops its own nuclear capabilities. The Soviet leaders probably recognize that the present rough balance of military power could be altered in favor of the West by the appearance of major military power in West Germany and Japan, but they probably now believe that German or Japanese rearmament is not likely to take place on a significant scale during the next two or three years at least. The Soviet leaders will have noted that the declining trend in Western military expenditures has continued despite the recent increase in their own military budget. Therefore, they are probably quite confident that Western military power, although remaining formidable, is not now being developed at a rate which will permit

the application of substantially increased military pressure on the USSR.

154. The Soviet leaders have always reckoned heavily on a deterioration of "capitalist" economies to undermine non-Communist strength and to produce "imperialist contradictions" which would range the Western Powers against each other. Despite the continuing vigor of the economies of Western Europe and the failure of the long-awaited US depression to materialize the Soviet leaders are unlikely to have been shaken in their view that long-term trends point to eventual economic crisis in capitalist countries. They are aware, moreover, that the economies of some states of critical importance to the Western alliance, such as Germany and Japan, would probably prove vulnerable in the event of even a moderately serious decline in levels of trade. The latter they probably regard as a possibility even in the short term, and one which, if it did develop, might produce a political situation which they could exploit.

PROBABLE SOVIET ESTIMATE OF FUTURE DEVELOPMENTS

155. On balance, the Soviet leaders probably estimate that there is at present no critical threat to their security, and that there may be renewed opportunities for Communist expansion by means short of general war. They probably estimate that Western power and unity are vulnerable to Soviet political action, and may become increasingly so. Therefore, the Soviet leaders probably believe that they can rely primarily upon political means, and in some cases military action by local forces, to carry on their struggle against the non-Communist world.

156. However, the Soviet leaders almost certainly recognize that developments may occur during the period of this estimate which would require a revision of this judgment. Some of the problems which presently concern Soviet policy-makers could develop in such a way as to present a direct threat to Soviet security interests. Others might take a course which, while not involving Soviet security interests directly, could heighten international tensions, engage the prestige of the Sino-Soviet Bloc, and cause the USSR to revise its estimate of Western intentions. Possible developments which might lead the Soviet leaders to make such a revision would include the following: (a) a rate or scale of West German rearmament greater than that presently foreseen, or aggressive NATO policies in Europe as a result of influence exercised within NATO by a rearmed West Germany; (b) actions by Communist China which led to hostilities or imminent danger of hostilities between Communist China and the US; (c) rearmament of Japan on a major scale, including the acquisition of offensive weapons by Japanese forces; and (d) commitment of SEATO forces in Indochina to prevent the Communists from gaining control of the country by military action.

VIII. PROBABLE SOVIET COURSES OF ACTION[29]

PRESENT SOVIET OBJECTIVES

157. We believe that the developments within the sphere of Soviet power and the Soviet estimate of the world situation which have been discussed in the foregoing sections have led the Soviet leaders to assess their own situation somewhat as follows: the balance of military power in the world and the increasing destructiveness of nuclear weapons are such that general war would involve very heavy risks to the Communist sphere, extending possibly to the destruction of the Soviet regime. On the other hand, non-Communist strength is not so great nor the intentions of the non-Communist powers so menacing as to make withdrawals from the present advanced positions in Europe and Asia seem necessary. Moreover, in view of the growing military capabilities of the Bloc and the frictions within the non-Communist world, the Communists probably estimate that they can make progress toward their objectives through political action, or in some cases by localized military action. The Soviet Bloc faces serious internal problems which include the correction of certain weaknesses in the Bloc economy, particularly in agricultural production, and the necessity to build up economic power in the Bloc as a step toward balancing the vastly greater economic potential of the West. These problems do not imply a weakness which requires neglect of opportunities for expansion under circumstances of limited risk.

158. We believe that the Soviet leaders will concentrate on the following principal objectives during the period of this estimate:

a. To increase the economic and military strength of the Sino-Soviet Bloc;

b. To promote the political and economic instability of non-Communist states, and to render them incapable of decisive action by fostering and exploiting dissensions within and among them;

c. To effect a degree of disarmament, including the outlawing of nuclear weapons, under conditions favorable to the Communists;

d. To bring about the withdrawal of US power from its present advanced bases around the periphery of the Bloc;

e. To impede or offset the rearmament of West Germany and its association with the Western Powers;

f. To detach Japan from the sphere of Western influence and encourage its closer association with the Sino-Soviet Bloc;

g. To expand Communist influence and, as opportunities develop, to extend the area of Communist control.

COURSES OF ACTION – GENERAL

Military

159. In foregoing sections of this paper it was estimated that the Soviet leaders probably now believe (a) that general war would present formidable hazards to the survival of their system, and (b) that they can advance toward their objectives by actions short of general war. Therefore, we believe that during the period of this estimate the Kremlin will try to avoid courses of action, and to deter Communist China from courses of action, which in its judgment would clearly involve substantial risk of general war. The Soviet leaders are unlikely to believe that Soviet, Communist Chinese or European Satellite forces can be used in open attacks across recognized state frontiers during this period without running such a risk. However, the USSR or one of the Sino-Soviet Bloc countries might engage in indirect aggression or take action which would create a situation in which the US or its allies, rather than yield an important position, would take counter-

[29] This section deals with Soviet *external* courses of action. Soviet intentions with respect to various internal developments are treated in preceding sections of the paper. In the summary of Soviet objectives contained in the first two paragraphs of this section, however, objectives internal to the USSR and to the Sino-Soviet Bloc are included.

action which could lead to general war. We believe, moreover, that the Kremlin would not be deterred by the risk of general war from taking counteraction against a Western action which it considered an imminent threat to Soviet security. Thus, general war might occur during the period of this estimate as the climax of a series of actions and counteractions, initiated by either side, which neither side originally intended to lead to general war.

160. It is possible that at some time during the period of this estimate the USSR might come to believe that world developments had taken a turn that would ultimately lead to a serious impairment of Soviet security. Such a belief might develop, for example, as a result of developments in Germany or in connection with an armed conflict between the US and Communist China. In such a situation the USSR might feel impelled to undertake local military action in order to forestall an inevitable deterioration of its security position, even though such action would entail heightened risk of general war. We believe, however, that even under these circumstances the USSR would seek to keep any resulting conflict localized and to avoid general war.

161. By the end of the period of this estimate the USSR will have a greatly increased capability to inflict destruction with nuclear weapons, particularly on the US itself. Nevertheless, the Soviet leaders will probably still not be confident that they could attack the US with nuclear weapons without exposing the USSR to an even more devastating counterblow. We believe, therefore, that the USSR will continue to try to avoid substantial risks of general war despite the increase of its nuclear capabilities. However, as these capabilities grow, Soviet leaders may come to estimate that the US, because of fear for itself or for its allies, or because of pressure by its allies, will be increasingly deterred from initiating the devastation entailed in a full-scale nuclear war. They may therefore come to believe that local wars will be less likely than at present to expand into general war, and thus that superior Soviet Bloc military capabilities in certain local areas can be exercised without substantial risk of provoking general war. In diplomatic negotiations the Soviet leaders will almost certainly try to take advantage of the increased urgency with which Western governments, pressed by their better-informed public opinion, will strive to escape nuclear war through peaceful solutions. We believe it unlikely, however, that in a situation of sharp and general international crisis the USSR would seek to break Western determination by direct and open threats of nuclear attack. The Soviet leaders would probably fear that such tactics would bring about a situation in which war would become unavoidable, and they might even fear that they would provoke a preventive attack by the US.

Diplomacy and Propaganda

162. We believe that Soviet diplomacy during the period of this estimate will not be directed toward a general settlement between the USSR and the West. It will almost certainly continue to combine moves intended to ease international tensions with other moves which increase such tensions, and with political warfare pressures calculated to play upon the non-Communist world's fear of war. At present the USSR is engaged in very active diplomacy on a number of important issues — Austria, disarmament, Yugoslavia, Japan — and has made important concessions, though no apparent important sacrifices as yet. We believe that the current Soviet diplomatic efforts are directed primarily toward preventing the rearmament of Germany in close alliance with the West, and that the ground is being prepared for new Soviet proposals on this subject, perhaps at Four Power meetings during this summer. We also believe that in connection with the forthcoming peace treaty negotiations with Japan the USSR is likely to make some concessions in the hope of promoting frictions in the relations of Japan with the US and encouraging Japanese neutralism.

163. It is possible, however, that the Soviet leaders also desire a substantial and prolonged reduction in international tensions that would not only prevent German rearmament but also further their other objectives, including

US withdrawal from advanced bases and a reduction of the incentive for the West to maintain its present defense efforts. The Soviet leaders may also feel that such a reduction of international tensions is desirable because of the pressure of their own internal problems.

164. We believe that the USSR will place continuing emphasis in its diplomacy and propaganda upon proposals for the control or abolition of nuclear weapons. The Soviet leaders will probably try by such maneuvers to hold out to the non-Communist world the prospect of release from the threat of nuclear warfare, and, by seeking to place upon the US the blame for failure to achieve workable control arrangements, to stimulate doubts about the reasonableness and moderation of US policies in this field. We believe it highly unlikely that the USSR during the period of this estimate will agree to any plan which would involve inspection within the USSR under provisions acceptable to the Western Powers. Soviet proposals regarding the control of nuclear weapons will probably be designed primarily to erect political, psychological, and moral barriers to US freedom of action in the use of nuclear weapons.

Trade and Technical Assistance

165. Basic Soviet economic philosophy, and the shortages of commodities which the non-Communist world is willing to accept from the Bloc will continue to act as deterrents to any major change in the present Soviet trade pattern. Nevertheless, the Communists probably estimate that political dividends can be earned from even small increases in their current volumes of trade with individual non-Communist states. The countries most vulnerable to this form of political warfare, in the Soviet view, would probably be in underdeveloped areas. Moreover, the Soviet leaders might be willing to accept certain economic losses for political gains in areas of prime strategic significance, such as Germany or Japan. In any case, they will almost certainly seek to increase trade with these countries during the course of this estimate. The Soviet leaders will probably also try to expand Soviet economic influence in selected areas through technical assistance or the sponsorship of development programs. In some cases these programs could take the form of technical training missions or the sponsorship of training programs for foreign technicians within the USSR and could consequently be carried out at small cost.

COURSES OF ACTION IN PARTICULAR AREAS

Europe

166. The principal objective of Soviet policy in Europe during the period of this estimate will be to obtain a solution of the German problem favorable to Soviet interests. Prevention or slowing down of West German rearmament and blocking the development of West Germany's ties with the NATO powers have first priority. The Soviet leaders probably recognize that the three principal Western Powers are committed to West German rearmament at present, and probably estimate that any direct Soviet attempt to foster differences among them with the aim of halting the implementation of the Paris Agreements would fail. They recognize that Franco-German differences and, in particular, French apprehension concerning German rearmament, will remain and may even sharpen during the next few years, but they know that France alone does not have the power to stop West German rearmament once it has begun. The West Germans themselves, however, do have this power, and the Soviet leaders probably believe that the continuing desire for unity will make West Germany susceptible to influences within the power of Soviet policy to apply.

167. Consequently, the USSR will almost certainly make great efforts to influence the situation in West Germany itself. It will almost certainly increase propaganda and political warfare measures designed to encourage the existing anti-rearmament sentiment in West Germany. Beyond this, the USSR will probably seek to increase points of contact on trade and other matters between itself and the West German government. These contacts could be used to prepare for the resumption of diplomatic relations and could

be represented by propaganda as leading to the possibility of direct political negotiations on German reunification. The Soviet leaders probably calculate that a sedulous encouragement of German hopes for unification will, over the course of time, increase neutralist feeling in West Germany, greatly complicate the relations of the West German government with its NATO partners, and undermine unity of purpose within the NATO alliance. Moreover, they may calculate that with the passing of Adenauer from the scene, the internal political balance in Germany will change, and that consequently a political climate will develop which would be more favorable to attempts to detach West Germany from its ties to the NATO powers.

168. While increasing its efforts to undermine West German support for rearmament, the USSR will not relax its efforts to weaken Western unity by playing upon fears and hopes elsewhere in Western Europe. Soviet propaganda and diplomacy will be designed to promote French confidence in the USSR's peaceful intentions and in the reasonableness of Soviet proposals, to stimulate French fears of future German aggression, and to sow resentment of US policy. It Italy, as in France, the USSR possesses a powerful weapon in the large native Communist party, and Italy will probably continue to be an important target in the Soviet campaign to alienate Western Europe from the US and undermine NATO.

169. If such measures did not, in the Soviet view, succeed in countering the developing threat of West German rearmament, it is possible that the Soviet leaders would accommodate themselves to the situation of increased Western strength, and would pursue a cautious and nonprovocative policy. We believe it more likely, however, that they would take rigorous measures in an attempt to offset the accretion to the strength of the West. These measures would include a sharp build-up of Soviet and Satellite military capabilities, and might also include more threatening courses of action against Berlin, or in the Far East, or elsewhere, with the purpose of arousing fear of nuclear war in the West and causing Western peoples to demand that their governments follow a cautious policy. We believe that, even at this stage, the USSR would still avoid courses of action which in its judgment clearly entailed the probability of general war.

170. It is also possible that the Soviet leaders might offer to withdraw from East Germany in exchange for a guaranteed neutralization and armament control of a unified Germany. Such a policy could offer the advantages of halting German rearmament, reducing the strength of US forces in Europe, and, together with an Austrian settlement, creating in effect a neutralized zone in Central Europe. We believe that the chances of such a development are less than even.[30] It might be adopted, however, if the Soviet leaders believed that it offered the only means, short of general war, to prevent the development of a critical threat to the security of the USSR.

171. The USSR will probably increase its efforts during the course of this estimate to detach neutral states from the sphere of Western influence. In Europe, the states most likely to be subjected to Soviet pressure or inducements are Finland and Yugoslavia. In Finland the USSR will probably continue to use pressures to increase Finland's economic dependence upon the USSR. It might even, in the event that developments in Germany made such a course appear desirable, invoke the terms of the Soviet-Finnish Mutual Assistance Treaty of 6 April 1948.[31] The USSR will persist in its aim to wean Yugoslavia away from its present ties with the West and might make additional concessions to accomplish

[30] The Special Assistant, Intelligence, Department of State, believes that the estimate contained in this sentence should read as follows:
"We believe that the likelihood of such a development is small, primarily because it seems to us that its uncertainties and disadvantages, from the Soviet point of view, would far outweigh its advantages."

[31] The terms of the treaty require Finland to join the USSR in resisting aggression by Germany or any power allied with Germany, and to "consult" with the USSR in the event of "threat" of such aggression.

this. Any internal crisis in Yugoslavia, such as might follow the death of Tito for example, would probably see an intensification of these efforts.

Asia [32]

172. In Northeast Asia the principal objective of Soviet policy during the course of this estimate almost certainly will be to detach Japan from the sphere of US influence. The Soviet leaders probably believe that the political instability of Japan will render it increasingly vulnerable to Communist pressures, including that which the Japanese Communist Party exerts through its influence in other political organizations. Most importantly, in the Soviet view, Japan's critical need for markets and for raw materials will make Communist trade solicitations increasingly more attractive, and create frictions beween Japan and the West. The USSR almost certainly intends, in concert with Communist China, to employ these weapons of political warfare vigorously during the course of this estimate, and probably believes that with the normalization of relations with Japan which would follow the signing of a peace treaty, its opportunities to detach Japan from US influence would be greatly enhanced.

173. We believe that the USSR is in substantial agreement with Chinese Communist objectives to destroy the Chinese Nationalist Government and to gain control of all territory held by it, but is concerned to restrain Peiping from adopting policies which would clearly involve substantial risk of general war. The Soviet leaders probably believe they can derive advantage from issues in the Formosa Strait by combining public advocacy of Peiping's claims with a conciliatory posture calculated to impress the world with the sincerity of Soviet efforts to reach a peaceful settlement. The primary Soviet motivation in this is to exploit the issue in such a way as to sow distrust of the US among neutral nations and to promote a maximum of discord between the US and its allies. Moscow almost certainly does not consider that its vital national interests are involved in issues arising in the Formosa Strait. We believe that Moscow might see certain advantages in clashes between Chinese Communist and US forces, provided it believed that the clashes would be limited and localized. However, we also believe that the USSR will seek to prevent a situation from arising in the Formosa Strait which in its view would carry grave risks of major hostilities between the US and Communist China, since the Soviet leaders probably believe that such hostilities would also entail grave risk of Soviet involvement.

174. The Soviet leaders probably consider that if major hostilities between Communist China and the US should occur the USSR would be presented with extremely grave choices. They would probably give the Chinese Communists support in weapons and material, and the scale of this aid would probably increase in proportion to the threat to the Chinese Communist regime. As hostilities expanded and the threat to the Chinese Communist regime increased, they would probably engage Soviet forces in defensive operations, to the extent that they felt they could plausibly deny such involvement. Should the conflict progress so far that destruction of the Chinese Communist regime appeared probable, we believe that the Soviet leaders would recognize that open intervention on their part sufficient to save the Chinese regime would involve extremely grave risk of general war with the US with its consequent threat to the survival of the Soviet system. In deciding upon a course of action, the Soviet leaders would have to weigh the strengths which they could bring to bear in the struggle against those which would be opposed to them, and the dangers to their own regime of a possible global war with the US against the strategic and psychological consequences to them of destruction of the Chinese Communist regime. We believe, on balance, they would conclude that loss of the Chinese Communist regime would be suffi-

[32] See NIE 10-7-54, "Communist Courses of Action in Asia Through 1957," 23 November 1954, which deals with Chinese Communist as well as Soviet intentions in Asia. A separate NIE on Chinese Communist capabilities and courses of action will appear later in 1955.

ciently damaging and final to cause them to resort to open intervention to save that regime.[33]

175. Southeast Asia will almost certainly appear to the USSR to be the most profitable field for the extension of Communist influence, at least during the early period of this estimate. The Soviet leaders will probably continue, in concert with Communist China, to support Communist subversive activities, and possibly localized military action if circumstances are favorable. However, if the activities of local Communist groups stimulate anti-Communist attitudes within Asian states or tend to unite these states in joint resistance with Western powers, the Kremlin may choose to exercise its influence to hold local Communist movements in check. The USSR will consider the interests and possible gains of local Communist movements as subordinate to the broader purpose of Soviet strategy in the world conflict.

176. The Soviet leaders almost certainly believe that the US will make substantial efforts to prevent South Vietnam from falling under Communist control. In attempting to frustrate such efforts, Soviet policy will be guided by the concern to avoid actions which would consolidate the Western allies on the Indochina issue and bring them wider support in Asia. The Soviet leaders probably believe that the US will accede to the initiation of negotiations in preparation for the elections in 1956, but will cause conditions and issues to be introduced with a view to obstructing the negotiations and preventing or delaying the elections. If the US succeeds in postponing the elections, or if it adopts measures which seriously reduce Communist capabilities for further expansion in Indochina through legal means, the USSR would still regard Communist opportunities for expansion through subversion as good. It would probably support military action by local guerrillas and infiltrated Viet Minh military elements, but would probably seek to restrain the Viet Minh from openly crossing the demarcation line with large organized forces, at least as long as military intervention by the Manila Pact powers seemed likely to result.

177. The principal concern of Soviet policy in South Asia will be to encourage and exploit the neutralism already present in the area. The Soviet leaders probably hope thereby to promote differences within the British Commonwealth over ways of dealing with Communism in Asia. They would expect such differences to affect Anglo-American relations adversely, and to render difficult the efforts of the Western powers to enlist the support of Asian peoples in effective oposition to further Communist advances in Asia. India in particular is likely to receive increasing attention and consideration in the USSR's conduct of the world struggle.

Middle East

178. The USSR has devoted increased attention to the countries of this area during the last year. It has settled long-standing border and financial issues with Iran, and has achieved a growing influence over the economy of Afghanistan, mainly through expanded trade and economic development programs. The USSR has attempted through propaganda and diplomacy to prevent the extension of Middle East defense plans, and in particular has warned Iran of the undesirable consequences that would stem from formal Iranian adherence to any non-Soviet military bloc. If Iran moves openly to take such a step, the USSR would almost certainly adopt a more truculent attitude, and would probably threaten to invoke its 1921 treaty agreements with Iran, which provide for Soviet occupation of northern Iran under certain circumstances. We believe, however, that the USSR would not openly intervene in Iran with military force unless it had decided for reasons of policy unrelated to Iran to accept substan-

[33] The Director of Naval Intelligence, and the Deputy Director for Intelligence, The Joint Staff, believe that the last sentence overstates the willingness of the Soviet leaders to risk their own regime and would substitute for the last sentence:

"On balance, we believe that they would not consider the elimination of the Chinese Communist regime sufficiently damaging, or final, to warrant the risk to their own regime which open intervention would entail."

tial risk of general war. The USSR will probably step up its activities throughout the Middle East in proportion to the success of present Western efforts to build toward a situation of strength through regional alliance and external military support. The USSR will probably in any case press its present effort to gain a controlling position in Afghanistan.

Latin America

179. The USSR will continue its efforts through local Communist parties and front groups, appealing particularly to labor, students, and intellectuals, to promote anti-US sentiment, to embarrass US business interests, and to obstruct economic and military cooperation of Latin American governments with the US. The type of political action the Communists pursued in Guatemala, where a small Communist element was able to obtain a decisive influence over policy by operating through front groups, will be the most likely pattern of Communist tactics in Latin America. Communist strength is insufficient to attempt open seizures of power or to run the risk of intervention by other American states. At present, Soviet aims are probably limited to promoting policies calculated to disrupt the Organization of American States and to damage US prestige. The Bloc will probably try to increase its trade with Latin America. In addition to providing a source of needed raw materials, such trade might be calculated to contribute to the softening of inter-American solidarity and to the creation of a more receptive atmosphere for Bloc propaganda.

APPENDIX

Tables of Military Strength

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TABLE 1

ESTIMATED T/O STRENGTH OF BLOC ACTIVE MILITARY PERSONNEL
MID-1955 AND MID-1960

Country	Mid-1955				Mid-1960				Totals (Not including Security)	
	Army	Air Force	Navy	Security	Army	Air Force	Navy	Security	Mid-'55	Mid-'60
USSR (Total)	2,500,000	800,000 [1]	695,000 [2]	400,000	2,500,000	840,000 [1]	750,000 [2]	400,000	3,995,000	4,190,000
EE Satellites (Total)	1,085,000	92,700 [3]	34,800	306,000	1,210,000	115,000 [3]	48,500	326,000	1,212,500	1,373,500
Albania	30,000	200	800	10,000	30,000	.....	1,000	10,000	31,000	.....
Bulgaria	170,000	18,500	5,500	45,000	170,000	.....	7,500	45,000	194,000	.....
Czechoslovakia	170,000	18,000	.....	40,000	170,000	.....	.....	40,000	188,000	.....
East Germany	100,000	7,000	9,000	30,000	225,000	.....	15,000	50,000	116,000	.....
Hungary	150,000	12,000	.....	38,000	150,000	.....	.....	38,000	162,000	.....
Poland	250,000	25,000 [3]	11,500 [4]	65,000	250,000	.....	15,000 [4]	65,000	286,500	.....
Rumania	215,000	12,000	8,000	78,000	215,000	.....	10,000	78,000	235,000	.....
Communist Asia (Total)	2,894,000	94,500	43,000	1,015,000	2,947,000	117,000	53,000	1,015,500	3,031,500	3,117,000
Communist China	2,300,000	78,500	32,000 [5]	1,000,000	2,300,000	95,000	37,000 [5]	1,000,000	2,410,500	2,432,000
North Korea	317,000	16,000	11,000	15,500	357,000	22,000	15,000	15,500	344,000	394,000
Viet Minh	277,000	.....	.....	.....	290,000	.....	1,000	.....	277,000	291,000
BLOC TOTALS	6,479,000	987,200	772,800	1,721,000	6,657,000	1,072,000	851,500	1,741,500	8,239,000	8,680,500

[1] Including 95,000 naval aviation personnel. Included in the 800,000 are 466,000 in operational air units and 334,000 in nonoperational categories.
[2] Excluding 95,000 naval aviation personnel in 1955 (98,000 in 1960) and 125,000 MVD naval frontier guards who become part of the Navy during wartime. These are included separately under the security forces.
[3] Includes naval air arm.
[4] Excluding 1,070 naval aviation personnel in 1955 (1,250 in 1960).
[5] Excluding 4,000 naval aviation personnel in 1955 (7,000 in 1960).

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TABLE 2

ESTIMATED STRENGTH OF BLOC GROUND FORCES AND TRAINED RESERVES, MID-1955, AND MID-1960, AND ESTIMATED GROUND MOBILIZATION POTENTIAL, MID-1955

	Line Divisions						Trained Ground Reserves		Ground Mobilization Capacity Mid-1955			
	By Type Mid-1955				Total [2]		Mid-	Mid-	M+30		M+360	
COUNTRY	Rifle	Mech	Tank	Cav	1955	1960	1955	1960	Personnel	Divisions	Personnel	Divisions
USSR (Total)[1]	105	45	20	5	175	175	6,250,000	8,000,000	8,750,000	300	12,500,000	500 [5]
Occupied Europe [3]	5	16	9	..	30	30	.....	.....	.....	...	.....	...
NW USSR	13	..	1	..	14	14	.....	.....	.....	...	.....	...
W USSR	30	15	6	2	53	53	.....	.....	.....	...	.....	...
W Central USSR	16	2	2	..	20	20	.....	.....	.....	...	.....	...
Caucasus	10	2	..	2	14	14	.....	.....	.....	...	.....	...
E Central USSR	10	3	..	1	14	14	.....	.....	.....	...	.....	...
Far East	21	7	2	..	30	30	.....	.....	.....	...	.....	...
Satellites (Total)	61	13	6	1	81	93	2,650,000	4,475,000	2,905,000	118	4,800,000	188
Albania	3	..	..	..	3	3	45,000	75,000	80,000	4	100,000	6
Bulgaria	12	..	2	1	15	15	475,000	700,000	500,000	20	700,000	28
Czech	8	4	2	..	14	14	515,000	800,000	500,000	20	1,000,000	40
E. Germany	4	3	..	..	7	14	50,000	350,000	175,000	9	250,000	12
Hungary	9	1	1	..	11	13	375,000	600,000	450,000	18	650,000	25
Poland	12	5	..	..	17	18	660,000	1,100,000	650,000	25	1,100,000	42
Rumania	13	..	1	..	14	16	530,000	850,000	550,000	22	900,000	35
Com. Asia (Total)	147	..	3	4	154	164	..... [6]	..... [6]	2,867,000 [7]	157 [7]	3,082,000	170
China [4]	118	..	3	4	125	125	.....	.....	2,300,000	125	2,500,000	135
Korea	27	..	..	..	27	27	.....	.....	.....	...	.....	...
Northeast	13	..	1	2	16	16	.....	.....	.....	...	.....	...
North	12	..	1	2	14	14	.....	.....	.....	...	.....	...
Northwest	7	..	..	..	7	7	.....	.....	.....	...	.....	...
E. China	29	..	1	..	30	30	.....	.....	.....	...	.....	...
Central/South	20	..	..	..	20	20	.....	.....	.....	...	.....	...
Southwest	10	..	..	..	10	10	.....	.....	.....	...	.....	...
Unlocated	..	..	..	..	1	1	.....	.....	.....	...	.....	...
North Korea	19	..	..	..	19	24	.....	.....	332,000	19	332,000	19
Viet Minh	10	..	..	..	10	15	.....	.....	235,000	13	250,000	16
BLOC TOTALS	313	58	29	10	410	432	8,900,000	12,475,000	14,522,000	575	20,382,000	858

[1] It is estimated that Soviet line divisions are generally at about 70 percent of their average wartime T/O strength of about 12,000 men.
[2] Airborne and Mountain Divisions are included in the Rifle Division total; at least 20 Artillery and 25 AAA Divisions, however, are additional to the line divisions shown.
[3] In East Germany: 415,000 men; 22 divisions.
[4] It is estimated that Chinese Communist divisions have a wartime T/O strength of about 8,000–10,000 men.
[5] Of these 500 divisions 300 could probably be equipped from stockpiles. The remaining 200 divisions would be equipped from current production and would probably be used primarily to provide replacement units or individual replacements.
[6] Communist Asian forces have no system of organized reserves. The Communist Chinese have an estimated 6,000,000–20,000,000 men in the militia, but as presently constituted these forces cannot be classed as trained reserves since they receive little military training and have almost no equipment. With the institution of a formal military system, expected to be adopted by mid-1956, it is probable that Chinese personnel who complete a term of military service will form the trained reserve available for mobilization.
[7] Communist Asian forces are considered virtually fully mobilized. Mobilization of additional units would require substantially increased amounts of equipment from the USSR.

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TABLE 13

ESTIMATED AUTHORIZED (TO&E) STRENGTH OF BLOC AIR UNITS
MID-1955 – MID-1960 [1]

	Mid-1955			Mid-1956	Mid-1957			Mid-1958	Mid-1959	Mid-1960		
	USSR	EE SAT	CCAF/ NKAF	USSR	USSR	EE SAT	CCAF/ NKAF	USSR	USSR	USSR	EE SAT	CCAF/ NKAF
Fighter: Jet (Day)	10,100	2,200	1,550	9,500	8,100	2,500	1,850	6,900	6,300	6,100	2,000	1,700
Jet (All-Weather)	300	....	....	1,000	2,500	....	....	3,800	4,500	4,800	500	200
Attack: Jet [2]	300	....	....	600	950	220	40	1,300	1,600	1,900	500	160
Piston	1,600	880	360	1,300	1,050	740	400	700	400	100	500	280
Light Bomber: Jet	3,250	120	400	3,250	3,250	420	640	3,150	3,100	3,100	700	740
Piston	....	300	280	....	....	290	80	....	....	....	....	....
Medium Bomber: [3] Jet	200	....	....	400	650	....	....	700	700	700	....	....
Piston	1,160	....	30	840	400	....	90	100	....	....	....	100
Heavy Bomber: [3] Jet	20	....	....	80	200	....	....	350	400	400	....	....
Turbo-prop	20	....	....	80	150	....	....	250	300	300	....	....
Transport: [4] Medium	....	....	....	50	100	....	....	200	400	500	....	....
Light	1,900	160	130	1,850	1,800	220	190	1,700	1,500	1,400	270	200
Helicopters: [5]	300	....	....	500	600	....	....	600	600	600	....	....
Reconnaissance: Jet Fighters	100	20	30	200	400	170	80	400	400	400	200	80
Jet Light Bombers	850	....	....	850	850	....	....	850	850	850	....	....
Prop	200	170	10	200	200	130	10	200	250	250	100	10
Tankers [6]												
TOTALS	20,300	3,850	2,790	20,700	21,200	4,690	3,380	21,200	21,300	21,400	4,770	3,470
BLOC TOTAL (TO&E)		26,940				29,270					29,640	
JETS (TO&E)		19,540				22,730					25,330	
TOTAL (ACTUAL) [1]		20,500										
JETS (ACTUAL)		15,000										

[1] Estimated actual strength of Soviet air units has usually been less than estimated TO&E strength; however, based on present re-equipment trends, it is estimated that the actual strength of the over-all establishment will be close to the total authorized (TO&E) strength by mid-1956, although many of the units would be equipped with a combination of old and new types of aircraft.

[2] It is estimated that jet attack aircraft will be one-third light bombers and two-thirds fighter types.

[3] There is no firm intelligence on the planned balance between the types and categories of long-range aircraft or on their future authorized organizational aircraft strengths; the above figures represent our estimate of the most probable way in which Soviet Long-Range Aviation would be proportioned during the period and is predicated on the assumptions (1) that no change will occur in the total authorized number of aircraft in long-range units, (2) that the BEAR turbo-prop heavy bomber is currently in series productions, and (3) that the USSR is devoting a major aircraft production effort to the development of a massive intercontinental air attack capability.

[4] It is estimated that in addition to transports there are 250 gliders in organized glider regiments.

[5] These do not include liaison type helicopters.

[6] Tankers are not shown in specific numbers since they have not been identified in operational units nor have inflight refueling techniques been detected. However, employment of tanker aircraft is considered to be within Soviet capabilities and production capacity is estimated to be capable of supporting production of tanker aircraft in required numbers.

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TABLE 4

ESTIMATED GEOGRAPHIC DISTRIBUTION OF SOVIET AIR STRENGTH BY AIRCRAFT TYPE

MID-1955

Aircraft Type	Eastern Europe (1)	North-western USSR (2)	Western USSR (3)	West Central USSR (4)	Caucasus USSR (5)	East Central USSR (6)	Far East (7)	Total
Fighter: Day	1,260	1,370	2,270	1,220	1,310	550	2,120	10,100
A/W	40	30	30	130	40	...	30	300
	1,300	1,400	2,300	1,350	1,350	550	2,150	10,400
Attack: Jet	100	....	100	....	....	....	100	300
Piston	440	250	250	....	80	80	500	1,600
	540	250	350	....	80	80	600	1,900
Light Bomber: Jet	230	450	1,150	160	300	160	800	3,250
Medium Bomber: Jet	....	....	170	30	....	...	....	200
Piston	....	200	650	90	....	....	220	1,160
	....	200	820	120	....	...	220	1,360
Heavy Bomber: Jet	....	....	20	....	....	...	....	20
Turbo-prop	....	....	20	....	....	...	....	20
Transport: Medium	....	....	....	....	....	....	....	....
Light	130	150	500	420	70	70	560	1,900
	130	150	500	420	70	70	560	1,900
Helicopters	50	100	50	....	....	...	100	300
Reconnaissance:								
Jet Fighter	100	....	....	....	....	....	....	100
Jet Light Bomber	100	90	280	30	30	30	290	850
Prop	....	60	60	....	....	....	80	200
	200	150	340	30	30	30	370	1,150
	2,450	2,700	5,550	2,080	1,830	890	4,800	20,300

Areas referred to in Geographic Distribution of Soviet Air Strength by Aircraft Type are:
(1) Includes E. Germany, Poland, Austria, Hungary, and Rumania.
(2) Includes Arkhangelsk M.D., Leningrad M.D., and White Sea M.D.
(3) Includes Baltic M.D., Belorussian M.D., Carpathian M.D., Kiev M.D., Odessa M.D., and Tauric M.D.
(4) Includes Gorki M.D., Moscow M.D., South Ural M.D., Volga M.D., Voronezh M.D., and Ural M.D.
(5) Includes North Caucasus M.D. and Transcaucasus M.D.
(6) Includes East Siberian M.D., Turkestan M.D., and West Siberian M.D.
(7) Includes Far East M.D., Maritime M.D., Transbaikal M.D., and Port Arthur/Dairen Area.

TABLE 5

ESTIMATED SOVIET AIRCRAFT STRENGTH BY ROLE WITHIN MAJOR COMPONENTS
MID-1955, MID-1960

	MID-1955						MID-1960					
	Air Force of Soviet Army	Fighter Aviation of Air Defense	Long Range Aviation	Naval Aviation	Aviation of Airborne Troops	Totals	Air Force of Soviet Army	Fighter Aviation of Air Defense	Long Range Aviation	Naval Aviation	Aviation of Airborne Troops	Totals
Fighter: Day	4,480	3,630	....	1,990	....	10,100	3,420	1,660	....	1,320	....	6,100
A/W	70	170	....	60	....	300	1,680	2,340	....	780	....	4,800
Total	4,550	3,800	....	2,050	....	10,400	4,800	4,000	....	2,100	....	10,900
Attack: Jet	300	....	....	....	....	300	1,800	....	....	100	....	1,900
Piston	1,500	....	....	100	....	1,600	100	....	....	....	....	100
Total	1,800	....	....	100	....	1,900	1,900	....	....	100	....	2,000
Light Bomber: Jet	2,370	30	....	850	....	3,250	2,220	30	....	850	....	3,100
Medium Bomber: Jet	....	....	200	....	....	200	....	....	700	....	....	700
Piston	....	....	1,160	....	....	1,180	....	....	....	....	....	....
Total	....	....	1,360	....	....	1,380	....	....	700	....	....	700
Heavy Bomber: Jet	....	....	20	....	....	20	....	....	400	....	....	400
Turbo-prop	....	....	20	....	....	20	....	....	300	....	....	300
Total	....	....	40	....	....	40	....	....	700	....	....	700
Transport: Medium	....	....	....	....	....	....	50	....	100	50	300	500
Light	850	120	190	190	550	1,900	800	120	90	140	250	1,400
Total	850	120	190	190	550	1,900	850	120	190	190	550	1,900
Helicopters	30	....	....	20	250	300	100	....	....	100	400	600
Reconnaissance: Jet Fighters	100	....	....	....	....	100	400	....	....	....	....	400
Jet Light Bombers	600	....	....	250	....	850	600	....	....	250	....	850
Prop	....	....	....	200	....	200	....	....	....	250	....	250
Total	700	....	....	450	....	1,150	1,000	....	....	500	....	1,500
TOTALS	10,300	3,950	1,590	3,660	800	20,300	10,870	4,150	1,590	3,840	950	21,400

TABLE 6

ESTIMATED PERFORMANCE OF SOVIET LONG-RANGE AIRCRAFT
(Calculated in accordance with US military mission profiles)

Conditions	BULL (TU-4)	MODIFIED BULL (TU-4)[1]	BADGER (Type 39)	IMPROVED BADGER 1957[4]	TURBO PROP[5]	BISON (Type 37) 1957[6]
Combat Radius/ Range (NM)						
a. 10,000 lb. load one refuel[3]	1,700/3,100 2,400/4,300	2,000/3,600 2,800/5,000	1,500/2,900 2,100/4,000	1,900/3,700 2,660/5,180	3,700/7,000 5,200/9,800	2,750/5,300 3,800/7,300
b. 3,000 lb. load one refuel	1,950/3,500 2,750/4,900	2,300/4,100 3,200/5,700	1,700/3,300 2,400/4,600	2,100/4,200 2,940/5,880	....	2,850/5,500 3,900/7,500
Speed/Altitude (kn/ft)						
a. Max. speed	350/30,000	360/30,000	535/15,000	550/12,500	470/35,000	535/19,000
b. Target speed	350/30,000	360/30,000	475/41,000	470/43,000	445/40,000	475/44,500
Combat Ceiling[2] (ft)	36,500	37,500	43,500	43,500	40,000	48,000

ESTIMATED MAXIMUM SOVIET LONG-RANGE AIRCRAFT PERFORMANCE UNDER A MODIFIED MISSION PROFILE
(Calculated in accordance with a maximum US military mission profiles except that fuel reserves are reduced to permit 30 minutes loiter at sea level, and aircraft operate at altitudes permitting maximum radius/range.)

Conditions	BULL (TU-4)	MODIFIED BULL (TU-4)[1]	BADGER (Type 39)	IMPROVED BADGER 1957[4]	TURBO PROP[5]	BISON (Type 37) 1957[6]
Combat/Radius Range (NM)						
a. 10,000 lb. load one refuel[3]	1,800/3,300 2,500/4,500	2,150/4,000 3,000/5,600	1,600/3,100 2,200/4,300	2,050/4,000 2,870/5,600		3,100/6,100 4,300/8,100
b. 3,000 lb. load one refuel	2,050/3,700 2,850/5,100	2,450/4,600 3,450/6,450	1,850/3,700 2,250/5,000	2,300/4,500 3,220/6,300		3,200/6,400 4,300/8,200
Speed/Altitude (kn/ft)						
a. Max. speed	350/30,000	360/30,000	535/15,000	550/12,500		535/19,000
b. Target speed	350/30,000	360/30,000	475/42,000	470/43,500		475/45,500
Combat Ceiling[2] (ft)	36,500	37,500	43,500	43,500		48,000

ESTIMATED BISON AND BADGER MAXIMUM TARGET ALTITUDES
(Calculated on the basis of 100 ft/min. rate of climb, one-way missions, one hour of fuel remaining, bombload aboard, and with maximum power.)

Bombload (lbs.)	BISON (Altitude Ft.)	BADGER (Altitude Ft.)	IMPROVED BADGER (Altitude Ft.)
20,000	55,100		
10,000	56,300	49,500	51,500
3,000	57,200	51,000	53,000

[1] The TU-4 could be modified in a manner similar to the US B-29B conversion to increase its range. However, we have no indications that this has been or will be done.
[2] The altitude at which rate of climb of 500 ft/min. can be maintained at the end of the given combat radius of the aircraft.
[3] Refueling radius/range estimates based upon the use of compatible tankers.
[4] The improved Badger performance is based upon installation of higher thrust engines.
[5] The figures in this column are tentative and incomplete Air Force estimates. Coordination with other agencies has been deferred, pending further analysis of available data.
[6] Based upon estimated installation of 20,000 lb. thrust engines. Previous estimates indicated these engines would not be available until 1957. The USAF now believes they are available at the present time. Analysis leading to a re-estimate is now in progress.

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TABLE 7

ESTIMATED BLOC NAVAL FORCES, MID-1955, MID-1960

MODERN VESSELS [1]

SHIPS \ FLEET / COUNTRY	BALTIC				NORTHERN		BLACK SEA				PACIFIC				TOTALS				BLOC TOTAL	
	U.S.S.R.		Satellites		U.S.S.R.		U.S.S.R.		Satellites		U.S.S.R.		Comm. China		U.S.S.R.		Satellites & Comm. China			
	'55	'60	'55	'60	'55	'60	'55	'60	'55	'60	'55	'60	'55	'60	'55	'60	'55	'60	'55	'60
MAJOR SURFACE VESSELS																				
Capital Ships	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	2
Heavy Cruisers	2	0	0	0	0	0	2	1	0	0	2	2	0	0	6	3	0	0	6	3
Light Cruisers	10	10	0	0	4	4	6	6	0	0	0	0	1	0	20	20[2]	1	0	21	20[2]
Destroyers	46	46	1	0	26	22	23	18	1	1	32	23	2	2	127	109	4	3	131	112
Escort Destroyers	16	33	0	4	4	4	16	31	0	0	20	35	0	0	56	103	0	4	56	107
TOTAL (Major)	74	90	1	4	34	30	47	57	1	1	54	60	3	2	209	237	5	7	214	244
MINOR SURFACE VESSELS (TOTAL)[3]	1,018	1,018	66	140	211	211	215	215	94	94	412	412	166	166	1,856	1,856	326	400	2,182	2,256
SUBMARINES																				
Long Range (new construction)	43	83	0	0	60	169	31	71	0	0	15	120	0	0	149	443	0	0	149	443
Long Range	17	6	0	0	11	0	3	0	0	0	12	1	0	0	43	7	0	0	43	7
Medium Range	10	5	0	0	0	0	5	0	2	0	7	0	0	0	22	5	2	0	24	5
Short Range	33	29	4	4	3	0	14	3	0	0	30	20	2	2	80	52	6	6	86	58
TOTAL (Submarines)	103	123	4	4	74	169	53	74	2	0	64	141	2	2	294	507	8	6	302	513
OVERAGE VESSELS [1]																				
Battleships/Monitors	2	2	0	0	0	0	2	2	0	0	0	0	0	0	4	4	0	0	4	4
Heavy Cruisers	0	2	0	0	0	0	1	2	0	0	0	0	0	0	1	4	0	0	1	4
Light Cruisers	1	1	0	0	0	0	2	2	0	0	0	0	0	1	3	3	0	1	3	4
Destroyers	0	10	0	1	3	7	2	7	4	4	2	11	0	0	7	35	4	5	11	40
TOTAL (Overage Major Vessels)	3	15	0	1	3	7	7	13	4	4	2	11	0	1	15	46	4	6	19	52
Long Range	7	13	0	0	11	16	4	3	0	0	6	14	2	0	28	46	2	0	30	46
Medium Range	4	6	3	1	0	0	3	5	1	2	14	13	0	0	21	24	4	3	25	27
Short Range	11	4	0	0	2	3	10	16	0	0	8	14	0	0	31	37	0	0	31	37
TOTAL (Overage Submarines)	22	23	3	1	13	19	17	24	1	2	28	41	2	0	30	107	6	3	86	110

[1] Modern vessels include surface ships 20 years of age and less (from date of completion), and submarines 14 years of age and less. Overage vessels include surface ships more than 20 years of age, and submarines 15–20 years of age. Submarines are excluded entirely from the estimated future Order of Battle at 20 years, while surface vessels are not excluded because of age. These are included until it becomes apparent that they are no longer fulfilling type assignments, at which time they are assigned to the Miscellaneous Auxiliary (AG) category.

[2] Present indications are that the current cruiser program may be substantially completed with mid-1955 deliveries. No new hulls have yet been laid down, in the Leningrad area at least, for the 1956–1957 program, and information on construction outside the Leningrad area is usually delayed for a considerable period. We estimate that additional cruiser-type vessels will be constructed in the Soviet Union during the period, but until some evidence to confirm this is received, no additional cruisers will be added to the over-all strength figures after 1955.

[3] Construction rates of minor combatant vessels are uncertain and probably will be limited to only slightly more vessels than will be needed to fulfill replacement needs.

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TABLE 8

ESTIMATED PRODUCTION OF MAJOR ARMY WEAPONS 1953–1954
(USSR and US)

ITEM	USSR		TOTAL	US		TOTAL
	1953	1954		1953	1954	
Heavy Tanks (over 50 tons)	700	700	1,400	195	104	299
Medium Tanks (35–50 tons)	3,700	3,700	7,400	7,816	2,956	10,772
Light Tanks	.....	.....	.....	1,123	667	1,780
SP Guns	1,600	1,600	3,200	....	....	....
Artillery Pieces (75 mm & above)	11,300	11,300	22,600	3,042	2,987	6,029

TABLE 9

ESTIMATED POSTWAR PRODUCTION OF AIRCRAFT
(Soviet Bloc and NATO)[1]

ITEM	SOVIET BLOC			NATO		
	1946–51	1952–54	Postwar Total	1946–51	1952–54	Postwar Total
Fighters and Bombers (Units)	28,800	19,050	47,850	18,000	21,935	39,935
Production of Other Aircraft (units)[2]	28,190	11,450	39,640	100,000	29,787	129,787
Total Aircraft Production (million lbs)	311	210	521	329	484	813

[1] BLOC and NATO production combined account for about 95 percent of world production. The major contributions to NATO have been roughly: US, 65–70 percent; UK, 20–25 percent; other, about 10–15 percent. However, the Eastern European share has gradually increased and in 1954 Eastern European production, primarily Czech and Polish, accounted for about 15 percent of the Bloc total. The USSR has accounted for virtually all of the Bloc aircraft production.

[2] Trainers are included in this category.

TABLE 10

ESTIMATED TOTAL USSR NAVAL PRODUCTION, 1955–1960

Major Surface Vessels	1955	1956	1957	1958	1959	1960
Cruisers [1]	0–2	0–2	0–2	0–2	0–2	0–3
Destroyers [2]	2	2–4	2–6	2–8	2–8	2–8
Escort Destroyers	12	10	9	9	9	9
Minor Surface Vessels [3]						
Submarines (Long Range)	75	80	80	40	40	40

[1] Present indications are that the current cruiser program may be substantially completed with mid-1955 deliveries. No new hulls have yet been laid down, in the Leningrad area at least, for the 1956-57 program, and information on construction outside the Leningrad area is usually delayed for a considerable period. We estimate that additional cruiser-type vessels will be constructed in the Soviet Union during the period, but until some evidence to confirm this is received, no additional cruisers will be added to the over-all strength figures (Table 7) after 1955.

[2] This estimate is based upon the assumption that the construction of destroyers/escort destroyers in the future will once again be expanded to the approximate level of activity which was reached during the years 1950–1953.

[3] It is unrealistic to estimate the future building rate of minor surface vessels, but it will be adequate to replace existing units as they become obsolete or are transferred to the Satellites or Chinese Communists. Building activity in the smaller yards is constant and indicates a gradual future build-up of minor surface vessels in the Soviet Navy.

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TABLE 11

ESTIMATED COMPOSITION OF BLOC MERCHANT FLEETS
MID-1955, MID-1960

(Vessels 1000 GRT. and upward
In thousands of gross tons)

	MID-1955						MID-1960					
	Non-Tankers[1]		Tankers		Total		Non-Tankers[1]		Tankers		Total	
	No.	GRT	No.	GRT	No.	GRT	No.	GRT	No.	GRT	No.	GRT
U.S.S.R.	635	2,083	57	266	692	2,349	947	3,037	130	656	1,077	3,693
Satellites (total)	95	357	2	12	97	369	183	731	2	12	185	743
Communist China	101	264	10	14	111	278	141	374	25	57	166	431
BLOC TOTALS	831	2,704	69	292	900	2,996	1,271	4,142	157	725	1,428	4,867

[1] Includes passenger ships, freighters, and miscellaneous types such as crab canneries, fish factories, trawlers, and hydrographic ships.

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