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SOVIET CAPABILITIES AND PROBABLE COURSES OF ACTION THROUGH MID-1959

Submitted by the

DIRECTOR OF CENTRAL INTELLIGENCE

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

Concurred in by the

INTELLIGENCE ADVISORY COMMITTEE

on 14 September 1954. 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; 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 COURSES OF ACTION THROUGH MID-1959

THE PROBLEM

To estimate Soviet capabilities and probable courses of action through mid-1959.

CONCLUSIONS

General

1. We believe that the stability and authority of the Soviet regime will not be significantly affected during the period of this estimate by conflicts for power or differences respecting policy within the ruling group. Any internal conflicts arising out of such developments would probably be resolved within the confines of the ruling group and the higher echelons of the Communist Party and would not lead to civil wars or disturbances of major proportions.

2. The appearance of new leadership in Moscow has had no apparent effect on the character of relations between the USSR and its Satellite states in Eastern Europe. We believe that Soviet authority over the Satellite regimes will remain intact during the period of this estimate.

3. Communist China is more an ally than a Satellite of the USSR. It possesses some capability for independent action, possibly even for action which the USSR might disapprove but which it would find difficult to repudiate. We believe that despite potential sources of friction between the two powers arising from occasional

conflicts of national interests, the cohesive forces in the relationship will be far greater than the divisive forces throughout the period of this estimate.

Economic

4. The *rate* of growth of the Soviet economy has declined in the past five years from the very high rate of the immediate postwar period. We estimate that during the next two years Soviet gross national product (GNP) will increase by about 6 or 7 percent, and in 1956-1959 by about 5 or 6 percent, per year. If US GNP should increase during the period of this estimate at its long-range annual average of 3 percent, Soviet GNP would at the end of the period be about two-fifths of US, as compared with about one-third in 1953.

5. The pattern of resource allocation in the Soviet economy in 1953 showed about 14 percent devoted to defense, 28 percent to investment, and 56 percent to consumption. Current economic programs indicate that for at least the next two years the amount of expenditure on defense, instead of continuing the rapid increase that prevailed in 1950-1952, will

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remain about the same, while expenditure on investment and consumption will increase. We believe the chances are better than even that the Kremlin will continue its policies along these lines throughout the period of this estimate. The chief emphasis will almost certainly continue to be on further development of heavy industry.

6. The chief weakness of the Soviet economy as a whole has been in agricultural production, which has remained since 1950 at approximately the prewar level, though the population is now about 10 percent greater than in 1940. Soviet leaders appear to have recognized that continuation of the serious lag in agriculture would ultimately make it difficult to meet the food requirements of the growing urban population, the raw material requirements of the expanding industrial economy, and the export requirements of Soviet foreign trade, in which agriculture plays a major role. To remedy the situation the regime has embarked on a vigorous program, with the aim of achieving by 1956 a 50 percent increase in agricultural production over 1950. We believe that this goal will not be met, and that even in 1959 agricultural production will be no more than 15 to 20 percent higher than in 1950. Even this increase, however, would be sufficient to achieve a moderate increase in the per capita availability of foodstuffs and textiles.

Military

7. We believe that, generally speaking, the size of Soviet armed forces-in-being will remain approximately constant during the period of this estimate. However, the over-all effectiveness of these forces

will increase, mainly because of the following factors:

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

b. An increase in the number of all-weather fighters and jet medium bombers, and the introduction of jet heavy bombers in 1957;

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

d. An increase in combat effectiveness of Soviet ground forces, primarily due to improved weapons, equipment and organization, and to changes in doctrine and tactics designed to increase their capabilities for nuclear warfare.

8. The principal limitations of Bloc armed forces during the period of this estimate will be: deficiencies in experience, training, and equipment for long-range air operations and air defense; lack of capability to conduct long-range amphibious and naval operations; and the logistic problems, especially for operations in the Far East, arising from the size of Bloc territory and the relatively inadequate road and rail network and merchant fleet. The questionable political reliability of the Satellite armies places a significant limitation upon their military usefulness.

Probable Courses of Action

9. 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 in-

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volve substantial risk of general war.¹ However, the USSR or one of the Bloc countries might take action creating a situation in which the US or its allies, rather than yield an important position, would decide to take counteraction involving substantial risk of general war with the USSR. 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.

10. The progress being made by the USSR in the development of nuclear weapons, and the increasing Soviet capability to deliver these weapons, are changing the world power situation in important respects. Soviet leaders almost certainly

¹ The Assistant Chief of Staff, G-2, and the Director of Intelligence, USAF, believe that the following should be substituted for the first sentence of paragraph 9: "Although the Kremlin will probably try to avoid courses of action and to deter Communist China from courses of action that entail substantial risk of involving the USSR in general war, it may be more willing to support courses of action that would involve risk of a localized war between the US and Communist China. The support given such courses of action would depend largely on Soviet judgment as to the probable outcome of the war. If the Soviet leaders believed that it would result in a severe defeat to Communism, or the full-scale participation of the USSR in general war, they would probably exert pressure on the Chinese to avoid courses of action which would precipitate hostilities. On the other hand, if they estimated that the conflict could be limited to war localized in the Far East, and that it would result in greater relative damage to US strengths than to Communist strengths, they probably would support more adventurous courses of action on the part of the Chinese Communists."

believe that as Soviet nuclear capabilities increase, the unwillingness of the US, and particularly of its allies, to risk general war will correspondingly increase, and that the Kremlin will therefore have greater freedom of action to promote its objectives without running substantial risk of general war. In any case, the USSR will probably be increasingly ready to apply heavy pressure on the non-Communist world upon any signs of major dissension or weakness among the US and its allies. Nevertheless, we believe that the Kremlin will be extremely reluctant to precipitate a contest in which the USSR would expect to be subjected to nuclear attack. The extent to which the Kremlin uses its increasing freedom of action will depend primarily on the determination, strength, and cohesiveness of the non-Communist world.

11. We believe that the USSR will continue to pursue its expansionist objectives and to seek and exploit opportunities for enlarging the area of Communist control. It will be unswerving in its determination to retain the initiative in international affairs and to capitalize on successes in order to keep the Free World on the defensive. For the near term, however, the Kremlin will almost certainly continue to direct its external policies towards the immediate objectives of weakening and disrupting the mutual defense arrangements of non-Communist states, preventing or retarding the rearmament of Germany and Japan, undermining the economic and political stability of non-Communist states, and isolating the US from its allies and associates in Europe and Asia. At the same time it will continue to expand the industrial strength of the Bloc, and to maintain large modern

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forces-in-being as a guarantee of the integrity of the Bloc and as an instrument of intimidation in support of its policies abroad.

12. The Communists will vary the methods used to accomplish the foregoing aims and will time their actions so as to exploit situations that in their judgment offer the most favorable opportunities. For the time being, the Kremlin seems to feel that its foreign objectives will be best served by a generally conciliatory pose in foreign relations, by gestures of "peaceful co-existence" and proposals for mutual security pacts, by tempting proffers of trade, and by playing on the themes of peace and disarmament. The purpose of these tactics is to allay fear in some parts of the non-Communist world, to create the impression that there has been a basic change in Soviet policy, and thereby to destroy the incentive for Western defense and to undermine US policies. At the same time, however, the Communists continue to support and encourage nationalist and anticolonial movements, and to maintain their efforts to subvert governments outside the Bloc. We believe that the Kremlin will revert to more ag-

gressive and threatening conduct whenever it feels that such conduct will bring increased returns. By such varieties and combinations of tactics the Soviet leaders almost certainly consider that they can improve the chances for further Communist strategic advances. We do not believe that such tactics indicate any change in basic Communist objectives, or that they will involve any substantial concessions on the part of the Kremlin.

13. We believe that Southeast Asia offers, in the Communist view, the most favorable opportunities for expansion in the near future. The Communists will attempt to extend their gains in Indochina, and will expand their efforts to intimidate and subvert neighboring countries by political infiltration and covert support of local insurrections. We do not believe that the Communists will attempt to secure their objectives in Southeast Asia by the commitment of identifiable combat units of Chinese Communist armed forces, at least during the early period of this estimate. However, we find the situation in this area so fluid that we are unable to estimate beyond this early period.

DISCUSSION

I. BASIC COMMUNIST OBJECTIVES AND BELIEFS

14. The Communist leaders now in power in the USSR, or any that are likely to succeed them, almost certainly will continue to consider their basic objective to be the consolidation and expansion of their own power, internally and externally. In pursuing this policy most Soviet leaders probably envisage ultimately: (a) the elimination of every world power center capable of competing with the USSR; (b) the spread of Communism to all

parts of the world; and (c) Soviet domination over all other Communist regimes.

15. Soviet leaders probably are also committed to the following propositions concerning the expansion of the power of the USSR:

a. The struggle between the Communist and the non-Communist world is irreconcilable;

b. This struggle may go on for a long time, with periods of strategic retreat possibly intervening before the final Communist triumph;

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c. The struggle will not necessarily involve general war, though general war is always a possibility;

d. During the period of "coexistence of the two camps" of Communism and capitalism, the Communists must steadily build up the economic and military strength of the USSR, its Satellites, and Communist China; and

e. At the same time, the Communists must constantly try to divide and weaken the non-Communist world.

II. SOVIET POLITICAL STRUCTURE AND DOMESTIC DEVELOPMENTS

The Soviet Political System

16. The Soviet political system is a one-party totalitarian dictatorship, and the enforced and absolute primacy of state over individual interest colors and shapes every aspect of Soviet life. The elaborate system of ideological and physical controls is focused on building up state power, on keeping public opinion under tight rein, and on rendering popular discontent impotent. The will of the Kremlin, which finds political expression in the directives of the Communist Party and the Soviet Government, is unfettered by direct popular checks and controls.

17. Political power in the USSR is concentrated in the small group of less than ten men in the Presidium (formerly Politburo) of the Communist Party. This ruling group, now composed mainly of men in their fifties and early sixties with long administrative and party experience, exercises absolute power in the governmental apparatus, the leading organ of which is the Council of Ministers.² It regulates the various bureaucracies through a highly centralized system of multiple and interlocking controls designed to prevent the emergence of independent and competing centers of power. The authority of the ruling group is absolute and rests primarily on the Communist party apparatus, on the police power embodied in the omnipresent internal

² For a chart showing the roles in party and government of the principal Soviet leaders, see Appendix A.

security forces and, in the last resort, on the armed forces.

18. The Communist Party, which now has a membership of nearly seven million, constitutes the most important institution through which the ruling group wields its authority over the Soviet state. The party operates as the main institution of mass persuasion, administrative surveillance, and personnel recruitment in the state. Its chain of command descends through the network of regional and local secretariats and penetrates every stratum of national life. The party controls the police, military, and administrative bureaucracies by assigning party members to key position, by enforcing party doctrines as the official creed for all, and by imposing the will of the party leadership rigidly on all subordinates.

Stability of the Regime

19. Events since Stalin's death do not indicate any essential changes in the institutional bases of Soviet power. The system of party controls over the police, armed forces, and the bureaucracy remains intact. The Beria affair, during which the influence and status of the MVD were reduced, confirmed the effectiveness of party controls within this important instrument of power. Despite the increased prestige granted to certain military career officers since Stalin's death, there is no evidence of any relaxation of party controls over the armed forces.

20. The men who now rule the USSR are the same small group, minus only the former police chief, L. P. Beria, who were Stalin's chief associates. The most powerful leader is probably G. M. Malenkov, Chairman of the Council of Ministers. N. S. Khrushchev, First Secretary of the Communist Party and general manager of the day-to-day business of party administration, has risen rapidly in stature, particularly since the elimination of Beria, and may now be on a level with Malenkov. There has been a strong emphasis on "collective" leadership, and other members of the party Presidium besides Malenkov and Khrushchev appear to have some voice in determining Soviet policy and considerable responsibility

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for supervising its administration. However, the other members of the regime occupy distinctly lower positions of power than Malenkov or Khrushchev, and for the most part specialize in fields of administration for which their experience qualifies them. V. M. Molotov evidently operates mainly in the field of foreign affairs, N. A. Bulganin in military affairs, L. M. Kaganovich in heavy industry and communications, and A. I. Mikoyan in trade.

21. This uneven but relatively fixed balance of power among the members of the ruling group may last for some time, especially if most of the top leaders feel that their interests require its preservation. There is bound to be a tendency for secondary members of the ruling group to rally to the support of the "collective" system in order to protect their position in it whenever any one man begins to make preliminary moves to establish himself as an independent single authority. Now that power has been successfully transferred after Stalin's death and Beria has been efficiently disposed of, the Soviet regime may continue with something comparable to the current *modus operandi* for some time.

22. On the other hand, such a system of "collective" authority in a totalitarian society has inherent elements of instability. Each leader must be under some compulsion as a result of distrust of his colleagues, if not because of his own ambition, to try to build up his own personal power, since only in this way can he be sure of preventing someone else from becoming sole dictator and proceeding to eliminate his principal former colleagues as potential rivals. When certain leaders become especially powerful, as Malenkov and Khrushchev seem to be now, the lesser members of the ruling group are under some pressure to align themselves with one leader or another, and the whole group tends to polarize around potential rivals. The stresses of this situation are likely to be greatest at times of impending transfer of power (as at the time of the death of an outstanding leader), in the event of radical disagreement on crucial policies, or when a basic policy supported by the regime has demonstrably failed and scapegoats are required.

23. If an individual leader should make a bid for absolute supremacy, the crisis probably would be settled within the very top echelons of the regime. One or another of the contending factions would win supremacy in the higher councils of the party, and the unsuccessful contestants would quickly lose the power to continue the struggle. Thus the armed forces and the security police would not be likely to become involved as independent instruments of power in open conflict with one another or with the regime.

24. We believe, therefore, that the present Soviet regime is firmly in power and that it is unlikely to be dislodged either by a grouping of forces outside the top leadership or as the result of a struggle within it. Significant changes may take place in the composition of the ruling group or in the relative power positions of its members; one man may even succeed in gaining absolute power. We believe, however, that the new Soviet regime will be able to resolve such conflicts within the confines of the ruling group and the higher echelons of the Communist Party. Consequently, we believe that whatever conflicts for power or differences respecting policy may develop within the ruling group, they are unlikely to affect significantly the stability of the regime or its authority within the country, or to prevent it from making policy decisions and carrying them out. These policies and their implementation will continue to reflect the fundamental agreement which evidently obtains among the leaders concerning the basic objectives of the Communist regime.

Domestic Policies

25. Although there has been no weakening in the authority of the Soviet regime, there has been an apparent effort to moderate some of the more rigorous aspects of the system devised by Stalin. Since the death of Stalin the regime has promised the people an improvement in their standard of living and increased personal security for average law-abiding citizens. The regime has backed these promises with a variety of measures designed to impress upon the population at large the seriousness of its intentions.

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26. In addition to these measures affecting the population as a whole, the post-Stalin regime has taken steps to broaden its support within particular social groups. The promises of a stricter observance of legality, the granting of greater prestige to certain military leaders, and the according of greater prerogatives to the managerial elite have almost certainly met with favor within the important military, administrative, and intellectual groups. Moreover, in view of their higher earning power and elite status in the Soviet totalitarian system, these elements have the most to gain from the program to increase the output of consumer goods, particularly the relatively high-priced goods which figure most conspicuously in the program.

27. By means of these privileges the regime apparently intends to provide the important social groups in Soviet society with increasing vested interests in the existing order. Insofar as this effort succeeds, the regime as a whole will be stronger than ever before. Despite these measures, however, the regime has neither altered the essentials of the Soviet totalitarian system nor eliminated the fundamental causes of discontent in Soviet society, particularly the low scale of living and the pervasive state control and surveillance.

28. The regime has also undertaken measures to relax somewhat the pressures on the less favored population groups. Although living standards in the cities have improved substantially since the low point of the war and are relatively higher than in the countryside, the lot of the average worker is still plagued by wretched housing, high prices, and scarcities. The present program to raise living standards is modest in relation to the size and needs of the Soviet population, but it will probably be sufficient to achieve a substantial improvement in the living conditions of the urban masses. The regime has also granted economic concessions to the rural population in order to stimulate greater agricultural productivity as well as to mollify peasant discontent. These concessions, which for the first time in Soviet history are greater than those made to the urban population, are still insufficient to remove the basic cause of discon-

tent in the Soviet countryside, which is the system of collectivized agriculture itself. In fact, these concessions have been counter-balanced somewhat by measures to increase the regime's control over the peasants.

29. It is impossible to estimate with certainty the fundamental reasons behind these decisions of the new regime. The transfer of power itself from an old dictator with the habit of arbitrariness to a new generation of leaders may be an important reason. However, we believe it likely that the present Soviet leadership had come to regard certain aspects of past policies as damaging to the morale and productivity of important segments of the population, particularly the peasantry, and therefore as detrimental to the interests of the state. Stalin's successors probably believed that a continuation of some of Stalin's policies threatened to produce a state of apathy which ultimately would have seriously affected the public will to work in time of peace and the potential reliability of the population in time of war. We also believe that the regime's apparently more prudent exercise of its absolute power derives from a conviction that the regime can best attain its objectives in this way, and not from any fear of popular unrest or any reluctance to use force whenever necessary to maintain governmental authority.

30. We believe that the Soviet regime's present efforts to moderate certain aspects of the dictatorship and to raise living standards sprang from a considered revision of the extremes of Stalin's manner of rule and were not merely the temporary concessions of a new regime. We believe that the Soviet leaders recognize that a reversal of this program, except in the event of an external threat or actual war, would result in serious public discontent which would tend to retard the growth of Soviet economic strength. Consequently, these measures will almost certainly be continued for the next two or three years, and possibly throughout the period of this estimate, if the pressure of external or internal circumstances does not require their reversal. The result may well be an improvement of morale, especially among the more privileged elements of the population. However, if the

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concessions made to the peasant population do not achieve sufficient increases in agricultural production, or if they result in renewed resistance to the system of collective farming, the regime will probably resort again to more repressive measures against the peasantry. In this event, the regime might find itself faced with serious problems of low public morale and low productivity.

III. SOVIET-SATELLITE RELATIONS

31. The appearance of new leadership in Moscow has had no apparent effect on the character of the relations between the USSR and its Satellite states in Eastern Europe. We believe that Soviet authority over the Satellite regimes will remain intact during the period of this estimate. Widespread political discontent and serious difficulties in building up the Satellite economies will continue. However, during the next five years the Satellite contribution to Soviet power will gradually increase. Soviet control will continue to depend primarily on the presence or proximity of Soviet armed forces, and in the absence of general war popular dissatisfaction almost certainly will not develop beyond the stage of passive resistance and occasional localized outbreaks of violence.

IV. SINO-SOVIET RELATIONS

32. The relations of the USSR with Communist China are markedly different from those prevailing between the USSR and any other Communist country. Communist China is more a Soviet ally than a satellite. It possesses some capability for independent action, possibly even for action which the USSR might disapprove but which it would find difficult to repudiate. However, the main outlines of Communist policy in Asia are probably jointly determined by Moscow and Peiping. While the Soviet voice probably will remain preponderant, Communist China appears to be increasing its stature within the Sino-Soviet partnership. Soviet propaganda and diplomacy have recently given great emphasis to China's claim to an acknowledged position in international affairs, and the USSR has given evidence of a willingness to have Communist China assume greater responsibilities in fur-

thering Communist interests in Asia. In particular, Communist China seems to have an increasingly important role in the execution of Communist policy in North Korea and Indochina.

33. The national interests of the USSR and Communist China are in some cases conflicting, and constitute potential sources of friction between the two powers. We believe, however, that throughout the period of this estimate the cohesive forces in the Sino-Soviet relationship will be far greater than the divisive forces. The USSR and Communist China share a common ideology. Both of them regard the US as the chief obstacle to the achievement of their objectives, and consider that their interests are threatened by US policy and power. Moreover, each partner profits at the present time from its alliance with the other. Communist China receives essential Soviet political, military, and economic support. Soviet leaders recognize in China a valuable ally, which provides the USSR not only military strength and defense in depth in the Far East, but also a base for further advancing Communist aims in Asia.

V. SOVIET ECONOMIC POLICY

34. Over the past 25 years the USSR has been transformed from an industrially backward, predominantly agrarian nation into an industrial and military power second only to the US. By socialization of industry and collectivization of agriculture, the Soviet regime obtained complete control over the economy and dictated a sustained policy of maximum industrial expansion, the main features of which have been large investments in heavy industry, high levels of military production, and severe restriction of consumption. Consumption has accounted for a generally declining proportion of total output. The result has been an economic structure heavily weighted in favor of the maintenance of a rapid growth in basic industrial and military potential, but poorly equipped to meet the needs of consumers.

35. The relatively narrow, though steadily expanding, base of primary industrial materials and the competing claims for resources in-

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volved in industrial expansion and military preparedness have required a rigid system of priorities in the allocation of resources. In fixing the order of priorities, agriculture, consumer goods, housing, and domestic trade have been regarded as subordinate to heavy industry. Consequently, in its drive to reach industrial parity with the US, the Soviet regime has neglected certain economic sectors which are vital for future development of the economy as a whole.

36. Since manpower and plant capacity have in general been fully used in the Soviet economy, military production has competed with investment and consumption for scarce resources. In the period 1937-1940 and again, to a certain extent, after 1950, sharp increases in military production were accompanied by a decline in the rates of growth of investment and consumption. In the post-1950 period the slowing of growth was far more pronounced in consumption than in investment. The new Soviet leadership still faces the problem of allocating limited resources among the competing claims of industrial expansion, military strength, and consumption.

37. The present regime in the USSR has not fundamentally changed the traditional policy of placing primary emphasis on the rapid development of heavy industry and war potential. The new regime has, however, devoted a great deal of its attention and energies to a revision of current economic plans aimed at speeding up the production of agricultural commodities, especially foodstuffs, and manufactured consumer goods. Soviet leaders have stated that this goal is to be achieved without decreasing the tempo of heavy industrial development, but they apparently intend, at least for the next two years, to limit defense outlays to approximately the high level reached in 1952 and maintained in 1953. This modification of Soviet economic programs is designed to overcome deficiencies in certain sectors of the economy, particularly agriculture.

38. In terms of resources allocated, Soviet agriculture is the principal beneficiary of the current program to raise consumption levels

in the USSR. The great air of urgency with which the Soviet leaders are attacking the agricultural problem indicates their belief that expansion of agriculture is essential for the future development of the Soviet economy. The Soviet leaders appear to have recognized that continuation of the serious lag in agriculture would ultimately make it difficult to meet the food requirements of the growing urban population, the raw material requirements of the expanding industrial economy, and the export requirements of Soviet foreign trade, in which agriculture plays a major role.

39. We believe that Soviet economic policy will continue, at least through 1955, to place primary emphasis on the further growth of heavy industry, while maintaining defense outlays at approximately a constant level, and giving increased attention and resources to agriculture and consumer industries. Since advances in consumption are likely to fall far short of expectations, the chances are good that the regime will feel it necessary to continue the pattern of resource allocations along present lines through 1959. However, if at any time the Kremlin estimates that international tension is rising dangerously, then it will almost certainly increase defense allocations.

VI. SOVIET ECONOMIC GROWTH³

40. The USSR reached approximately prewar levels of output in 1948 and has steadily expanded in nearly every field since that time. The *rate* of growth of the Soviet economy, however, has declined in the past five years.

³ 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 very rough way) 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 evidence available makes calculation and interpretation especially difficult. For these reasons the 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 trends in the Soviet economy.

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From 1948 through 1950 Soviet gross national product (GNP) increased at an average annual rate of approximately 10 or 11 percent, but this rate fell off rapidly thereafter. The unusually high rate of growth through 1950 and the slower rate of growth thereafter were due to several factors, chief among which were: (a) during the earlier period the Soviet economy was still being reconstructed and hence capacity was brought into operation by comparatively little investment; (b) average growing conditions in agriculture were more favorable in 1949 and 1950 than in 1951 and 1953; and (c) the nonagricultural labor force grew less rapidly after 1950 than in the 1948-1950 period. In addition, the rate of growth of Soviet GNP in 1953 was reduced as a result of the adjustments required by the revisions of economic plans introduced in that year.

41. We estimate that in the next two years the rate of growth of the Soviet economy will be about 6 or 7 percent per annum and in the period 1956-1959 about 5 or 6 percent per annum. The higher rate of growth in the next two years is expected to result from the resumption of a high rate of increase in total investment, including additional investment in the traditionally lagging sectors of the economy — agriculture and consumer goods industries. On the other hand, the rate of growth in the period 1956-1959 will be somewhat retarded, due mainly to a decline in the rate of growth of industrial production.⁴ Even so, the estimated average annual growth rate for the entire period 1953-1959 will be nearly double the long-range average annual increase in GNP of the US economy of 3 percent, and substantially above the annual increase of just over 4 percent which the US economy has shown in the 1948-1953 period. If US GNP should continue to increase at a rate of 3 percent per year during the period of this estimate, then the ratio of Soviet to US GNP would increase from about one-third in 1953 to about two-fifths in 1959.

⁴For a discussion of the factors which will work to reduce the rate of growth in industrial production see paragraph 61.

42. Changes in the composition of Soviet GNP will continue to reflect the basic trends in Soviet economic policy. The pattern of Soviet GNP in the period 1948-1952 was marked by a rising trend in the proportions devoted to defense and investment, and a declining trend in the proportion devoted to consumption. Economic programs as modified in 1953 indicate that for at least the next two years the trends in the major sectors of Soviet GNP will be as follows: (a) defense, which in 1953 accounted for about 14 percent, will have a slightly declining share; (b) investment, which in 1953 constituted about 28 percent, will show a slightly rising percentage; and (c) consumption, which in 1953 accounted for about 56 percent, will remain at about the same level, or may increase very slightly, instead of continuing the decline of previous years. In absolute terms, over the period from the end of 1953 to mid-1956, we estimate that defense outlays will remain about the same, investment will increase about 24 percent and consumption about 21 percent. Per capita consumption by mid-1956 will thus increase by about 14 percent.

43. If the present pattern of resource allocation in the USSR continues substantially unchanged throughout the entire period of this estimate, then, in absolute terms, consumption for the year 1959 will be about 43 percent greater than for the year 1953 (about 30 percent greater per capita) and total investment about 59 percent greater, with defense expenditures remaining unchanged or slightly increased. We believe the chances are better than even that the Kremlin will continue its economic policy through 1959 along these lines, assuming no marked changes in the world situation. It will always be possible, however, for the Kremlin to make substantial changes in its policy for the allocation of economic resources, favoring one sector of the economy at the expense of others. The Kremlin could, for example, very substantially increase its annual defense expenditures while continuing to achieve an absolute increase in consumption, though this increase would under such circumstances be substantially less than that estimated above.

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VII. MAJOR FACTORS AFFECTING SOVIET ECONOMIC DEVELOPMENT

Population

44. By 1949 the Soviet population reached 196 million and was roughly the same as in the same territory in 1940, the natural increase having made up for war losses. Since 1949 population has increased annually by about one and a half percent, representing a net addition of somewhat over 3 million persons per year and resulting in a present (mid-1954) population of nearly 216 million, of which over 60 percent is rural. The population will continue to grow at a somewhat declining rate during the entire period of this estimate, reaching an estimated total of 223 million in mid-1956 and 236 million in mid-1959. Over the long run, the gradual redress of the sex balance, which presently shows an acute shortage of males, may reverse the present decline in crude rates of natural increase.⁵

45. The age-sex composition of the Soviet population will change appreciably during the period of this estimate. During 1954-1956 the number of males available for new military classes should increase somewhat over those available in the preceding three years because of the entry into the military age group of several classes unaffected by losses during the period of agricultural collectivization. The male population of military age (15-49) will probably increase in these years as a result of these new entries and because of the movement out of this group of a male population decimated by World War II. Between 1956 and 1960, however, the number of males available for new military classes and the number of new workers entering the labor force will increase more slowly than in the previous five years because of the low birth rate during World War II.

Labor Force

46. The Soviet civilian labor force has expanded rapidly throughout the postwar period. The total labor force has increased

⁵ For a population map of the USSR, showing ethnic groups, see Appendix E.

by over 10 million since 1948, bringing total employment (excluding forced laborers) to about 95 million at the present time (mid-1954). In line with past trends, nearly all of the net addition to the labor force went into nonagricultural employment, which now accounts for about 43 million workers. This development reflects the traditional Soviet policy of drawing on the rural population to fill the growing manpower requirements of industry, as well as the successful retention in the urban labor force of large numbers of collective farmers who had been recruited originally for temporary work during the war.

47. The rapid increase in nonagricultural employment has aggravated several major problems facing the regime. On the one hand, the influx of labor into nonagricultural employment has been consistently well above planned levels throughout the postwar period, thus worsening the already severe housing shortage in Soviet cities. On the other hand, the growing disparity between urban and rural living standards after 1948 induced many collective farmers, especially males, to seek nonagricultural employment. This increased the shortage of adult males, particularly specialists, in the agricultural labor force, with resultant adverse effects on agricultural production. Thus, contrary to official Soviet plans, which implied an increase in the agricultural labor force through 1955, the manpower position of Soviet agriculture appears to have deteriorated somewhat between 1950 and 1953. Consequently, the regime was compelled to direct skilled labor back to the countryside in 1953-1954.

48. The nonagricultural labor force will grow much less rapidly during the period of this estimate than in the preceding five years as the result of several factors, the most important of which are: (a) the new agricultural measures will require a larger increase in the agricultural than in the nonagricultural labor force in 1954-1956, thus reversing temporarily the long-established trend; (b) the amount of labor transferred from rural to urban work will be limited by the availability of housing in urban areas; and (c) the low birth rate during World War II will reduce the number

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of new entries into the labor force after 1956. New entries into the labor force are expected to decline from an estimated annual average of almost one and a half million for 1953-1956 to less than one million per year for the remainder of the decade. The decline in the growth of the nonagricultural labor force will tend to reduce the average annual growth rate of industrial output even if no additional manpower is directed into agriculture after 1956.

TABLE I

Crude Composition of Soviet Labor Force, Mid-1954 - Mid-1959 (in millions)			
Category	Mid-1954	Mid-1956	Mid-1959
Agricultural labor	52.5	54.5	54.0
Nonagricultural labor	42.5	43.9	46.0
Total	95.0	98.4	100.0

Scale of Living

49. The scale of living of the Soviet population as a whole has risen steadily since the end of the war, and in certain respects the living scale of large segments of the urban population is somewhat higher now than in the immediate prewar period. The increase in supply of consumer goods to urban areas, although far greater for manufactured items than for foodstuffs, has been principally responsible for the rise in per capita availabilities in the postwar period. Moreover, since 1948 there has been a steady rise in the per capita real income of the urban population as a result primarily of successive annual price reductions. By 1953 urban per capita real income probably exceeded the 1937 level by some 20 percent, but was still somewhat below the 1928 level. On the other hand, postwar construction and restoration of housing, despite a rise to 17 percent of total investment as compared with the prewar 9 percent, has still barely kept pace with the growth of the urban population, now totalling more than 80 million. Per capita urban dwelling space is still only about equal to the miserably low prewar level.

50. The gains made by urban consumers in the postwar period have not been matched in

the Soviet countryside, which contains more than half the Soviet population. Oppressive agricultural taxation and procurement policies have allowed the regime to collect an increasing share of agricultural products for urban markets, even though agricultural production did not rise appreciably between the prewar and postwar periods and actually declined in several categories of foodstuffs. These policies depressed the position of the rural population and contributed to the deterioration in the quality and size of the agricultural labor force.

51. The current program to increase the supply of consumer goods and agricultural products generally represents a more concrete and far-reaching approach to the problem of living standards than others put forward by the regime in the past. Although some of the production goals appear unrealistic, particularly those dependent upon sharp increases in agricultural production, the output of most consumer goods will probably expand sufficiently during the period of this estimate to provide a significant increase in per capita consumption. The emphasis in the program on manufactured items and higher quality consumer durables makes it clear that the urban consumer, in particular the higher income groups, will get a substantial share of these gains. On the other hand, the measures that the regime has adopted toward the rural population indicate that a serious effort is also being made to raise living conditions in the countryside. The general improvement in the material welfare of the population will still leave the scale of living in the USSR by the end of the period far below that of most countries of Western Europe. Nevertheless, both the better living conditions and the hope of further improvements will probably tend to generate some improvement in morale among the masses.

52. Allocations for urban housing construction have been increased since Stalin's death and will probably continue to increase during the period of this estimate. Achievements thus far have fallen short of plans, but some gains have been registered, and we believe that there will be a moderate increase in per

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capita availability of housing in the USSR by mid-1956. Nevertheless, Soviet housing will still be extremely poor by Western standards.

Labor Productivity and Industrial Efficiency

53. The rapid expansion of the Soviet industrial base over the past quarter century has been accompanied by large increases in industrial labor productivity, reflecting primarily rapid technological progress and large investment in plant and equipment. Immediately after World War II productivity increased with particular rapidity because of the return to operation of unused and damaged plant. Thereafter, according to official Soviet statistics, annual increases in industrial labor productivity declined sharply from 15 percent in 1948 to 6 percent in 1953. This slower rate of increase in recent years has caused the Soviet leaders concern, probably because of their intense desire to close rapidly the large gap in productive power which still exists between their economy and that of the West.

54. The present regime has therefore placed great stress on measures to increase labor productivity and to reduce inefficiency in the Soviet economy. Most important in this connection are the efforts of the regime to improve living conditions and to provide greater incentives for the working population. In addition, a series of organizational and administrative changes designed to increase managerial efficiency have been undertaken. The powers of industrial ministries and their subordinate organs over resource utilization have been increased, and greater responsibility has been given to local management. These measures were probably intended to increase managerial initiative and efficiency at both central and local levels without actually relinquishing Moscow's over-all control of the Soviet economy. We believe it probable that the effect of all these measures taken together will be to tend to arrest the decline in the rate of increase of labor productivity.

Raw Material Supply⁶

55. The USSR has nearly all the natural resources required to develop further its already

strong and modern industrial economy. In general, the production of metals and minerals has been adequate to promote rapid industrial growth and also to permit the accumulation of substantial stockpiles. Some items (e.g., industrial diamonds, natural rubber) are lacking or in short supply within the Bloc, but so far the USSR has been able to acquire sufficient quantities through foreign trade. The natural resource base will not place serious limitations upon the rate of development of the Soviet economy during the period of this estimate, but to support a continued rapid rate of industrial expansion over the long run, increasingly heavier investments in the development of the basic materials industries will have to be made.

Energy Base⁷

56. The production of fuel and energy (coal, petroleum, and electricity) has grown rapidly in the postwar period, reaching at least double prewar output in 1953. Coal production, which is by far the major source of fuel and power in the USSR, will continue to maintain a high rate of growth during the period of this estimate. Crude oil production has already almost reached the goal set by Stalin for 1960 and, together with refining capacity, will almost certainly be adequate to meet expanding domestic requirements and to permit increased exports. The high priority accorded to electric power production will probably lead to growth rates in this sector substantially higher than those prevailing in industry as a whole. Reserves of coal, crude oil, and hydro-power are adequate to meet the expanding needs of the economy.

Transportation

57. The existing and contemplated network and facilities of the Soviet land transportation system will almost certainly be adequate to support the requirements of the economy dur-

⁶ For graphs showing trends in the USSR's production of selected industrial raw materials, see Appendix B, Figures 1 and 2.

⁷ For graph showing trends in the USSR's energy production and transport, see Appendix B, Figure 3.

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ing the period of this estimate. About 85 percent of total freight transported in the USSR is now carried by rail. This proportion will probably not change appreciably during the period of this estimate, despite long-range Soviet intentions to increase the proportion carried by other means. The Soviet Bloc merchant fleet, although some 68 percent obsolete or obsolescent by Western standards, is currently large enough to supply domestic needs, but is inadequate to meet the demands of both domestic and international trade simultaneously. Although the Soviet merchant fleet is scheduled to expand as the result of new construction, primarily in foreign yards, the USSR will continue to rely heavily on non-Communist shipping for international trade with non-Bloc areas. The Bloc now employs a monthly average of 1,500,000-2,000,000 gross registered tons of Western shipping, representing about 500 vessels, of which a monthly average of about 120 vessels aggregating some 700,000 gross registered tons are estimated to be engaged in Communist China's foreign and coastal trade. Expansion of cargo movements will depend more on the continued availability of Western vessels, on improved operating efficiencies, and on availability of repairs, mostly in foreign shipyards, than on expansion of the fleet.⁸

Stockpiling

58. The USSR operates a stockpiling program which is independent of normal inventory channels and includes a wide range of industrial and agricultural raw materials, manufactured products, and equipment. This program is designed to serve the operational and strategic requirements of the Soviet economy in both war and peace. The highly centralized control system protects stockpiles from dissipation in normal economic operations and insures their immediate availability to the state in a number of contingencies including wartime disruption of the economy, natural calamities like droughts and floods, economic interruptions arising from planning failures and transport breakdowns, and plan changes.

⁸ For numbers and tonnage of ships in Bloc merchant fleets, see Appendix D, Table 10.

Although the levels of Soviet stockpiles are not known, the current Five Year Plan called for the doubling of food and material stockpiles in 1955 over 1950. The change in economic plans in 1953, which provided for increased distribution of consumer goods, appears to have occasioned substantial releases of foodstuffs from stockpiles. It is not clear whether these releases affected the original plan goals for stockpiling, although the current efforts to extend grain cultivation in marginal areas of the USSR probably reflect the regime's concern over present levels of food stockpiles.

VIII. DEVELOPMENTS IN SOVIET INDUSTRY

Capital Goods Production⁹

59. The distinguishing feature of Soviet Five Year Plans has been the emphasis placed on the heavy industries producing capital goods. During the entire period of forced industrialization investment policy favored building up the capacity to produce capital goods. Capital goods output (excluding production of military end-items) now represents about one-half of total industrial output and its rate of growth has been consistently higher than that of GNP.

60. The addition of new lines of emphasis in the economy has not affected the primary focus of Soviet economic policy on building up the base of heavy industry. Official declarations and current programs emphasize that goals for the most important capital goods in the 1950-1955 Plan have not been reduced by the new program to raise consumption. The revised goals for consumer goods and agriculture and the magnitude of the supporting investment programs are not on such a scale as to involve a diversion of resources sufficient to interrupt the trend since 1928 toward continuous rapid expansion of heavy industry.

61. Nevertheless, Soviet heavy industry will advance at a slower pace during the period of this estimate than in the previous five years.

⁹ For graph showing trends in the USSR's production of selected capital goods items, see Appendix B, Figure 4.

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We estimate that in the next two years the rate of growth of heavy industry will be about 11-12 percent per annum and that in the period 1956-1959 it will decline to about 8-9 percent per annum. These projections are based on: (a) the assumption that military allocations will remain substantially the same; (b) an anticipated decline in the supply of new labor after 1956; and (c) the probability that a somewhat larger share of total investment will be devoted in the next few years to agriculture, and perhaps also to housing.

Consumer Goods Production¹⁰

62. The production of consumer goods in the postwar period has been largely conditioned by trends in Soviet agriculture and in military production. Restoration of the prewar level of consumer goods output was retarded by the slow recovery of agriculture immediately after the war. However, with the aid of good crop years in 1949 and 1950, the production of consumer goods made rapid gains, reaching the prewar level in 1951. Thereafter, gains were much smaller, chiefly because of the diversion of resources from the consumer industries to military production and the slow progress of agriculture.

63. In 1953 the Soviet leaders promised to increase substantially the volume of consumer goods available to the population. The commodities emphasized in the official pronouncements were mainly foodstuffs (raw and processed), textiles, and consumer durables (mostly home furnishings). Subsequently it appeared that only moderate increases over original plan levels were scheduled for basic foodstuffs, textiles, and footwear, the production of which is limited by the supply of agricultural raw materials. Much larger increases are planned for consumer durables, which have traditionally been produced in small quantities.

64. The regime has initiated a series of measures to achieve the revised consumption goals. Planned investment in the light and food industries and in the trade network has been doubled in 1954 over 1953. The heavy indus-

¹⁰ Includes processed foods.

tries, which have customarily produced consumer durables as sidelines, have been directed to increase their production of these commodities. Moreover, in 1953 the regime made substantial releases of foodstuffs from stockpiles and increased imports of consumer goods from outside the Bloc.

65. Many of the production goals for consumer goods, particularly durable items, are not greatly out of line with previous achievements. Since production of consumer durables has been low, it can be rapidly expanded by limited increases in investment and modest diversions of plant capacities. The program in general, however, will be impeded by shortages of agricultural raw materials. If current Soviet economic policies continue through 1959, we estimate that production of consumer goods will increase at an average annual rate of about 9 percent during the next two years—considerably short of planned goals—and about 6 to 7 percent during the latter part of the period.

Military Goods Production¹¹

66. Despite the reconversion of Soviet industry after World War II, defense production, as measured by budgetary allotments to defense, remained well above prewar levels. We estimate that beginning in 1949, expenditures on production of military end-items rose at an accelerating rate and increased about 50 percent between 1959 and 1952. When Soviet expenditures levelled off in 1953, they were, as measured in constant ruble values, approximately double those for 1940 and roughly two-thirds those for 1944, the peak year of World War II expenditures. In the interim, however, the increasing complexity of weapons resulted in higher unit costs and consequently in procurement of fewer items for equivalent expenditure. The USSR now produces, in value terms, more than 95 percent of the Bloc's military end-items.

67. We believe that if the current measures to raise consumption are carried out as planned,

¹¹ For graph showing trends in the USSR's production of selected military end-items, see Appendix B, Figure 5.

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and if planned goals for investment in heavy industry are fulfilled, Soviet defense expenditures will have to be limited approximately to present levels, at least through 1955. Judging by the pattern of budgetary allotments, annual military expenditures for 1954-1955 will in fact be approximately the same as for 1952-1953. The Soviet leaders probably recognize that their economy is unable to support the additional heavy investment outlays in industry and the increased requirements of the agricultural and consumer goods program, while simultaneously maintaining such a rapid rate of increase in the production of conventional military goods as prevailed in the Korean War period. Moreover, maintenance of a constant level of military expenditures would not imply any slackening in the Soviet program in the field of unconventional weapons. It is possible, despite the absence of direct evidence, that the USSR will maintain conventional military production at somewhat lower levels for at least the next few years, but will give increased emphasis to the development of unconventional weapons and new weapons systems.

IX. DEVELOPMENTS IN SOVIET AGRICULTURE ¹²

68. The growth of Soviet agricultural production, particularly of basic foodstuffs, has lagged consistently behind the growth of Soviet industry throughout the postwar period. During the early postwar period, when agriculture was recovering from war damage, gains were fairly easy to attain, but since 1950 agricultural production has remained at approximately the prewar level, although the population is now about 10 percent higher than in 1940. The inability of Soviet agriculture to advance over prewar levels in the production of foodstuffs has been due to several factors, chief among which were: (a) taxation and procurement policies which deprived broad segments of the rural population of incentives for greater production; (b) inadequate capital investment, particularly during

¹² For graph showing trends in the USSR's production of selected agricultural commodities, see Appendix B, Figure 6.

1950-1952 when the Korean War caused a diversion of resources to military production; (c) loss of adult males, particularly the skilled, to other branches of the economy; and (d) temporary disruption accompanying the amalgamation of collective farms.

69. In response to this situation, the post-Stalin regime has embarked on a program to strengthen what it now admits to be a weak link in the Soviet economy. The regime is attempting to increase agricultural output by: (a) providing greater incentives to the peasant population in the form of goods and payments; (b) channeling greater state investment to agriculture (75 percent more in 1954 than in 1953) in the form of mechanical draft power, machinery, fertilizer, and building materials; (c) providing the farms with a greater supply of labor and of qualified technicians; (d) improving farm organization and practices; and (e) bringing under cultivation vast areas of semiarid virgin land, particularly in Kazakhstan and neighboring areas. This program is designed to rectify some of the more pronounced shortcomings of previous agricultural policies, while leaving basically intact the collectivized system of Soviet agriculture.

70. In view of the Kremlin's public commitments to increase agricultural production, we believe that the Soviet regime will almost certainly continue the new program through 1955. Moreover, since the goals now set are unlikely to be achieved by 1956, the regime will probably continue the present program through 1959. However, the magnitude of resources allocated to agriculture will be determined by the Kremlin's estimate of its immediate strategic requirements, particularly by the amount of resources the regime feels it necessary to allocate to the military establishment.

71. The response of the peasant population to the new program will be an important factor in determining the degree of its success. In attempting to stimulate the cooperation of the peasant population, the Soviet regime faces serious problems. On the one hand, present concessions to the peasants may not provide sufficient incentives to bring about appreci-

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ably increased production, while further concessions might be considered by the regime as too costly or as politically inadvisable. On the other hand, greater reliance on discipline and coercion would tend to restore the conditions which the current program was intended to remedy and would probably result in another period of passive peasant resistance, with adverse consequences on agricultural production.

72. The expansion of cultivation in the semiarid steppe regions places an additional strain on agricultural resources which may affect unfavorably the implementation of other goals. We believe that the planned goal of an additional 18 to 20 million metric tons of grain annually from the newly reclaimed land is most unlikely of achievement except under unusually favorable weather conditions, and that a yearly average of some 6 to 10 million metric tons, with wide annual fluctuations, is more likely during the period of this estimate.

73. On balance, taking into account the program for both old and new lands, we believe that agricultural production is unlikely (assuming average weather) to increase by more than about 3 percent annually during the period 1954-1959, making a total increase of 15 to 20 percent for the whole period 1950-1959 as contrasted with the Five Year Plan goal of about a 50 percent increase for the period 1950-1955. However, even the 15 to 20 percent increase would be large enough to achieve a moderate rise in the per capita availability of foodstuffs and textiles.

X. DEVELOPMENTS IN SOVIET FOREIGN TRADE

Trade Within the Bloc

74. The most important development in Soviet foreign trade since the end of the war has been the extension of the basic Soviet policy of autarky to cover the area of the Bloc as a whole. As a result, Soviet trade with other Bloc states has steadily expanded and by 1953 accounted for roughly 85 percent of total Soviet foreign trade.¹³ The USSR is the largest

trading partner of the other Bloc states, accounting for at least 25 percent of each state's trade turnover. In three cases — Bulgaria, Communist China, and Rumania — Soviet trade in 1952 represented more than half of the total. On the other hand, with the exception of Communist China, no one Bloc state accounts for more than 20 percent of Soviet trade turnover. This situation has made it much easier for the USSR to exert control over the economies of the various Bloc states.

75. This vast reorientation of the trade of Bloc countries has been the decisive factor in the postwar decline in East-West trade.¹⁴ The Soviet-style programs of rapid industrialization in the European Satellites have greatly increased requirements within the Bloc for those industrial and agricultural raw materials which formed a large part of Eastern Europe's traditional exports to the West. It is unlikely that any short-term expansion in the volume of trade between the Bloc and the West will alter the basic postwar trend toward greater trade and closer economic ties between the Soviet and the Satellite economies.

76. Sino-Soviet trade has increased appreciably in the last four years, reaching almost one-quarter of total Soviet trade turnover in 1953. The USSR will probably export an increasing volume of capital goods and technical services to Communist China, partly in connection with the announced Soviet intention to assist the Chinese in constructing and equipping 91 new industrial installations and 50 installations already under construction. Military equipment will probably continue to constitute a considerable share of Soviet exports to Communist China. However, the USSR probably will not grant substantial further credits to Communist China, like the \$300,000,000 provided in the 1950-1954 agreement. The USSR will probably insist on the financing of this trade, except possibly for some military items, through current exports to the USSR and European Satellites. Communist China's exports of agricultural prod-

¹³ For trends in Soviet foreign trade, see Appendix B, Figure 7.

¹⁴ As used here, the term "West" includes all countries outside the Soviet Bloc.

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ucts and industrial raw materials to the USSR will contribute toward strengthening the economic base of the Soviet Far East.

Soviet Trade Outside the Bloc

77. Soviet trade with the non-Communist world, as a result of the USSR's basic policy of autarky, has followed a long-run downward trend and reached its lowest point in 1950. In 1951-1952, however, the volume of Soviet trade with the West increased in response to the increase in world demand for raw materials and foodstuffs. In 1953, Soviet trade with the West again declined, and the USSR was faced temporarily with an unfavorable trade balance, largely due to a sharp decline in Soviet exports of grain. In order to finance even its small import program, the regime found it necessary late in 1953 to expand its sales of gold, and to sell increased quantities of precious metals and petroleum to the non-Communist world.

78. Despite the long period of rapid industrialization, the commodity pattern of Soviet trade with the West remains virtually unchanged. Grain, timber, and furs remain the principal export items, although the USSR has attempted to substitute such industrial raw materials as petroleum and manganese for grain in its more recent trade agreements. Capital equipment, merchant vessels, and industrial raw materials have in the past constituted the bulk of Soviet imports from the West, although the USSR has recently contracted to purchase increased quantities of foodstuffs and manufactured consumer goods for delivery during 1954 and 1955. As in the past, there will probably continue to be spot increases in imports of selected consumer goods, but the composition of total Soviet trade will probably retain through 1959 the traditional relationship between capital and consumer goods.

79. The outlook for an expansion of Soviet trade with the West depends on a number of factors. Even if Western export controls are further relaxed the Bloc's policy of autarky will almost certainly continue to prevent any large or lasting expansion in East-West trade. Nevertheless, the record number of trade

agreements concluded by the regime in 1953 points to an increase in Soviet trade in 1954 and 1955 in both old and new markets. Soviet officials have stated that the USSR could increase 1953 trade turnover with the West, estimated at about \$800,000,000, by almost four times in 1954. Such an increase, however, would place a tremendous burden on the small number of exporting sectors of the Soviet economy and would also require a major change in Soviet trade policy. To date there is no evidence that such a change is taking place or is likely to take place. Moreover, the Bloc would encounter considerable difficulties, under normal economic conditions, in finding markets in Western countries for substantially increased amounts of its usual exports. In the light of all these factors, we believe that, even if the Soviet leaders are willing to expand trade appreciably, the probable maximum of Soviet trade with the non-Communist world for this period would probably be in the neighborhood of \$1,600,000,000 annually.

80. An additional and exceptional factor — the level of Bloc gold sales abroad — might bring about a rise over current levels of East-West trade during the period of this estimate. The Bloc will probably continue to use gold to pay for an excess of imports. In recent years Bloc gold sales have run at an estimated annual rate of \$60,000,000 to \$80,000,000; in 1953, however, these sales reached about \$150,000,000 and apparently continued at a high rate during early 1954. At this rate receipts from gold sales enabled the USSR to finance over one-third of its 1953 commodity imports from the West. It appears that the increased gold sales were occasioned by balance of payments considerations and especially by a shortage of sterling within the Bloc. If the Bloc should decide to increase its gold sales abroad in order to obtain desired imports, then it has available gold reserves estimated at \$3,000,000,000 to \$5,000,000,000 and a current production variously estimated at from \$200,000,000 to \$350,000,000 annually. We believe it unlikely that the Bloc would use any substantial portion of its gold reserves to raise the level of its imports during the period of this estimate.

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XI. SCIENTIFIC AND TECHNICAL DEVELOPMENTS

81. Soviet scientific and technical capabilities have increased rapidly since World War II, and we believe that they will continue to increase throughout the period of this estimate. The USSR has given science and technology a high priority, emphasizing particularly their contributions to basic industry and military capabilities. This emphasis will probably continue during this period, although increased attention may be given to the application of science to agriculture, health, and light industry so long as current programs for raising standards of living continue.

82. Soviet scientific and technological capabilities are sufficiently well developed to provide effective support to industrial and military research and development. At present, the scientific assets of the USSR (the number and quality of trained personnel, facilities, equipment, and financial support) are smaller than those of the US, and the assets of the Soviet Bloc are far smaller than those of the West. 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. The USSR provides the bulk of Bloc scientific assets, but East Germany and Czechoslovakia, and to a lesser extent Poland and Hungary, contribute a substantial increment. Communist China is unlikely to add significantly to Bloc scientific assets prior to 1960.

83. The USSR has a large number of organizations, laboratories, institutes, etc., engaged in research in all fields of science. Administration, control, and facilities appear in general to be sufficient for effective utilization of Soviet scientific talent. 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 industrial instruments for plant operations and control. Complex research instruments and equipment are probably less readily available in the USSR than in the US or the UK. Consequently,

some specialized research projects of low priority are probably delayed longer than similar projects would be delayed in the Western nations, but we believe that high priority projects are not hindered by lack of adequate equipment or facilities.

84. 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 is decidedly below that of the US, but during this period, in view of the probable greater emphasis upon agricultural development, this deficiency is likely to be reduced.

85. Nearly 1,400,000 Soviet citizens have scientific or technical degrees from colleges and universities, of whom about 500,000 graduated in the postwar years.¹⁵ The number of university or technical institute graduates employed in the scientific-technical field in the USSR (1,035,000) compares closely with that in the US. It is estimated that 155,000 Soviet scientists are engaged in advanced research or teaching at higher level institutions in the USSR, compared to about 240,000 so engaged in the US. At this level, considering physical sciences alone, the USSR has 75,000 scientists, of whom 50,000 are estimated to be engaged exclusively in research. In the US, there are about 185,000 physical scientists in higher level institutions, and about 150,000 are engaged exclusively in research.

86. During 1954 and 1955 the USSR will probably graduate about 225,000 students of science, including about 140,000 in the physical sciences and engineering, as compared with 135,000 graduates, including 65,000 in the physical sciences and engineering, in the US. We believe that during the period of this esti-

¹⁵ 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 Appendix C.

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mate the Soviet scientific manpower pool will increase more rapidly than that of the US, although at a declining rate after 1955. However, in view of the increasing scientific demands within the Bloc, a shortage of scientific and technical personnel, although somewhat reduced, will probably continue throughout the period of this estimate.

87. 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 probably considerably 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.

88. Soviet science and technology are subject to the same centralized planning and control as are all other Soviet activities. Even though Soviet scientists are a privileged group, their research is subject to many of the usual totalitarian restrictions. Some theories in chemistry, physics, and especially biology, have been attacked on ideological grounds. However, the present weakness in certain fields of biological science is probably due more to the heavy emphasis laid on other fields of research than to ideological restraints. There is no evidence that ideology has seriously hampered the development of the physical sciences, especially in applications directly affecting military weapons.

XII. SCIENTIFIC AND TECHNICAL CAPABILITIES IN PARTICULAR FIELDS AFFECTING MILITARY CAPABILITIES

89. The capability of Soviet scientists and technicians in most areas related to the development and production of weapons and military equipment is sufficient to insure modern arms to Soviet forces. We believe the USSR has the scientific and technological

capability necessary to develop most weapons and military equipment equivalent to, and in certain cases possibly better than, those of other nations. However, we believe that the USSR does not have sufficient depth of scientific resources to program vigorous weapons and equipment research simultaneously in all fields. Important weapons developments which the USSR may achieve during the period of this estimate are discussed below.¹⁶

Nuclear Weapons

90. By the end of 1953 the USSR had tested small, medium and large-yield nuclear weapons with energy yields from the equivalent of a few thousand to at least one million tons of TNT. Thermonuclear boosting principles were included in some of these tests. The USSR thus had reached a point in weapon technology at which it was capable of producing a wide variety of weapon types, and nuclear warheads for weapons other than bombs.

91. Based on Soviet tests, we believe that the USSR will probably stockpile weapons of large, medium, and small yields. Within these technological capabilities, military requirements will govern the allocation of available Soviet fissionable material among various types and yields of weapons. Column A in the Table which follows represents one method of distributing the estimated Soviet stockpile of fissionable material among large-, medium-, and small-yield weapons. Columns B and C show the total yields that would be available if the same amount of fissionable material were made up either into large and medium yield weapons only (Column B), or into small-yield weapons only (Column C).

	Mid-1954		
	A	B	C
Large-yield weapons (1,000 KT each)	18	18	..
Medium-yield weapons (60 KT each)	85	170	..
Small-yield weapons (5 KT each)	250	..	725
Total yield (millions of tons of TNT)	24.3	28	3.6

¹⁶ The effects of these possible developments on Soviet military capabilities are discussed in Section XVII.

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In view of the range of error applicable to our estimate of Soviet fissionable materials production, actual figures for numbers of weapons may be as much as one-third lower or higher than the figures given above.

92. Based upon the estimated growth of the Soviet stockpile of fissionable materials and the assumption that the Soviet weapons stockpile continues to consist of weapons of the general characteristics and explosive powers of those tested through 1953, the following table illustrates one way in which the weapons stockpile might be made up through 1957.

	Mid-1954	Mid-1955	Mid-1956	Mid-1957
Large-yield weapons (1,000 KT each)	18	34	54	80
Medium-yield weapons (60 KT each)	85	125	175	235
Small-yield weapons (5 KT each)	250	375	525	700
Total yield (millions of tons of TNT)	24.3	43.4	65.6	97.5

Our estimate of the total Soviet fissionable materials stockpile becomes more uncertain as it is projected into the future, and the actual figures for mid-1957 may be as low as one-half or as high as twice the figures given in this table. Moreover, we estimate that by 1957 the USSR will have nuclear weapons with yields ranging from the equivalent of one-half a kiloton of TNT to the equivalent of 10 megatons or more. Availability of these weapons will introduce further possible variations into the stockpile examples given above.

93. There is no evidence available which indicates the course that the Soviet atomic energy program will take during the period 1957 through 1959. Nor are there any specific factors which can be considered as limiting on the growth of the program during this period. Nevertheless, long-range extrapolations can be carried out on the basis of assumptions of the growth pattern the program might 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 1957; or,

b. Continued expansion of Soviet fissionable materials production facilities after 1957 at the same rate as estimates for the period 1954 to mid-1957; or

c. Expansion of the Soviet program after 1957 at a rate which will increase its requirements for uranium to approximately 7,000 to 10,000 tons per year by 1964.

94. The fissionable materials stockpiles which, on the basis of the above assumptions, can be extrapolated from the most probable stockpile as of 1957, could be converted into weapons of the following types, employing principles tested through 1953. It is to be emphasized, however, that because of lack of evidence concerning the Soviet atomic energy program for the period 1957 through 1959, it is not possible to estimate the probable value of fissionable materials stockpiles with an associated range of error for this period. These examples should, therefore, be accepted only as illustrative of the possible Soviet capabilities as of mid-1959.

Mid-1959	Assumption		
	A	B	C
Large-yield weapons (1,000 KT each)	132	145	168
Medium-yield weapons (60 KT each)	350	375	510
Small-yield weapons (5 KT each)	1050	1125	1525
Total yield (million tons TNT)	158	172	206

95. The alternate assumptions on which the above table is based do not consider the possibility of rapid technological advances in the production of fissionable materials, nor do they reflect major advances in weapons development which must be anticipated. Developments in thermonuclear weapons with yields well in excess of one million tons of TNT, which could possibly be tested during 1954, could increase the total yield obtainable from the Soviet fissionable material stockpile by a factor of five to twenty-five over the figures given in paragraph 94. In addition, Soviet nuclear capabilities may be increased by weapon developments which will permit the adaptation of nuclear warheads to many delivery systems.

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Guided Missiles¹⁷

96. Indications are that after World War II exploitation of German developments in guided missiles led to the USSR acquiring by 1948 a thorough familiarity with the German program and by 1950 a capability for continuing work independently, except possibly in advanced developments of guidance and control systems. It is known that an independent Soviet research and development program is underway. However, evidence is insufficient for an estimate of the priority which this program may enjoy as compared with other weapons development programs, or of the priorities accorded the various guided missile categories within the program. It is well within Soviet capabilities to develop numerous types of missiles within the period of this estimate, but at present we have little information as to which types the USSR may be developing.

97. We believe that the USSR could now have an improved version of the German V-1 pulse-jet winged missile with ranges up to 200 nautical miles, a warhead of 2,000-3,000 pounds and a CEP of 2 to 3 nautical miles. The USSR could also have now an improved version of the German V-2 with ranges up to 350 nautical miles, a warhead of 2,000 pounds, and a CEP of 2 to 3 nautical miles.

98. During the period of this estimate we believe that the following surface-to-surface missiles could be brought by the USSR into limited operational use — i.e., into a stage of development where small quantities of guided missile systems have been produced and are in the hands of trained personnel of at least one operational unit. It should be realized that subsequent large-scale production and troop-training may require several additional years. The dates given are the earliest *probable* dates, and are based on the assumption that a concerted and continuous effort started by 1948.

¹⁷The following paragraphs must be considered as tentative. Detailed studies of all types of guided missiles are currently in progress and will provide the basis of NIE 11-6-54, "Soviet Capabilities and Probable Programs in the Guided Missiles Field," which will be published in the near future.

a. In 1955 the USSR could have an improved V-2 type missile with a range of 500 nautical miles, a warhead of 3,000 pounds, and a CEP of 2 to 3 nautical miles. Subsonic, turbo-jet powered pilotless aircraft missiles with a maximum range of 500 nautical miles and a warhead of 3,000 pounds could also become available in 1955.

b. In 1957,¹⁸ the USSR could have single stage ballistic missiles capable of ranges up to 900 nautical miles, carrying 3,000 pound warheads, and achieving a CEP of 3 to 4 nautical miles.

c. In 1958-1960,¹⁹ the USSR could have a two-stage ballistic missile capable of ranges up to 1,300 nautical miles, carrying a 3,000 pound warhead, and achieving a CEP of 3 to 4 nautical miles.

99. We believe that the USSR could now have a surface-to-air missile representing an improved version of the German Wasserfall missile, and having an effective range of 20,000 to 25,000 yards at 50,000 feet. Radar command or a proximity fuze could be employed with a warhead of approximately 600 pounds.

100. In estimating future Soviet capabilities in surface-to-air missiles, the projects undertaken by Germans while in the USSR offer the only basis for extrapolation. On this foundation, the following possibilities exist:

a. In 1955, a further improved Wasserfall missile with effective accuracy at 35,000 yards, the maximum range of the missile.

b. In 1957-1958, a new type missile should begin to replace the Wasserfall, with a maximum effective range of 50,000 yards at 60,000

¹⁸The Director of Intelligence, USAF, believes this missile could be available in limited operational quantities in 1955. This belief is based on intelligence of early Soviet exploitation in Germany, on Soviet interest in guided missiles up through 1952, and the demonstrated ability to follow a concerted development program as witnessed by rapid developments in aircraft, armament, and electronics in the past 8 years. It is also possible that accuracies better than those quoted will be within Soviet capability.

¹⁹The Director of Intelligence, USAF, believes that a ballistic missile with a range of about 1300 n.m. could be available in limited operational quantities in 1957. This belief is based on the considerations set forth in footnote 18.

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feet altitude and a warhead of about 500 pounds. This missile would incorporate terminal homing.

Electronics

101. The USSR has made substantial progress in expanding its electronics industry and in adapting Western equipment. The industry is now capable of independent research and development, and electronic equipment of modern design is being produced. We believe that during the period of this estimate the USSR will have the capability of developing new or improved versions of radars for early warning, ground control intercept, airborne intercept, and blind bombing and navigation.

102. *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. It is believed that most of these sets will continue in use through 1956. Continued use of low-frequency radars (in the 72 mc/s region) through 1959 is indicated. It is estimated that, by 1958, the USSR will have several types of EW radar capable of affording fairly reliable range coverage up to altitudes of the order of 60,000 feet. These radars should be capable of detecting medium bombers and fighters at maximum ranges of about 200 and 100 nautical miles respectively, although specific range performances will vary with altitude and with individual equipment and installation. Low angle coverage will still be a problem, although current use of SCR-682 type radar for such coverage in coastal areas may be expected to expand.

103. *Ground Control Intercept Radar (GCI)*. It is estimated 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 to 85 nautical miles depending on altitude, location, and other factors. The use of transponder beacons in Soviet interceptor aircraft, a development of which the USSR is capable, would increase range and altitude

coverage for controlled interception. Maximum reliable altitude coverage up to 60,000 feet, though at less than maximum ranges, can be expected by 1959.

104. *Airborne Intercept Radar (AI)*. The USSR acquired World War II airborne intercept radar equipment from the Germans and through lend-lease. The USSR has the technical knowledge and production capability to produce AI radar superior to World War II types, as well as passive detection equipment of electronic, infrared, and possibly sonic types. We believe that the USSR has begun to introduce limited quantities of AI equipment into operational use, and that AI equipment will be in general operational use by mid-1956.

105. *Blind Bombing and Navigational Radar*. The USSR is making operational use of an X-band set and has the capability of improving this type of equipment. Its best blind bombing and navigational radar in use by the end of 1957 will probably be capable of operating at altitudes up to 50,000 feet and will have a range of about 125 nautical miles for navigation. The performance of bombing and navigation equipment will be about equivalent to that of present Western equipment. The use of frequencies higher than X-band is unlikely before mid-1956, but might have operational significance by 1959.

Electromagnetic Weapons

106. The USSR now has the capability of seriously disrupting Western long-range radio communications and certain navigation systems. On the basis of known or reported Soviet production of magnetrons, we believe that the USSR can now produce ground-based, shipborne, and airborne jamming equipment to cover frequencies through 10,000 megacycles per second. However, Soviet capabilities in related electronics fields indicate that the USSR could develop equipment for jamming frequencies up through 30,000 megacycles per second. We believe that such equipment will probably be in use during the period of this estimate.

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Biological Weapons

107. The USSR has the technical knowledge, trained personnel, and facilities necessary for a program of research and development in biological warfare, and we believe that such a program is almost certainly in progress. Firm evidence on the subject is, however, exceedingly scanty, and is likely to remain so because of the relative ease with which such a program can be concealed. Our estimates must be almost exclusively of what the USSR is capable of accomplishing in this field, rather than of what it has in fact accomplished.

108. The USSR is capable of producing BW agents and disseminating devices suitable for clandestine attacks against certain crops, against livestock, and against personnel in buildings or concentrated in relatively small areas. We estimate that, if the USSR in fact develops this capability, such attacks could be highly effective against livestock, moderately effective against humans, and possibly damaging against crops under favorable environmental conditions.

109. Soviet capabilities for overt or large-scale attacks with biological weapons are more difficult to estimate. Against livestock, attacks whether overt or clandestine need not be of large-scale to be effective, since well-planned small-scale operations at several points against the US would probably result in widespread epidemics. Anti-crop BW against the US, employing disease-producing agents, 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 producing at least one type of agent, cereal rust, in amounts needed for such an attempt. For attacks against personnel the USSR is probably capable of producing BW weapons for operations on a large scale, but we are unable to estimate whether the effect of such operations, if carried out, would be likely to be significant.

110. Soviet capabilities for defense against BW are believed inferior to those of the US because of Soviet deficiencies in public health,

sanitation, livestock management, and plant protection. Present information indicates emphasis on correction of these deficiencies, and gradual progress in this direction will probably be made during the period of this estimate. However, because widespread shipment of livestock is not practiced in the USSR, Soviet vulnerability to small-scale anti-livestock attacks is probably less than that of the US.

Chemical Weapons

111. 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 agent production are being maintained on a stand-by basis or operated to produce other chemicals or materiel. The USSR is probably able to engage in chemical warfare on a large scale.

Radiological Weapons

112. 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. Although not strictly within the category of radiological warfare, the significance of radioactive fall-out following large nuclear explosions becomes greater as the yield of nuclear weapons increases. This factor should be considered in connection with Soviet capabilities to produce explosions in the megaton range.

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XIII. SOVIET BLOC MILITARY STRENGTH

113. In the postwar period the USSR has maintained its armed forces at a high level of strength and combat readiness. Since 1945, the forces of the East European states under Soviet control, together with the forces of Communist China, have been added to the military resources available to the Soviet leaders. Soviet Bloc forces-in-being now total about 8,000,000 men.²⁰

114. As a result of the levelling off of military expenditures in 1953, selective cutbacks are probably taking place in the production of some conventional armaments, many types of which are already stockpiled in quantity. Nevertheless, military procurement, even at the estimated 1953-1955 rate, would still permit the maintenance of the Soviet armed forces at present high levels and would allow continuous qualitative improvement in weapons and equipment.

115. During the period of this estimate we believe that the size of Bloc forces-in-being and expenditures for weapons production will remain substantially unchanged. However, the over-all effectiveness of Soviet armed forces will increase during the period of this estimate mainly because of the following factors: an increase in the numbers and types of nuclear weapons; an increase in the numbers of modern aircraft, especially bombers and all-weather fighters; an increase in the long-range submarine forces; progressive modernization and standardization of weapons and equipment, particularly those incorporating electronic guidance and control; increasing combat efficiency of the European Satellite and Chinese Communist forces; and some improvement of the Bloc logistical position including facilities and possibly stocks of essential war material.

116. The principal limitations of Bloc armed forces during the period of this estimate will be: deficiencies in experience, training, and equipment for long-range air operations and air defense; lack of capability to conduct long-

²⁰ For detail on strengths of USSR armed forces and those of other members of the Soviet Bloc, see Appendix D, Table 1.

range amphibious and naval operations; and the logistic problems, especially for operations in the Far East, arising from the size of Bloc territory and the relatively inadequate road and rail network and merchant fleet.

XIV. BLOC GROUND FORCES

Soviet Army

117. The Soviet Army has been reorganized and modernized since the end of World War II. We estimate that the Soviet ground forces now total about 2,500,000 men. 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 mid-1959.²¹ 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.

118. The Soviet Army probably has a sufficient stockpile of weapons and equipment, ammunition, and supplies (except POL) to maintain a force of 175 line divisions in Europe and Asia for an extended period (i.e., up to one year, depending upon the intensity of the combat). POL stockpiles are probably sufficient to maintain operations from four to six months. The USSR is now manufacturing substantial quantities of all types of basic ground force weapons.²² During the period of this estimate production of ground force weapons is not expected to increase, and may decline somewhat. Conversion to full-scale production of these weapons could probably be effected quickly and efficiently.

119. The combat effectiveness of the Soviet Army is high. Its senior command is able and experienced; junior officers can be expected to execute orders faithfully; the individual soldiers are courageous, and have good

²¹ For detailed estimates of strengths and dispositions of these forces, see Appendix D, Tables 1 and 2.

²² For estimated 1953 production of tanks and artillery, see Appendix D, Table 7.

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physical stamina. Discipline is good and morale almost certainly high. Current Soviet line divisions possess good equipment, generally of World War II design, in adequate quantity. The combat support services — artillery and engineers — are comparable to the quality of the Soviet Army as a whole. Mobilization would lower individual unit efficiency but the rapid increase in the numbers of units would tend to offset this even in the short term.

120. During the period of this estimate the readiness of Soviet ground forces for sustained combat will continue to grow, largely because of the increase in armament, maneuverability, and numbers of competent technicians. The USSR will probably also develop changes in the equipment and tactics of ground forces designed to increase their effectiveness in nuclear warfare. Thirty Soviet divisions are located in East Germany and the European Satellites. It is known that these units are well-equipped, well-trained, and combat ready. Intelligence concerning the remaining divisions, particularly those in the interior of the USSR, is not as extensive. However, we believe that the latter are not significantly inferior in effectiveness to the Soviet forces in East Germany and the Satellites.

121. Certain weaknesses of the Soviet Army will continue to limit its potential under full war requirements during the period of this estimate. The great extent of Soviet territory and the limitations of the road and rail networks present difficult logistic problems, especially for operations in the Far East. The Army lacks experience in large-scale combined amphibious operations, and it has never conducted successful large-scale airborne operations in wartime. The Army would suffer from a shortage of technicians in the event of full mobilization.

Soviet Security Forces

122. Soviet internal security forces are controlled by the Ministry of Internal Affairs. We estimate that these forces number about 400,000 uniformed men organized in military units. About 150,000 of these are in the bor-

der 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 and strategic cargoes, and for maintaining the security of high-level government and military communications. These troops are a select group, well-trained and equipped, and politically loyal to the regime.

European Satellite Armies²³

123. Satellite ground forces, now composed of 1,115,000 men organized in 82 line divisions, constitute a substantial addition to Soviet military strength in Europe. During the period of this estimate Satellite ground personnel strength will probably increase to about 1,265,000. The Satellites are almost completely dependent on the USSR for major equipment items, including tanks, self-propelled guns, heavy artillery, and some light artillery. No substantial war reserve stocks of modern equipment have been made available to the Satellite countries. By mid-1956 the Satellite armies will be almost completely equipped with equipment of Soviet origin and design, mostly of Soviet World War II standard. Although some quantitative and qualitative improvement of weapons inventories will probably occur during the period of this estimate, major deficiencies in motor transport, heavy armor, artillery, and communications equipment will probably continue.

124. During the postwar period the Satellite forces have been reorganized to conform to the Soviet pattern. However, the national units exhibit marked differences in training, equipment, and morale, and their combat effectiveness is greatly inferior to that of equivalent Soviet units. The combat effectiveness of Satellite forces will improve, but will remain only fair. It is unlikely that many of the divisions would be suitable for offensive operations. Moreover, in case of war the Satellite forces would be dependent upon the USSR for logistical support.

²³ For detailed strength figures by country, see Appendix D, Tables 1 and 2.

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125. The questionable political reliability of the Satellite armies places a significant limitation upon their military usefulness. At present the Kremlin could probably not rely upon the majority of the Satellite armies in a general war except for employment in secondary roles or in a defensive capacity. However, against traditional enemies (e.g., Poles and Czechs against Germans; Bulgarians against Yugoslavs, Greeks, and Turks) Satellite armies would probably fight well, at least as long as victory appeared likely.

Chinese Communist Army²⁴

126. During the period of this estimate the Chinese Communist Field Forces, which now number an estimated 2,212,000 men, will probably increase to about 2,385,000. Chinese Public Security Forces total approximately 1,000,000 men. However, the wide dispersion of these forces on security duty, their light equipment, and lack of unit training limit their combat potential to employment as local auxiliaries to the field forces. Communist China has no system of organized reserves and the estimated 6,000,000 to 20,000,000 men in the militia cannot be classed as trained reserves since they receive little military training and have almost no equipment. Further mobilization of Chinese forces would be largely dependent upon acquisition of weapons and equipment.

127. The Chinese Communist forces are basically infantry and their weapons are a heterogeneous assortment of European, American, Japanese, and Soviet manufacture. Extensive Soviet equipment of Chinese forces has taken place since the beginning of the Korean War, but this aid, while continuing, has probably diminished since hostilities ceased. The marked disparity between the equipment of average Chinese Communist and Soviet divisions will probably not be reduced significantly during this period. Moreover, in case

²⁴ For details as to strengths and dispositions, see Appendix D, Tables 1 and 2. For strengths of additional Bloc forces in Asia, see figures for North Korean and Viet Minh armies given in the same tables.

of war the Chinese Communists will continue to be heavily dependent upon Soviet logistic support and technical aid.

128. 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. Morale within the Chinese Communist forces appears to be high. The combat effectiveness of the troops which fought in Korea (over 50 percent of total Chinese forces) was fairly high despite major deficiencies in logistics, communications, and combined-arms technique. During the period of this estimate combat effectiveness will probably increase. However, deficiencies in training, equipment, and logistical support, and dependence upon outside aid will continue to be major limiting factors upon the full exploitation of the organized Chinese manpower strength.

XV. BLOC NAVAL FORCES²⁵

Soviet Navy

129. The Soviet surface fleet during the period of this estimate will remain deficient in capital ships, and almost certainly without aircraft carriers. However, the Soviet submarine fleet is large and growing, containing many long-range craft of which a significant and increasing proportion are of modern types. Most of the major surface vessels and all of the modern submarines will probably be kept active, and the present rate of new construction will permit the creation of a substantial reserve fleet. It is believed that all such reserve or inactive units could be activated by M+180.

130. The Soviet Naval Air Force, comprising approximately 18 percent of the total strength of Soviet military aviation, is equipped with modern jet aircraft of the fighter and light bomber categories, as well as piston engined attack, mine and torpedo, and reconnaissance type aircraft. This force is expected to re-

²⁵ For strengths in ships and personnel as well as dispositions, see Appendix D, Tables 1 and 3.

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main approximately constant in strength throughout the period of this estimate; however, improved all-weather jet fighters will probably be introduced.

131. Since 1946, 9 light cruisers, 75 fleet destroyers, and 65 long-range submarines, all of postwar construction, have been added to the fleet. 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. There are a few indications of the construction of a ship larger than a cruiser, and such a vessel could become operational during the period of this estimate. We believe, however, that the USSR will place primary emphasis upon the construction of destroyer types and long-range submarines.

132. The Soviet Navy is apparently concentrating on the construction of two long-range submarine types developed since World War II. These are equipped with snorkel and have operating radii of about 4,700 and 6,700 miles respectively. By early 1954, 47 of these had joined the fleet and the present building rate is estimated as 46 per year. The Soviets are 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 submarines will have been developed by the USSR. However, there is no evidence that the USSR is constructing submarines equipped with either of these types of propulsion.

133. 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 Soviet submarine force. It is probably still inferior in proficiency to the US

and German forces of World War II, but performance standards should steadily rise during this period. Personnel of the submarine force are the pick of the Soviet Navy, and their morale is high.

134. The principal weakness of the Soviet Navy derives from the wide physical separation of the sea frontiers of the USSR. The inability of the USSR to control the water routes between these areas forces it to maintain four separate fleets and supporting facilities. This seriously complicates administrative control, logistic support, and strategic mobility, although the development of the inland waterway system and the increased use of the Northern Sea Route now permits some interchange of vessels by routes under Soviet control. The lack of adequate supply lines to the Northern and Far Eastern areas is an additional handicap. Other weaknesses derive from the land-locked positions of the Baltic and Black Sea fleets, which make egress to the world sea-lanes difficult for both surface and underwater units, and the lack of advanced submarine bases to provide support for long-range boats. The long-range capabilities of the Soviet Navy are also hampered by lack of aircraft carriers, modern capital ships, and auxiliary vessels suitable for underway logistic support, and by lack of operating and combat experience in long-range operations.

135. 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, the Soviet Navy does not possess sufficient modern amphibious craft to launch and sustain long-haul amphibious operations.

Satellite and Chinese Communist Navies

136. The Satellite and Chinese Communist Navies, including their naval air forces, during the period of this estimate will remain small. The naval forces of the Satellites will probably be capable of aiding the Soviet Navy in minesweeping, minelaying, escort, and

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coastal defense duties. The Chinese Communist Navy, although small and ill-equipped, is capable of short-haul amphibious operations, coastal mining, motor torpedo attacks, limited escort work, and minor gunfire support. The Soviet Far Eastern naval forces are providing training, advisors, and logistic support to this force.

XVI. BLOC AIR FORCES ²⁶

Soviet Air Force

137. During the postwar period the USSR has maintained and continually improved its large air force. Although in World War II the USSR was giving 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. Re-equipment with jet fighter types proceeded rapidly in the period 1950-1953 and is now virtually completed. Replacement of the TU-4 aircraft by more modern types in the long-range bomber force, and the 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.

138. 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 1946-1953 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.²⁷ During 1952-1953 Soviet Bloc production of fighters and bombers, both in numbers and weight, was considerably below that of NATO. During the period of this estimate Soviet aircraft industries will probably continue to operate at about 30 percent of capacity, with an annual production of about 10,000 to 12,000 aircraft, including about 5,500 to 6,500 combat aircraft. 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 factor of obsolescence and of the high requirements of the operating forces, these rates of production are insufficient to permit any significant stockpiling of aircraft engines, and electronic devices.

139. Airfield development in the USSR and the European Satellites during the postwar period has kept pace with demands created by the introduction of jet aircraft and medium bombers into operational units. The USSR, under this program, has created an interlocking network of airfields along perimeter areas in Europe and internal approach lines within the USSR. During the period of this estimate, the airfield construction program in the Far East and in the Soviet Arctic will probably be accelerated.

140. Combat effectiveness of Soviet military aviation is, on the whole, not as high as that of the air forces of the US and UK. The chief limiting factors have been lower average aircrew proficiency, lower standards of maintenance and training, and lack of certain modern aircraft types. During this period the continued replacement of piston by jet types and the introduction into operational units of new jet types including an all-weather fighter, and medium and heavy bombers, together with the training appropriate to these types, will lead to a significant increase of combat effectiveness. However, the Soviet lag in producing many of the latest aircraft types, and the operating problems accompanying the introduction of advanced and complex equipment in new aircraft, indicate that over-all Soviet air combat effectiveness will remain below that of the US and UK during this period, especially in night and all-weather operations and in long-range operations.

141. The MIG-15 and MIG-17 are now standard equipment of Soviet Fighter Aviation of Air Defense as of other components of the Soviet Air Force. The USSR is also believed to be developing an interceptor with performance characteristics superior to those of the MIG-15 and MIG-17. Limited numbers of

²⁶ For strengths of Bloc air forces in aircraft and personnel, see Appendix D, Tables 1 and 4.

²⁷ See Appendix D, Table 8.

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aircraft with AI radar have probably been introduced into operational units. We believe that the USSR will have about 200 all-weather fighters by mid-1955, about 1,000 by mid-1957, and about 2,100 by mid-1959.

142. Soviet long-range aviation is now based on the TU-4 medium bomber, which was copied from the American B-29. This is the only bomber available to the USSR in large numbers and capable of carrying nuclear weapons to distant targets. As of 1 July 1954, a total of about 1,100 TU-4's was estimated to be available in operational units. (Table of Equipment Strength of Soviet air regiments known to be equipped with or in process of being equipped with TU-4 aircraft totals 1,340 but the TU-4 regiments are currently estimated to be at only about 85 percent of T/E strength.) As of 1 July 1954 approximately 210 TU-4's (eight regiments with a T/E strength of 260) were located in the Soviet Far East. It is believed that deliveries of TU-4's to operational units have virtually ceased and that with the gradual phasing out of these aircraft as new jet models become available only 700 will remain in operational units by mid-1957, and 100 by mid-1959.²⁸

143. In the past four months there have been conclusive indications that a jet medium bomber equipment program has been initiated in Soviet Long-Range Aviation. During the 1954 Soviet May Day fly-by and the rehearsals preceding it, 9-11 twin jet medium bombers, designated by allied intelligence as the Type 39, participated. Subsequent intelligence has associated this type with a known Soviet Long-Range Aviation unit. We estimate that as of 1 July 1954 at least two regiments of Soviet Long-Range Aviation with a T/E strength of 60 aircraft were in process of equipment with Type 39 jet medium bombers. Total actual strength of these units is estimated at approximately 20 aircraft. Series production of the Type 39 is estimated to have begun in mid-1953, and total production as of 1 July 1954 is estimated at about 40 aircraft. It is estimated that Soviet Long-Range Aviation will

contain an actual strength of 650 jet medium bombers by mid-1957, and 1,050 by mid-1959.²⁸

144. The Type 37, which was initially observed on 30 July 1953 and later observed in flight on seven different occasions in connection with the 1954 May Day celebration, is a swept wing, four-engine, jet heavy bomber with an estimated gross weight of 365,000 pounds. The aircraft, considered presently to be in the prototype stage, is expected to appear in operational units by the end of 1956 building up to an actual strength of about 50 aircraft by mid-1957 and 250 by mid-1959.²⁸

145. There has been some evidence of the existence of a large bomber designated the Type 31. On the basis of present evidence, it is highly doubtful that any substantial re-equipment of Long-Range Aviation units with Type 31 class aircraft has occurred to date, though possibly 15 or 20 may have been introduced. The Long-Range Aviation re-equipment program to replace the TU-4 is more likely to be accomplished by introduction of the jet bomber aircraft which have now appeared, and the Type 31 class probably will not be introduced in numbers.

European Satellite Air Forces

146. Development of Satellite air strength and effectiveness is dependent primarily upon the Soviet estimate of the political reliability of these forces. While substantial progress has been made in the build-up of Satellite air strength, the current operational capabilities of these forces in required air roles are unevenly developed. Emphasis will probably be placed on the strengthening of the Satellite fighter and light bomber establishments. By the end of the period, the Satellite air forces will constitute a significant increment to Soviet air power in Europe.

147. The Satellites will remain greatly dependent upon the USSR for logistic support, and virtually all aircraft will be Soviet types.

²⁸ For radii-ranges and other performance characteristics of these aircraft, see Appendix D, Tables 5 and 6.

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Czechoslovakia and Poland will probably increase their production of jet fighter aircraft, but total Satellite production will probably not exceed 15 percent of Bloc production.

Communist Air Forces in China (CAFIC)

148. CAFIC is equipped primarily for defensive operations. However, the acquisition of some medium and jet light bombers has given it some capability for offensive operations. The combat effectiveness of CAFIC is only fair, but will probably improve somewhat throughout the period of this estimate, mainly through increased proficiency of flying personnel and improved quality of aircraft. 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.

Bloc Air Defense System

149. The Soviet air defense system includes the active air defense elements of all military services under the operational control of a single air defense organization (PVO-Strany). The European Satellite and Chinese Communist air defenses are integrated with those of the Soviet system. Soviet Bloc defense forces are not uniformly distributed, and in general are more concentrated in the eastern and western, and less in the northern and south central border areas. Interior defenses are stronger in the European USSR than in areas east of the Urals or in most of the inland area of the Soviet Far East.

Soviet Civil Defense

150. The USSR has a large and complex civil defense system which is integrated into the over-all Soviet air defense organization. The system includes a full-time civil defense staff organization, but there is no evidence of present mass participation in civil defense, or of a program of passive defense measures specifically designed for atomic attack. The po-

tential effectiveness of civil defense in the USSR is probably greater than that in any other major country except perhaps the UK. The elaborate totalitarian controls, the highly regimented character of the population, and, to some extent, the dispersal of population and industry, constitute strong points of the system. However, we believe civil defense operations in the event of an air attack would be handicapped by a shortage of transport facilities and materials.

XVII. MILITARY CAPABILITIES OF THE SOVIET BLOC

General

151. During the postwar period a rough balance of military power has existed between the Soviet Bloc and the US-NATO coalition, Soviet superiority in conventional forces-in-being having been generally offset by the Western possession of superior nuclear capabilities and economic potential. Since 1951 the margin of Bloc numerical superiority in forces-in-being and conventional ground and air armament has been narrowed markedly. On the other hand, while still inferior in nuclear weapons production and delivery capabilities, Soviet efforts to overcome these deficiencies have greatly narrowed the gap.

152. The development of nuclear weapons and of the ability to deliver such weapons on target will probably in future be the most decisive factor in determining the relative military strengths of the Communist Bloc and the US-NATO coalition. During the period of this estimate Soviet capabilities in the use of nuclear weapons will continue to increase. At present, the USSR's highest capability for delivering nuclear weapons lies in open military attack by aircraft. However, Soviet capabilities for nuclear attack by means of guided missiles, including missiles launched from submarines and aircraft, will increase, especially in the latter part of this period. In addition, the increasing Bloc capability to interfere with the flow of reinforcements and materiel from the US to its allies overseas will be an important factor in the relative military

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strengths of the Bloc and the Western coalition. Nevertheless, provided there are no significant alterations in present political alignments, we believe that a rough balance of military power between the Soviet Bloc and the West will continue during the period of this estimate.

Offensive Capabilities²⁹

153. The core of Soviet offensive strength at present is an ability to mount attacks against Western Europe and the UK. The USSR could launch a surprise attack against Western Europe with the 25 to 30 Soviet ground divisions now in East Germany and Poland. By prior concentration of forces west of the Oder-Neisse line, involving almost certain loss of surprise, the USSR could attack with 50 to 60 divisions. A build-up to 75 to 140 divisions could be accomplished by D-plus 90. Air support for these operations could come from the approximately 2,200 Soviet aircraft presently stationed in East Germany and the Satellites, with reinforcements available from the aircraft stationed in the Western USSR. Air attacks of great weight and involving nuclear weapons could be launched with little or no warning against any strengths exposed in Western Europe and the UK. In any campaign against Western Europe we believe it unlikely that European Satellite armies would be used independently, except as security forces or to protect Soviet lines of communication.

154. In a maximum single-lift operation the USSR also has the capability of utilizing 32,000 well equipped and trained airborne troops in an assault against the Western Zones of Germany. These troops could be assembled in 10 days, and could be delivered to Rhine river crossing sites and nearby military installations by aircraft utilizing bases in Poland and Czechoslovakia. Successive lifts would be on a decreasing scale because of combat and operational attrition. During a five-day maximum-effort we believe that the USSR could

deliver approximately 77,000 troops. These capabilities will probably increase through 1959 with the addition of new medium transports.

155. In the Far East, Soviet capabilities for long-continued full-scale war are somewhat 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 sizeable naval force. Stockpiles of supplies exist sufficient for a considerable period of combat. These Soviet forces could, in conjunction with Chinese Communist forces, renew hostilities in Korea. They could launch an amphibious invasion of Japan, we believe, 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.

156. The USSR is now capable of undertaking concurrent strategic air operations against the US, the UK, continental Europe, the Middle East, Japan, and the offshore island chain of Asia. Operations against the US will, however, continue to be attended with great difficulties.³⁰

157. 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; however, we have no evidence that the USSR has developed this capability either as to production of the missiles or as to conversion of submarines to missile launchers. The USSR could at present have V-1 type missiles for launching from submarines, and in 1955 could have for this purpose subsonic turbo-jet powered pilotless aircraft missiles with a maximum range of 500 nautical miles and a warhead of 3,000 pounds. We believe that it will not be within Soviet capability within the

²⁹ 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.

³⁰ For detailed treatment of this subject, see SNIE 11-7-54, "Soviet Gross Capabilities for Attacks On the US and Key Overseas Installations Through 1 July 1957," published 17 August 1954.

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period of this estimate to attack continental United States with guided missiles launched from Soviet Bloc territory.

158. 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, Soviet missiles launched from advanced bases in Eastern Europe could reach targets in Western Germany and the southeastern portion of the Scandinavian peninsula.

b. In 1955, from advanced bases in Eastern Europe, targets could be reached in Western Europe as far west as London, Paris, and Rome. 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.

c. In 1957,³¹ 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.

d. In 1958-60³² Soviet missiles could reach US North African bases in Tunisia, in addition to the targets listed above.

159. 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 simultaneously to launch guided missile attacks against targets on both the

Atlantic and Pacific seaboard of the US.³³ 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 certainly 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.

160. We estimate that the USSR now has a stock of over 500,000 mines and the capability to employ them 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.

Air Defense Capabilities

161. We estimate that at present Bloc defensive capabilities against air attack are insufficient to provide an adequate defense under the variety of conditions which could be expected to prevail. Against daylight bomber formations between 10,000 and 30,000 feet in clear weather the Bloc air defense systems could probably inflict severe losses against piston bombers and moderate losses against jet bombers. Because of difficulties in detection and tracking, anti-aircraft fire controls, and fighter maneuverability at higher altitudes, Soviet air defenses would be less effective against bombers at altitudes above 30,000 feet. They would be markedly less effective against bombers above 40,000 feet or at very low altitudes. Against multiple-pronged penetrations utilizing altitude stacking, diversionary tactics and electronics counter-measures, the air defense system is subject to serious breakdowns which would tend progressively to lessen its effectiveness. Because of inadequacies in equipment and training for all-

³¹ Air Force believes this date should be 1955. See footnote 18, page 22.

³² Air Force believes this date should be 1957. See footnote 19, page 22.

³³ We believe the USSR capable of adapting submarines to this use, but we have no evidence that such modifications have been made.

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weather air defense operations, the system would be ineffective against air attacks conducted when visibility is poor.

162. Through 1957 Bloc air defenses will probably be gradually strengthened by the introduction into operational units of new fighter aircraft, new radar equipment, new anti-aircraft weapons, and surface-to-air guided missiles. All-weather fighters in limited quantities are probably already being introduced into operational units, but problems related to the operation and maintenance of airborne intercept radar will probably take a minimum of 18-24 months to solve. The filtering phase of air raid reporting (combat information control) is expected to continue to be a major problem during the period of this estimate. However, the gradual improvement of weapons, equipment, and training will be sufficient by 1958 to provide a Bloc air defense system substantially more effective than that now existing.

XVIII. THE SOVIET ESTIMATE OF THE WORLD SITUATION

163. The Soviet leaders view the world as an arena of conflict between the Communist and non-Communist camps. Soviet policy is therefore extremely sensitive to changes in world power relationships, and the Soviet leaders' current estimate of the capabilities, intentions, and vulnerabilities of the non-Soviet world is a decisive factor in determining the courses of action which the USSR will pursue during the period of this estimate.

Soviet Estimate of Non-Communist Capabilities

164. Soviet leaders have long recognized that the core of non-Communist strength lay in the productive power of the US economy, and especially in its industrial capacity. They recognize that the US is economically capable of supporting very powerful military forces in time of peace, and of waging full-scale war for a longer period than any other major power. They also understand the economic power of the US to be a great political asset, giving the US the capability of supporting and

strengthening the military and political establishments of its allies, and at the same time of employing resources for political use throughout the underdeveloped countries and areas of the non-Communist world. They recognize the economic capabilities of the US and its allies to be greatly superior to those of the USSR and the Bloc, but they almost certainly believe that capitalist society will in the long run inevitably decay because of its own inherent contradictions, and, therefore, that the US and its allies are incapable of maintaining this superiority permanently.

165. The Soviet leaders almost certainly believe that during the period of this estimate the non-Communist world will possess such strength in major components of military power that general war would involve not only the certainty of widespread destruction within the USSR but the possibility of the destruction of the Soviet system itself. They almost certainly believe that the West has and will maintain through 1959 superior naval and strategic air power, greater nuclear capability, and greater industrial potential. However, they almost certainly believe that the increase of their own nuclear capabilities will, even if these capabilities remain inferior to those of the West, tend to nullify the significance of the Western superiority.

166. The Soviet leaders probably recognize that if the US should use its nuclear capability to the maximum in the event of general war, the USSR would be unable to prevent destruction of major portions of the industrial and military strength of the Soviet Union. They probably recognize that the possession by the US of air bases encircling the USSR provides the West with an advantage which probably could not be entirely overcome even by surprise attacks upon these bases. The Soviet leaders almost certainly believe that even if most of these bases were denied the US by military or political action the US would still be able to deliver severe attacks against the USSR.

167. Under the most optimistic assumptions, the Soviet leaders might believe that US nuclear capabilities could be at least temporarily

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neutralized by political arrangements or by threat of Soviet retaliatory power upon the US or its allies. Under such conditions, the Soviet leaders would probably estimate that present Western capabilities would be insufficient to prevent considerable initial Soviet successes including the overrunning of Western Europe. They would probably believe, however, that the war would not be ended with these original successes and that grave danger would remain that the US nuclear capability would in the end be employed. The Soviet leaders probably believe, therefore, that during the period of this estimate Western capabilities will remain sufficient to make the outcome of general war extremely hazardous and uncertain for the USSR.

Soviet Estimate of Non-Communist Intentions

168. Soviet leaders probably estimate that the US is unlikely deliberately to initiate general war during the next few years. They probably estimate, however, 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 the US would consider as such a threat any overt armed aggression by Bloc forces against any country formally allied with the US. 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 the non-Communist world generally. Soviet leaders almost certainly estimate that extensive Communist political warfare will be unlikely to provoke large-scale US military reaction, and they probably believe that the US would be unlikely to initiate general war against the USSR even if the activities of political warfare should lead to the establishment of Communist governments in countries presently non-Communist.

169. The USSR probably estimates that the US will continue its development of overseas military bases, and it probably views this development with genuine and profound suspicion of US motives. These suspicions are probably increased by such apparently hostile indications as the undisguised discussion in the US press of the vulnerability of Soviet cities to air attack, the reports that the US is storing nuclear weapons at overseas installations, and the widely discussed "new look" in US defense policy emphasizing "massive retaliatory power." Many US defensive measures probably appear to the Kremlin to be aggressively-motivated. We believe the USSR considers the US military base program a serious threat to its own security, but we also believe its estimate of the imminence of the threat will depend upon its view of the world political situation rather than upon the existence of the bases themselves.

170. In Europe the Soviet leaders probably expect the US to persist in its efforts to obtain some arrangement that would bring a re-armed West Germany into alliance with the West. We believe that the Kremlin considers the prospect of a rearmed West Germany, closely allied with the West, as one of the most serious potential long-range threats to Bloc security. The Kremlin almost certainly estimates that the US will agree to the unification of Germany only if it is confident that a reunited Germany will not fall under Communist domination, and probably only if it believes that Germany will be linked with the West.

171. The Soviet leaders almost certainly believe that the US intends to maintain troops in Europe indefinitely, and will support with force its position in Berlin. They clearly recognize the great political advantages which the possession of West Berlin provides the allies, and they almost certainly estimate that the US would accept the risk of war rather than relinquish Berlin under Soviet pressure. Nevertheless, the Kremlin may estimate that the other Western Powers would be less disposed than in 1948 to resist harassment of the Western position in Berlin, especially if made to appear an East German rather than a Soviet action.

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172. The Soviet estimate of US intentions in the Far East is probably less confident than that for any other area of the world at the present time. This uncertainty probably arises because of the conflicting manifestations of opinion within the US, the apparent conflict of policies among the Western nations revealed during the Indochina crisis, and the apparent reluctance of the US to adopt courses of action in the Far East which would alienate the neutral nations of Asia or threaten the harmony of the Western alliance. At the same time, the Soviet leaders are aware of many statements by US leaders indicating determination to resist the further expansion of Communism in the Far East, including the defense of Formosa and the Pescadores.

173. Accordingly, the Soviet leaders probably believe that the US will seek to avoid courses of action carrying grave risk of general war or seriously alienating its allies, but will attempt to prevent the consolidation of present Communist gains and to resist further Communist advances. Furthermore, they almost certainly estimate that the US will attempt to bring the policies of Western and Asian nations into harmony with those of the US during the period of this estimate and will push forward with the development of an Asian defense arrangement similar to NATO.

Soviet Estimate of Non-Communist Vulnerabilities

174. In the Kremlin view, the ability of the Western Powers to give effect to their intentions during the period of this estimate will be limited by a number of political and economic factors which will operate to weaken the Western alliance and undermine its capabilities. The factors discussed below are probably those which the Soviet leaders believe constitute the principal vulnerabilities of the non-Communist world.

175. *Fear of Nuclear Warfare.* The Soviet leaders probably calculate that increasing Soviet nuclear capabilities will have a growing influence on the policies of non-Communist states. They probably estimate that no government will willingly run grave risks of

war unless interests are at stake which it considers vital, and that the threat of nuclear weapons will almost certainly tend to narrow the range of interests that any government will consider vital. They apparently estimate that the temper of world opinion is such that latent fears in the non-Communist world can be stimulated to encourage neutralist sentiments, shake confidence in the stability, moderation, and maturity of US policy, and undermine US ability to lead the non-Communist world.

176. Moreover, the Soviet leaders probably estimate that growing aversion to general war with nuclear weapons will cause both the US and its allies to show increasing concern to deal with local aggression without resorting to acts which might lead to general war. The Kremlin probably estimates, therefore, that opportunities may arise in certain local situations to employ limited military action without running serious risk of general war.

177. *Political Conflicts.* Clashes of interest and policy among European states are probably expected by the Soviet leaders to hamper US efforts to maintain an effective alliance during the period of this estimate. They apparently believe the following issues are particularly divisive: the problem of German rearmament; problems of East-West trade controls; Far Eastern problems, including the issue of recognition of Communist China; problems of nuclear weapons control. In the long run, Moscow apparently calculates that differences of attitude toward these and related issues will produce wider schisms among non-Communist countries.

178. The Soviet leaders probably estimate that French and Italian social cleavages, economic problems, and political weaknesses will remain the most serious obstacles to the building of a strong and stable Europe. They probably estimate also that the French may continue to veto West Germany's rearmament and admission to the Western alliance, and that as a result the Bonn Government may modify its presently strong pro-Western policy. Even the differences which on occasion agitate Anglo-American relations may be calculated by the Kremlin to carry the possi-

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bility of future estrangement between the two strongest countries in the anti-Communist alliance.

179. The Soviet leaders probably estimate that serious differences among non-Communist countries will continue over policies in the Far East, and they probably hope that these differences over the next few years will result in an increasing isolation of the US from the other countries of the non-Communist world. They almost certainly believe that the armistice in Indochina has improved Communist capabilities for further advances, further undermined Western prestige in Asia, and weakened Western capabilities to mobilize local opposition to Communism. On the other hand they probably recognize the chance that a too aggressive Communist policy in Asia might tend to catalyze resistance in the non-Communist countries of Asia, and contribute to the development of a strong anti-Communist alliance in the area. In any event, the Kremlin probably believes that the US will continue to face complex problems, during the period of this estimate, in harmonizing its policies in the Far East with those of its allies and the non-Communist nations of Asia.

180. *Economic Conflicts.* The Soviet leaders probably expect economic problems to assume greater prominence during the period of this estimate, and to test the strength and cohesion of the Western alliance. They profess to believe that the capitalist economy is afflicted by a deepening and irremediable crisis. In particular, the Communist leaders state that the capitalist world market has been fatally constricted by the expansion of the Communist sphere, and that the re-emergence of Germany and Japan will produce critical conflicts of economic interest.

181. *Anticolonialism and Nationalism in Underdeveloped Areas.* The Soviet leaders have long estimated that conditions in the underdeveloped areas of the non-Communist world constitute vulnerabilities for the West. They probably believe that in some countries of the Middle East, Africa, and Southeast Asia, Communist opportunities are enhanced by political immaturity, economic and social griev-

ances, inadequate material and technological resources, resentment of Western imperialism, and extreme nationalism. The Communists are aware that these areas are undergoing a social and economic revolution which is conducive to political instability. The Kremlin probably estimates that US economic aid and military assistance will not wholly overcome anti-Western attitudes and that prospects for the encouragement of anti-Westernism will continue to be good.

182. *Popular Aspirations.* The weaknesses of the non-Communist world are intensified and complicated, in the Kremlin view, by the pressures of discontented populations upon governments which are sensitive to popular desires and incapable of totalitarian political controls adequate to suppress popular demands. Demands for an improved scale of living, for economic security and social welfare, for greater political freedom, and for independence in colonial areas all serve, from Moscow's viewpoint, to create disunity and instability within non-Communist countries. The Kremlin probably believes that some governments in the non-Communist world will be increasingly subjected to unrealistic demands far beyond the capacities of the governments to grant, and that the stability of such governments will be sufficiently disturbed to produce weaknesses in the non-Communist world.

183. In summary, the Soviet leaders probably believe that present world trends are not unfavorable to Soviet strategic interests. They may expect that the next few years will see a deterioration in relations among the Western allies and a gradual isolation of the US from the rest of the non-Communist world. They almost certainly believe that the US will face increasingly complex problems in dealing with its allies and with the other states that make up the non-Soviet world. They probably estimate that developments which will take place within and among the states of the non-Communist world during the period of this estimate will enhance Soviet opportunities for further expansion, and will reduce the likelihood of concerted Western counteraction.

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XIX. PROBABLE SOVIET COURSES OF ACTION

Present Soviet Objectives

184. 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 system itself. On the other hand, non-Communist strength is not so great that withdrawals from the present advanced positions in Europe and Asia seem necessary. Moreover, the prospects probably seem good that the increase of Bloc military capabilities, together with political defections or disunity on the non-Communist side, will gradually shift the balance of power in favor of the Soviet Bloc. In the meantime, the Bloc has a full agenda of internal problems which, while they do not imply a weakness requiring abandonment of expansionist aims or even the neglect of opportunities for expansion under circumstances of limited risk, do call for attention during the next five years at least. These problems include the further buildup of economic power in the Bloc as a step toward balancing the vastly greater economic potential of the West, and the correction of certain weaknesses in the Bloc economy, particularly in agricultural production.

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

- a. To expand Soviet economic potential;
- b. To maintain a high level of military readiness and to improve the capabilities of the Soviet armed forces, emphasizing the development of greater nuclear capability;
- c. To increase 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;

d. To weaken and disrupt the mutual defense arrangements of non-Communist states, and in particular to prevent the rearmament of West Germany in close association with the Western alliance;

e. To isolate the US from its allies in Europe and Asia;

f. To expand the area of Communist control in southeast Asia.

External Courses of Action

186. *General War.* 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.³⁴ However, the USSR or one of the Soviet Bloc countries might take action creating a situation in which the US or its allies, rather than yield an important position, would decide to take counteraction involving substantial risk of general war with the USSR. 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 dur-

³⁴The Assistant Chief of Staff, G-2, and the Director of Intelligence, USAF, believe that the following should be substituted for the first sentence of paragraph 186: "Although the Kremlin will probably try to avoid courses of action and to deter Communist China from courses of action that entail substantial risk of involving the USSR in general war, it may be more willing to support courses of action that would involve risk of a localized war between the US and Communist China. The support given such courses of action would depend largely on Soviet judgment as to the probable outcome of the war. If the Soviet leaders believed that it would result in a severe defeat to Communism, or the full-scale participation of the USSR in general war, they would probably exert pressure on the Chinese to avoid courses of action which would precipitate hostilities. On the other hand, if they estimated that the conflict could be limited to war localized in the Far East, and that it would result in greater relative damage to US strengths than to Communist strengths, they probably would support more adventurous courses of action on the part of the Chinese Communists."

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ing 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.

187. The Soviet leaders almost certainly believe that as Soviet nuclear capabilities increase, the unwillingness of the US, and particularly of its allies, to risk general war will correspondingly increase, and that the Kremlin will therefore have greater freedom of action to promote its objectives without running substantial risk of general war. As the period of this estimate progresses, the USSR will probably be increasingly ready to apply heavy pressure on the non-Communist world upon any signs of major dissension or weakness among the US and its allies. On the other hand, we believe that the Kremlin will continue to be extremely reluctant to precipitate a contest in which the USSR would expect to be subjected to nuclear attack. We believe that the extent to which the Kremlin uses the increased freedom of action which its increased nuclear capabilities appear to give it, and the success which it achieves, will depend primarily upon the determination, strength, and cohesiveness of the non-Communist world.

188. *Diplomacy and Propaganda.* We believe that the USSR during the period of this estimate will almost certainly be unwilling to settle any East-West differences at the cost of major concessions. Nevertheless, the USSR will probably seek to continue discussions of major issues, and may make proposals for settlements which will be plausible to some non-Communist nations but unacceptable to the US. The Soviet leaders probably hope that such tactics will carry an implication to the non-Communist world of Soviet willingness to negotiate outstanding issues, and stimulate doubts in the non-Communist world regarding the reasonableness of US leadership. Moves apparently intended to ease international tension will probably be alternated, however, with political warfare pressures calculated to play upon the non-Communist world's fear of war.

189. We believe that the USSR will place emphasis in its diplomacy and propaganda, dur-

ing the period of this estimate, 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 the failure to achieve workable control arrangements, to stimulate doubts about the reasonableness and moderation of US policies in this field.

190. We believe it highly unlikely that the USSR during the period of this estimate will agree to a system of nuclear weapons control 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 and moral barriers to US freedom of action in the use of nuclear weapons.

191. *Trade.* The USSR will probably seek to support its propaganda and diplomacy with new overtures indicating willingness to expand its trade with non-Communist states. Soviet trade with the non-Communist world will probably increase somewhat during the period of this estimate, but this trade will continue to be small in proportion to intra-Bloc trade. New trade agreements will probably be intended not only to obtain desired imports but also to weaken the economic ties of non-Communist states with the US, and to make strategic trade controls a subject of controversy between these states and the US. While the Soviet Union will not be able to bring about a major shift in present trade patterns, 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.

192. *Europe.* We believe that in Europe the Kremlin will continue to pursue its general objective of weakening Western governments and impeding Western defense. It will continue its campaign against the present form of NATO and against American bases in Europe. The Kremlin's immediate aim remains to prevent the rearmament of West Germany and its alliance with the West. France will

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probably remain the principal target of Soviet policy designed to achieve this end. Soviet propaganda and diplomacy will be designed to strengthen 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. In 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.

193. If the Soviet leaders come to believe that there is little prospect for French approval of any formula for the admission of West Germany to the Western defense system, they will probably shift their main diplomatic and propaganda effort to West Germany. This would be in accordance with their present aims, first to deny Germany to the Western defense system, and ultimately to bring it within the orbit of Soviet influence. A major effort will probably be undertaken to develop cultural and economic relations between East and West Germany aimed at direct political negotiations between the two for German unity. Attractive trade offers are likely to be employed to undermine support in powerful industrial circles for present Western-oriented policies.

194. If West Germany should be rearmed and brought into the Western alliance, we believe that Soviet leaders would estimate that this development involved potentially a substantial threat to the security of the Bloc. In particular, they would probably fear that a rearmed West Germany might influence the Western alliance to adopt a more aggressive policy towards the Soviet Bloc. However, the Soviet leaders would probably estimate that considerable time would elapse before the threat to Bloc security through German rearmament became critical, and that during the interim the German question might create serious dissension within the Western coalition. Accordingly, we believe that the Kremlin would react to the beginning of German rearmament mainly by intensified efforts to divide

and destroy the Western alliance. These efforts might include a new proposal for German unification which would appear to satisfy the principal conditions which the Western powers have maintained on this issue. If these efforts should fail, and if the threat to Bloc security appeared to the Kremlin to be markedly increasing by reason of the growth of West German armed forces, the Soviet leaders would probably increase the scale of their own defense effort. A step-up in the armaments race might therefore develop, accompanied by an increase in international tension.

195. *Asia.* We believe that the USSR regards the situation in Northeast Asia as stabilized for the present. We believe the Communist leaders will not renew hostilities in Korea, or agree to a political settlement which would endanger Communist control of North Korea. Soviet policy toward Japan is probably based on the assumption that Japan is at present effectively under US influence. However, Soviet diplomacy and propaganda will attempt to disturb US-Japanese relations and to prevent any substantial contribution by Japan to US military power. The Japanese Communist Party, whose propaganda impact is disproportionate to its size, is an important instrument for this purpose. In their intent ultimately to detach Japan entirely from US influence, the Soviet leaders probably count on the long-run effect of possible further Communist gains in Asia, on Japanese political instability, and on the urgent Japanese need for markets.

196. Southeast Asia almost certainly appears to the Kremlin to be the most profitable field for Communist subversion and armed revolt during the period of this estimate. The Soviet leaders will probably continue to give covert support to such activities. However, if the activities of local Communist groups stimulate anti-Communist attitudes within these Asian states or tend to unite these states in a program of joint resistance with Western powers, the Kremlin may choose to hold local Communist movements in check. 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 dif-

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ferences 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 opposition to further Communist advances in Asia.

197. We believe the Chinese Communist leaders in general share Soviet views about the world situation and about opportunities and methods of advancing Communist interests in Asia. During the period of this estimate, Communist China will probably be reluctant to undertake courses of action which it considers might involve substantial risk of provoking unlimited war with a major power. The major deterrents will be: (a) Communist China needs time to consolidate the Communist state as well as to modernize its economy; (b) its strong ground forces are limited in service and support units, its expanding air force has certain limitations, its navy has extremely limited capabilities, and it will remain militarily dependent upon the USSR for logistical, air, and naval support; (c) its industrial centers will be vulnerable; and (d) the margin of available resources over minimum domestic requirements will be narrow. In spite of these limitations and deterrents, the possibility cannot be excluded that the Chinese Communists may, at some time during the period of this estimate, attempt to carry out recent threats to "liberate" Formosa and the Pescadores. Moreover, Communist China will probably counter with military force, to the full extent of its capability, any action which it considers to be a military threat to its borders or to constitute an imminent threat to its vital interests, accepting the risks of war inherent in such action.

198. Chinese Communist leaders probably share the Soviet view that Southeast Asia offers the most favorable opportunities for Communist expansion, not only because of the vulnerability of the states in the area, but because of the possibility of exploiting disagreements between the US and its allies. The Communists will almost certainly attempt to extend their gains in Indochina, and

will probably expand their efforts to subvert neighboring countries by political infiltration and covert support of local insurrections. We do not believe that the Communists will attempt to secure their objectives in southeast Asia by the commitment of identifiable combat units of Chinese Communist armed forces, at least during the early period of this estimate. However, we find the situation in this area so fluid that we are unable to estimate beyond this early period.

199. *Middle East.* Since its withdrawal from Azerbaijan in 1946 the USSR has apparently not given high priority to Communist activities in the Middle East. This may have been due to such factors as Soviet preoccupation with more important theaters elsewhere, the weakness of local Communist cadres in the area, and the fact that even without Soviet initiative the trends in the area were already unfavorable to the West. In recent months, however, there have been signs of increased Communist activity in the area. To the extent that the Western powers succeed in reversing the trends unfavorable to them and in building toward a situation of strength in this area, we believe that the USSR will increase its activities. If, for example, progress is made in the development of the "northern tier" plan for Middle East regional defense, the USSR will probably increase its efforts to arouse anti-Western feelings and influence the states of the area against cooperation with the West.

200. *Latin America.* 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



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American states. At present, Soviet aims are probably limited to establishing governments which would pursue 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

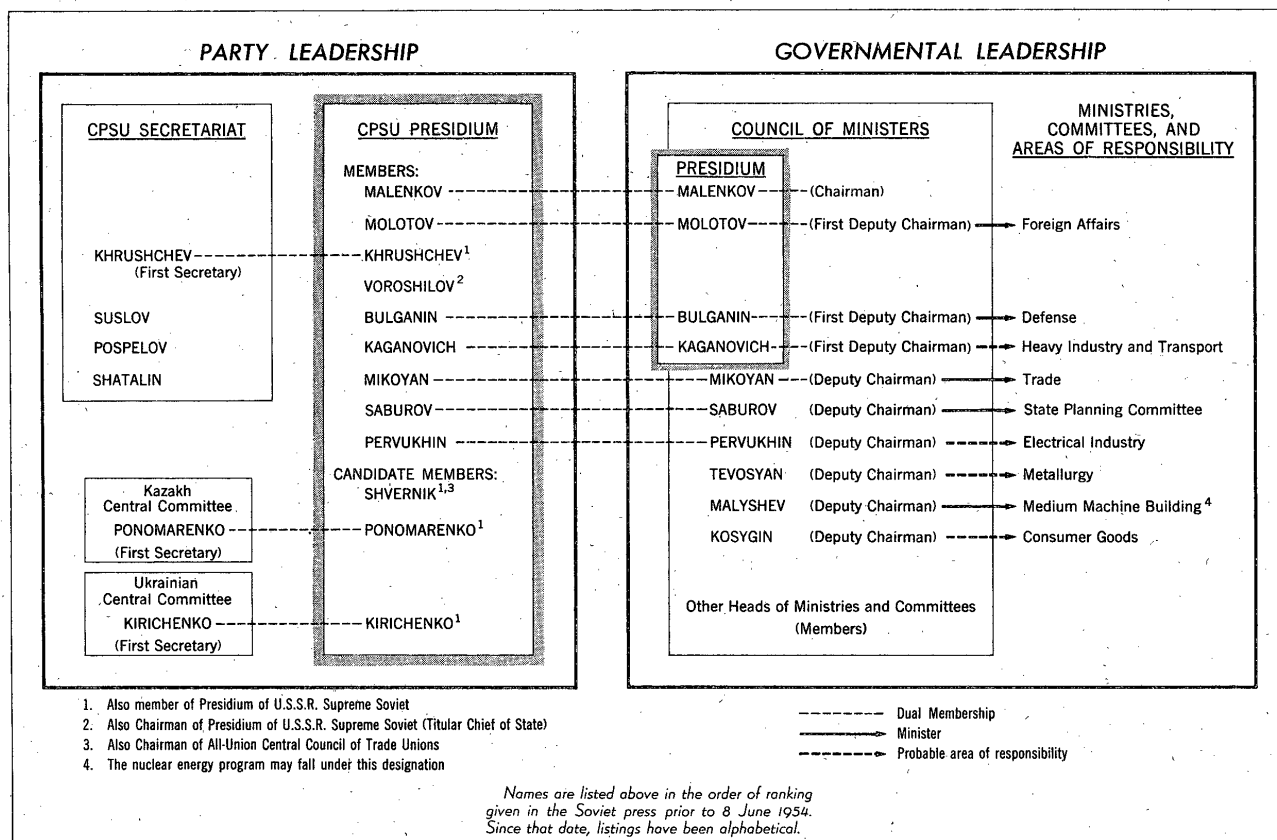
America. In addition to providing a source of needed raw materials, such trade might be calculated to contribute to the softening of inter-American solidarity and to the creation of a more receptive atmosphere for Bloc propaganda.

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Appendix A

USSR
 INTEGRATION OF COMMUNIST PARTY (CPSU) AND SOVIET GOVERNMENT
 MID-1954

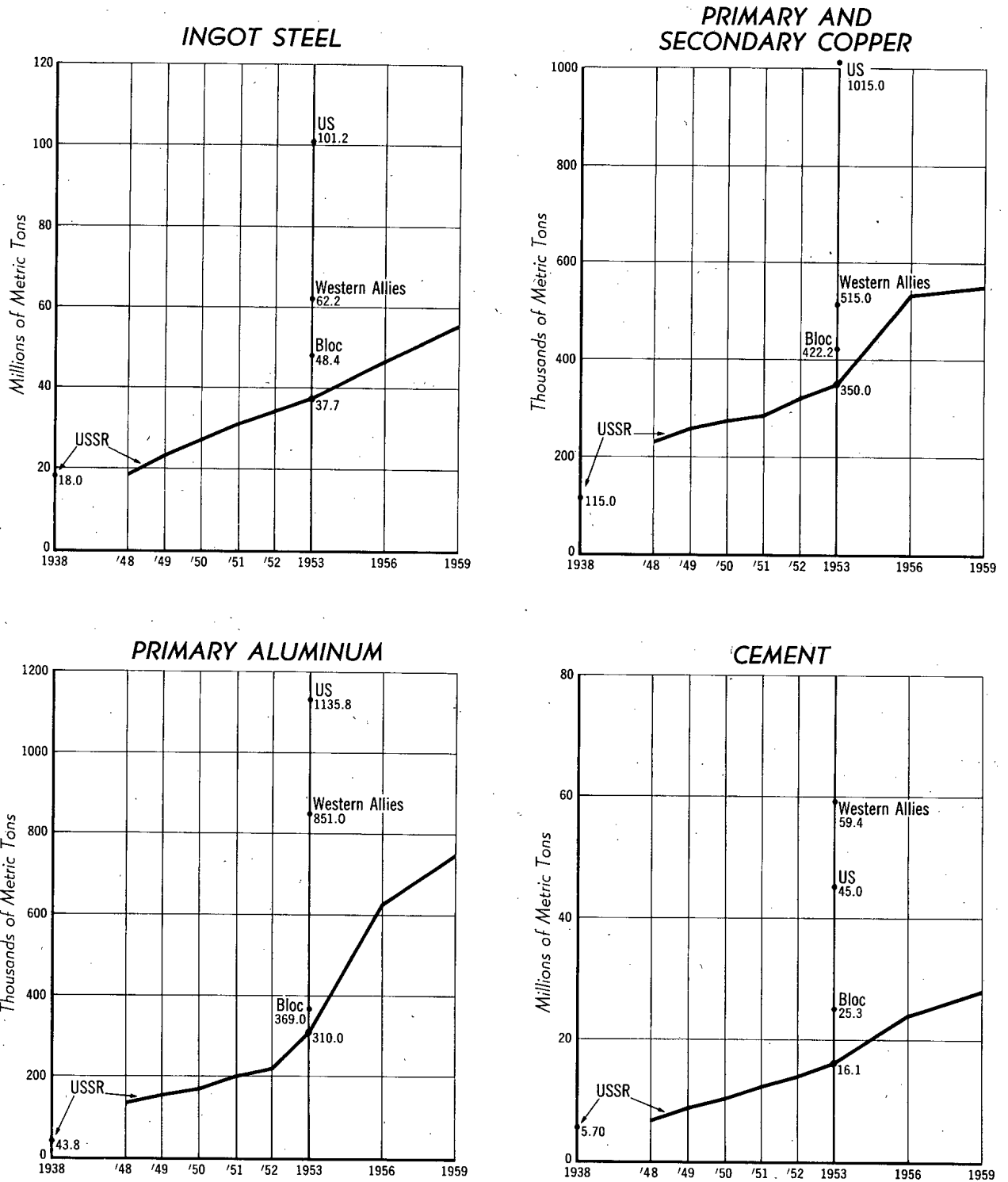


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Appendix B
Figure 1

METALS AND MINERALS PRODUCTION



13395 CIA, 9-54

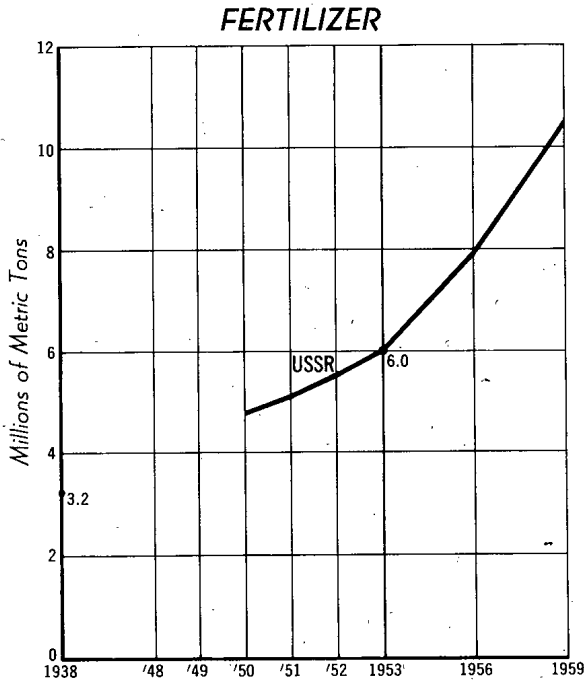
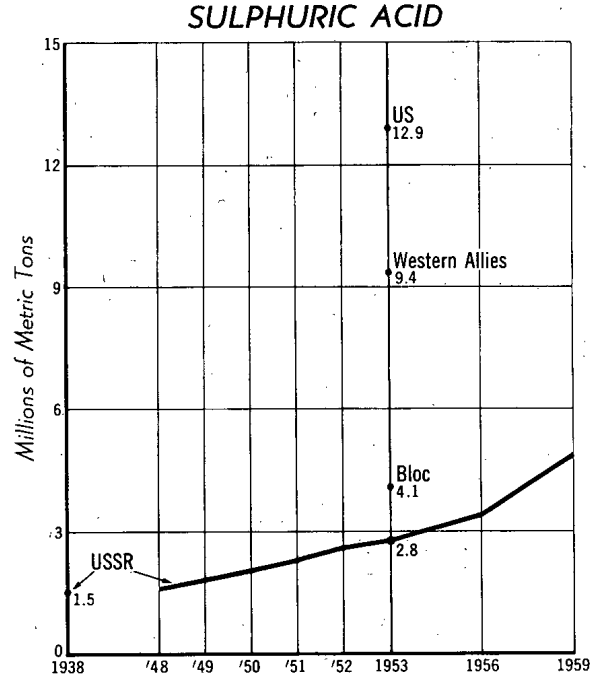
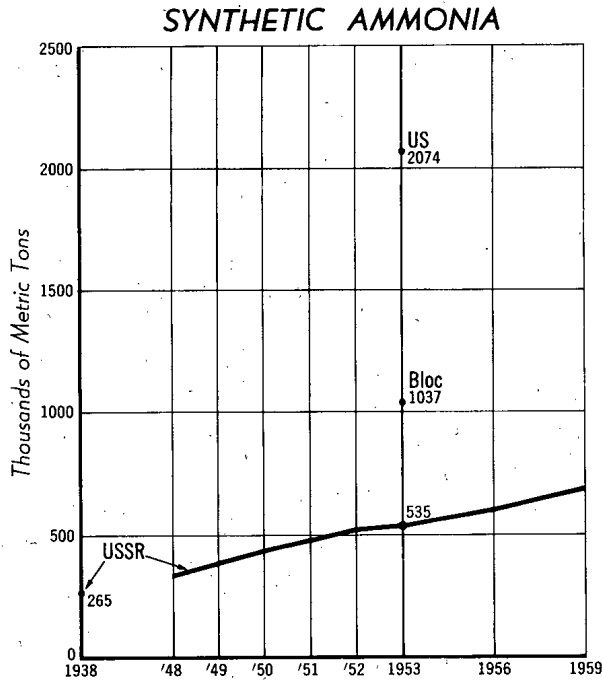
The Western Allies of the US include the other members of NATO together with Spain and West Germany.

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Appendix B
Figure 2

CHEMICALS PRODUCTION



The Western Allies of the US include the other members of NATO together with Spain and West Germany.

13396 CIA, 9-54

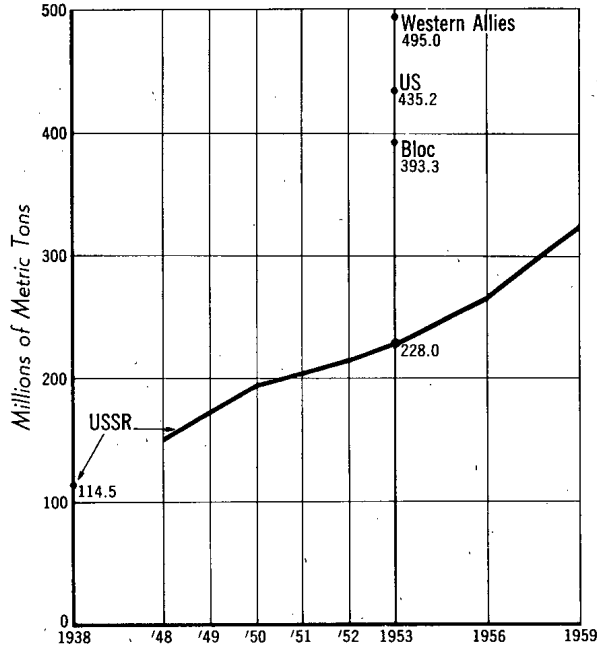
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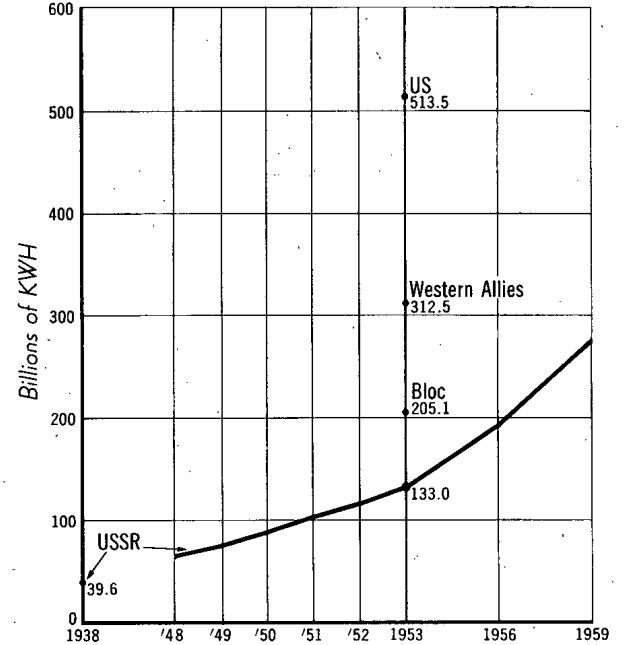
Appendix B
Figure 3

ENERGY AND TRANSPORT

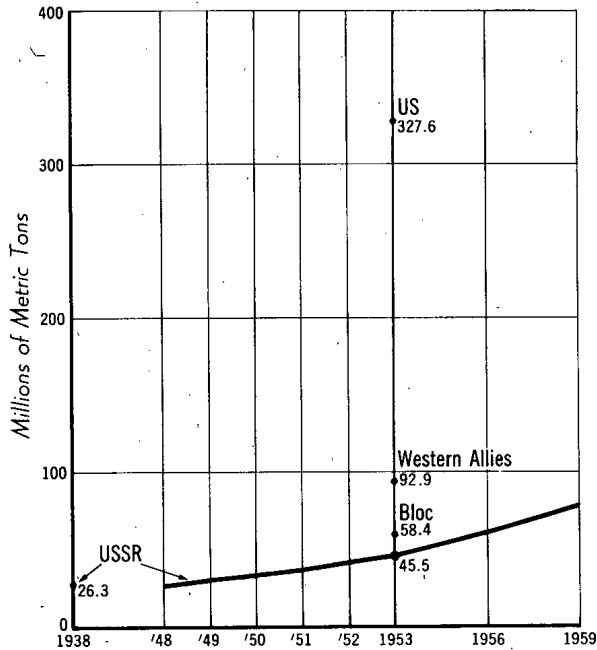
ANTHRACITE AND BITUMINOUS COAL



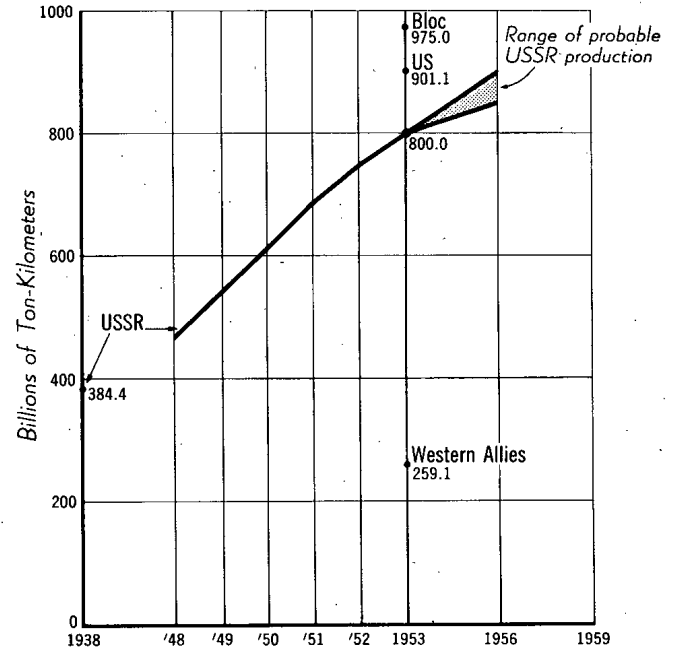
ELECTRIC POWER



PETROLEUM PRODUCTS



RAIL TRANSPORT



13397 CIA, 9-54

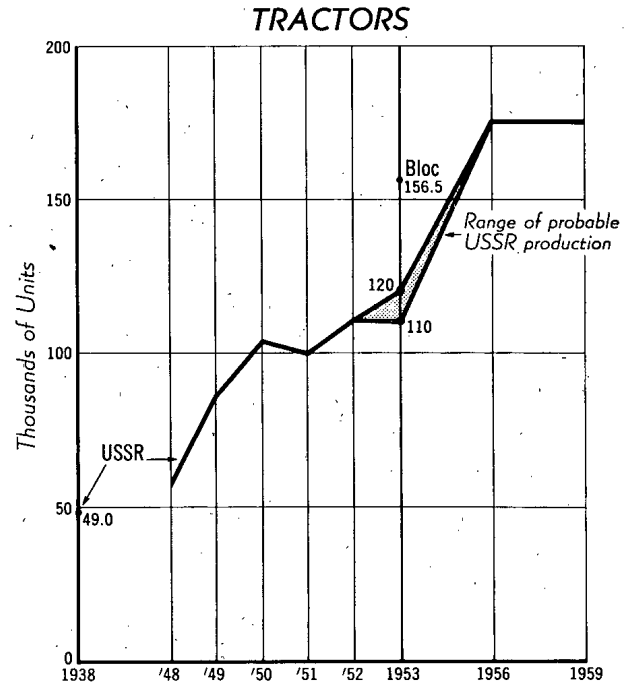
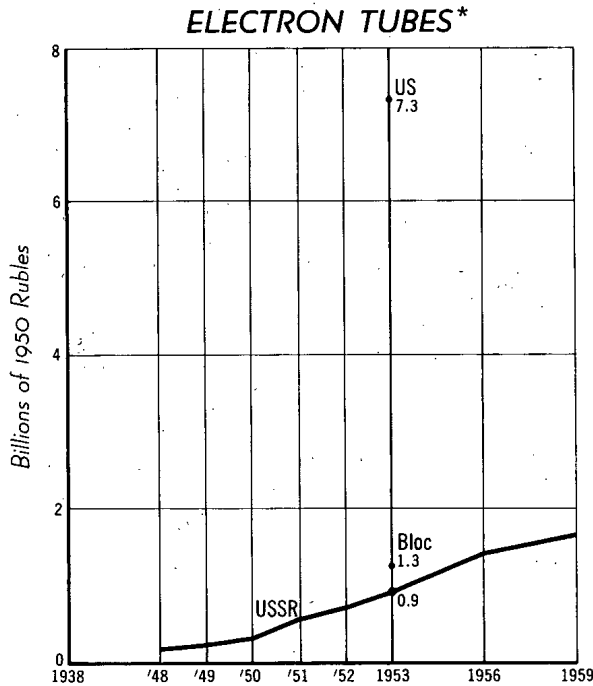
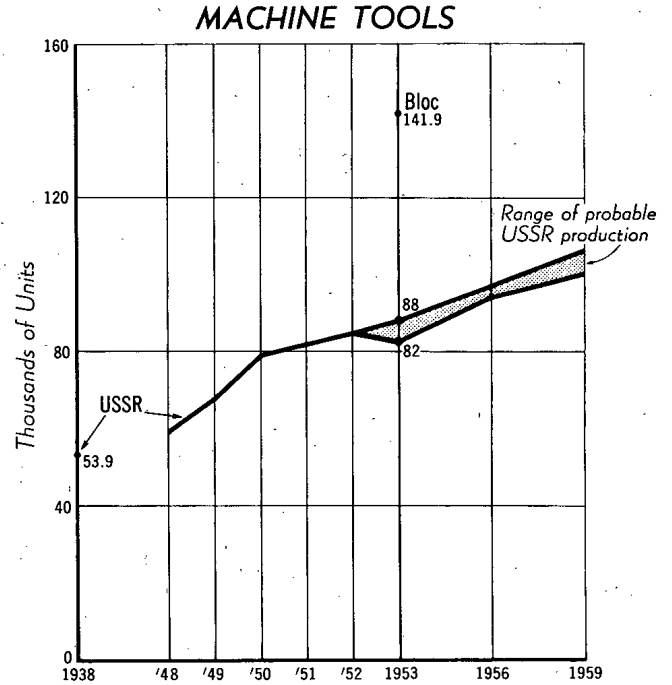
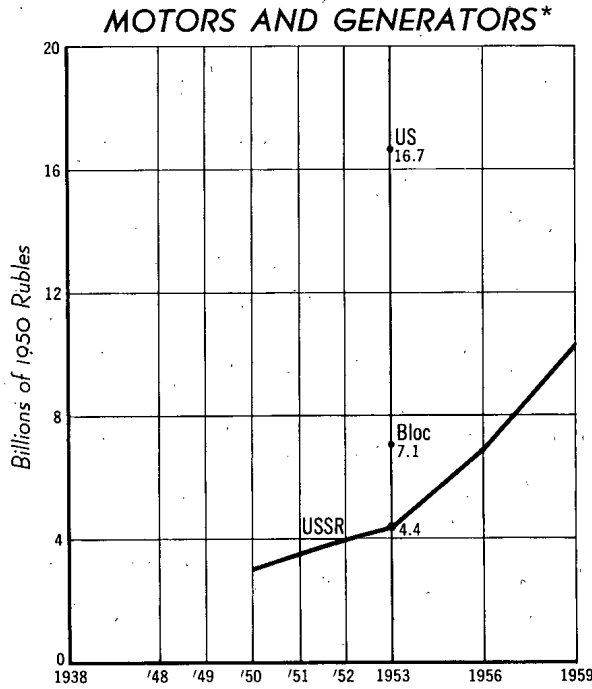
The Western Allies of the US include the other members of NATO together with Spain and West Germany.

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Appendix B
Figure 4

MANUFACTURING



*In view of the somewhat heterogeneous composition of the items included in these categories, and the problems of dollar-ruble conversion, these estimates represent rough orders of magnitude of production rather than precise calculations of quantity or value.

The Western Allies of the US include the other members of NATO together with Spain and West Germany.

13398 CIA, 9-54

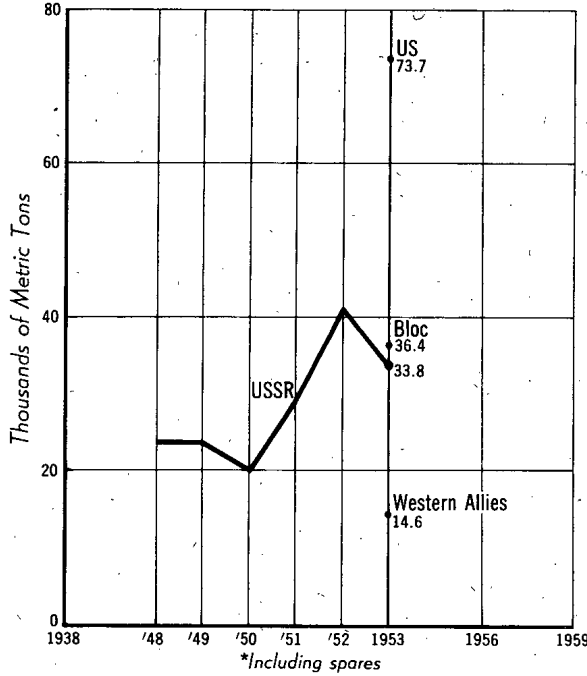
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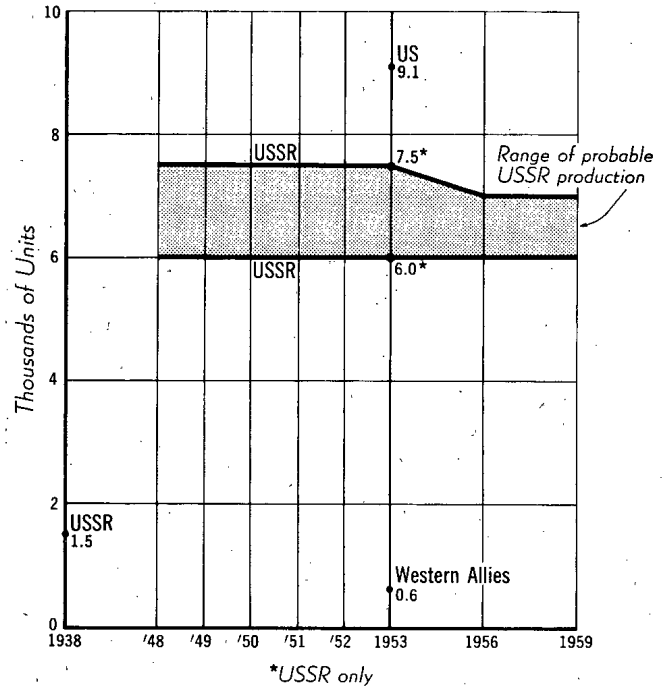
Appendix B
Figure 5

MILITARY END ITEM PRODUCTION

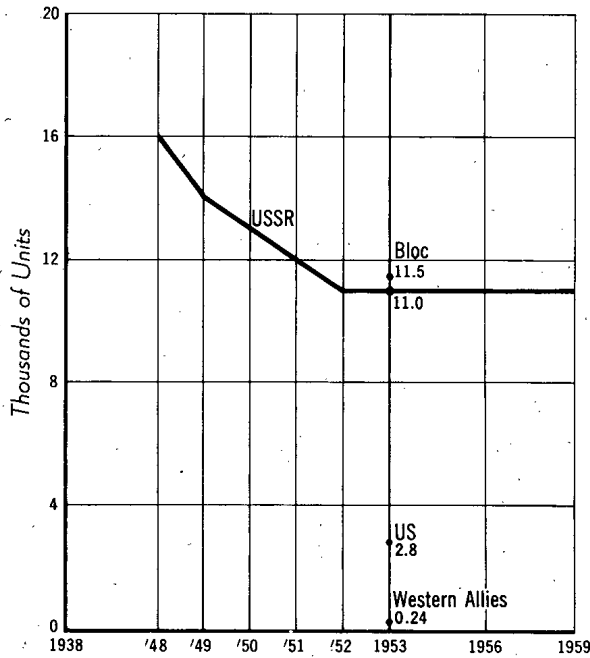
TOTAL AIRCRAFT PRODUCTION*
(Military and Civilian)



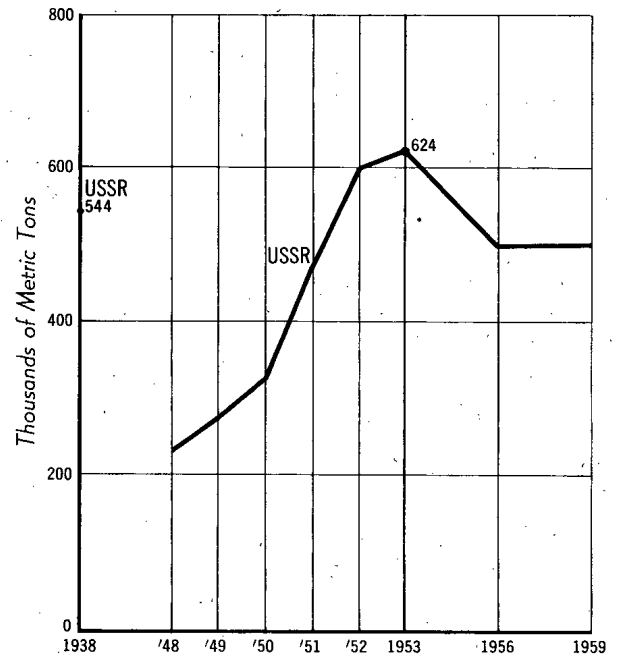
TANKS AND ASSAULT GUNS



ARTILLERY



ARTILLERY AMMUNITION



13399 CIA, 9-54

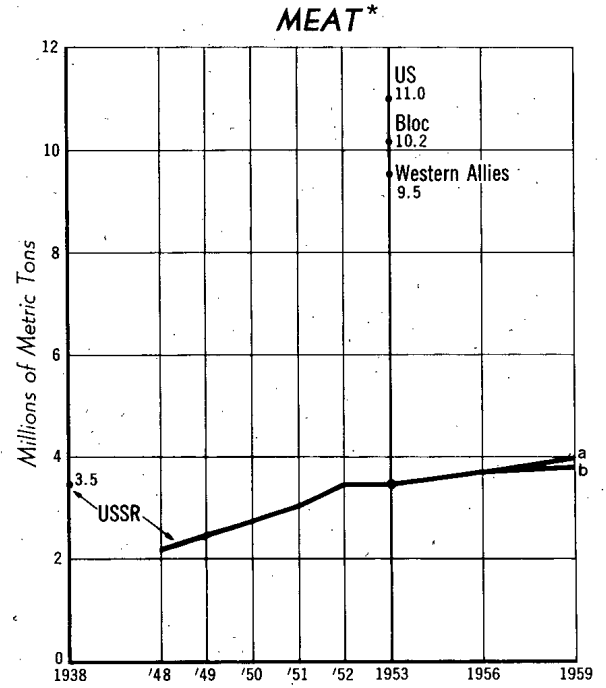
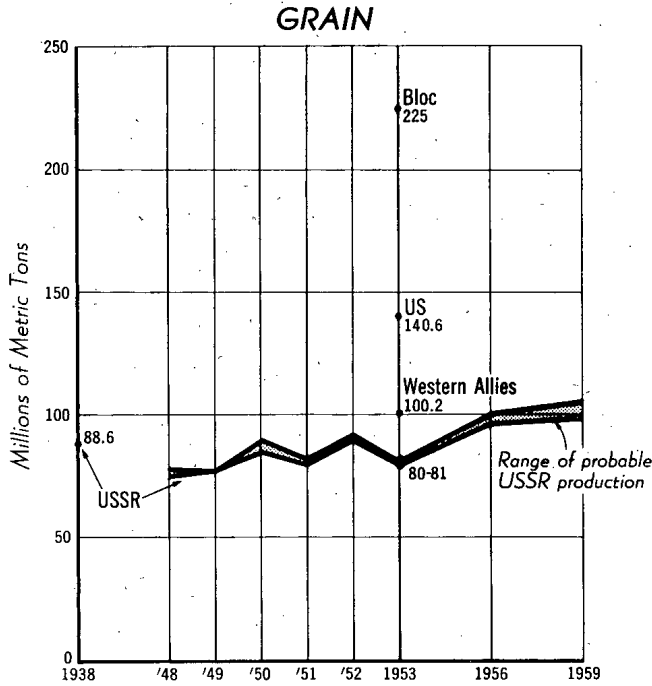
The Western Allies of the US include the other members of NATO together with Spain and West Germany.

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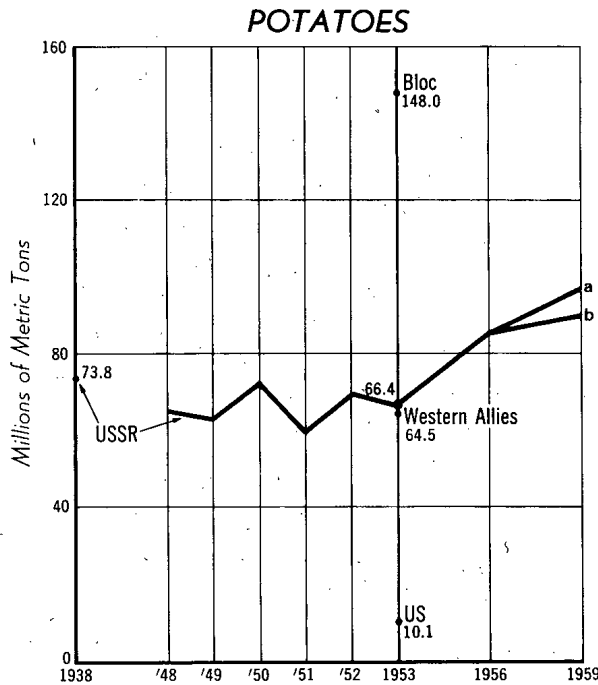
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Appendix B
Figure 6

AGRICULTURAL PRODUCTION



*Excluding slaughter fats, lard, fat cuts, and bacon.



^a Assuming the continuation of the policy of encouraging consumer goods expansion.
^b Assuming the discontinuation of that policy.

The Western Allies of the US include the other members of NATO together with Spain and West Germany.

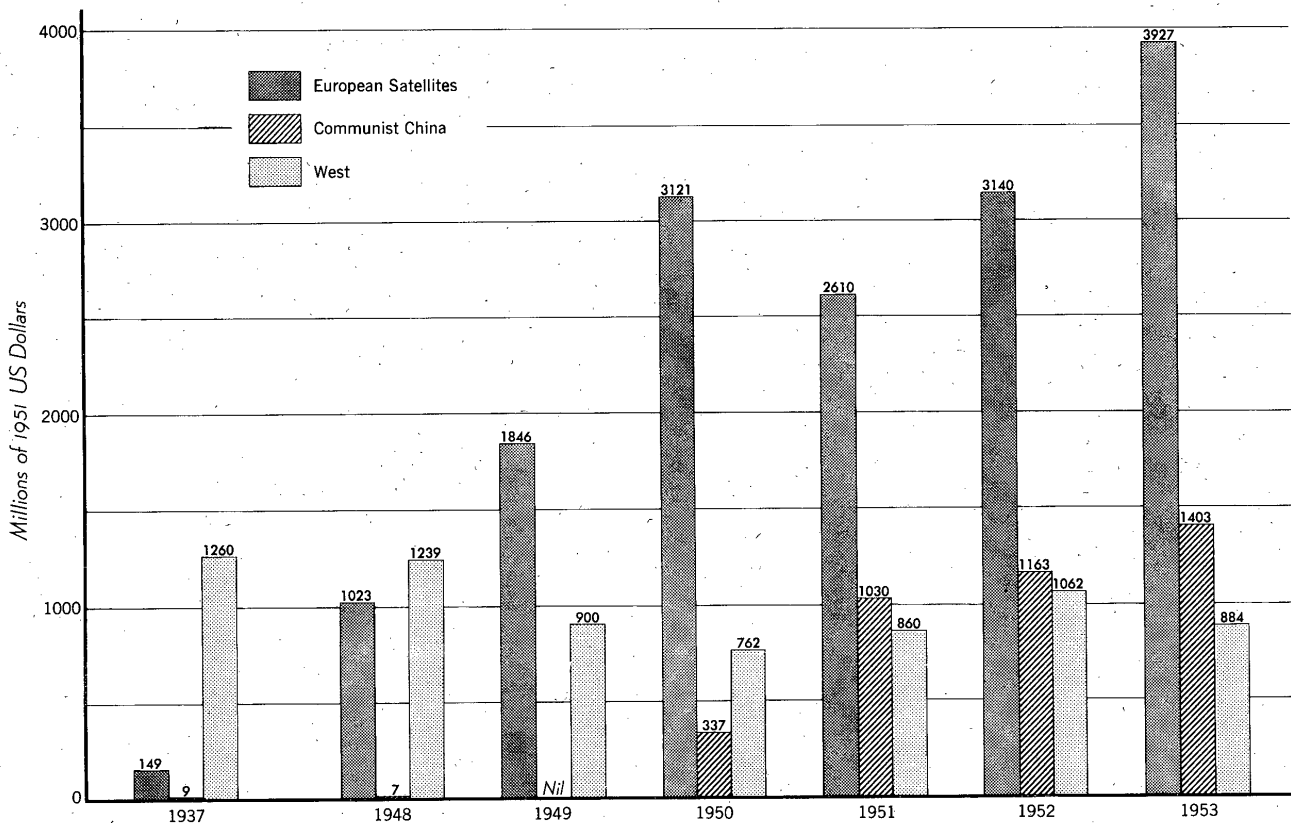
13400 CIA, 9-54

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Appendix B
Figure 7

DIRECTION OF FLOW OF USSR FOREIGN TRADE, 1937 AND 1948-53 (Total Trade Turnover)

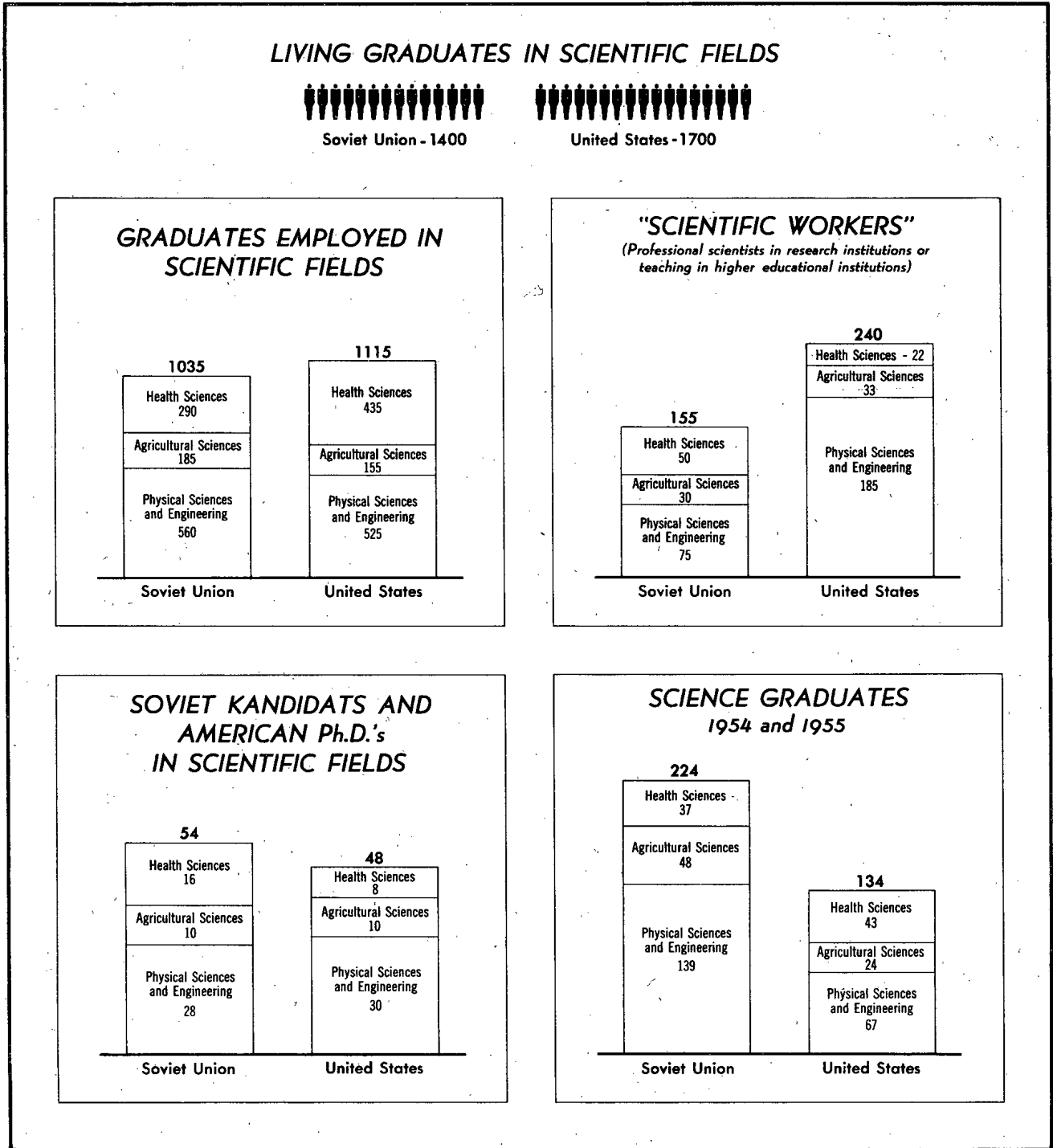


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US AND USSR

COMPARISON OF MAJOR SCIENTIFIC GROUPS
AS OF MID-1954*

(In Thousands)



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

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TABLE 1

APPENDIX D

ESTIMATED STRENGTH OF BLOC ACTIVE MILITARY PERSONNEL

Active Military Personnel Strength

Services Country	Mid-1954				Mid-1959				Totals	
	Army	Air Force	Navy	Security	Army	Air. Force	Navy	Security	Mid-'54	Mid-'59
USSR	2,500,000	800,000 ¹	691,000 ²	400,000	2,500,000	850,000	740,000	400,000	4,391,000	4,490,000
EE Satellites	1,115,000	88,700 ³	32,300	311,000	1,285,000	115,000	42,300	331,000	1,547,000	1,753,300
Albania	30,000	200	800	10,000	30,000	.....	800	10,000	.....	.....
Bulgaria	200,000	14,000	5,500	50,000	200,000	.....	7,500	50,000	.....	.....
Czecho.	170,000	18,000	.....	40,000	170,000	.....	.....	40,000	.....	.....
E. Germany	100,000	6,500	9,000	30,000	175,000	.....	12,000	50,000	.....	.....
Hungary	150,000	18,000	.....	38,000	150,000	.....	.....	38,000	.....	.....
Poland	250,000	20,000 ³	9,000	65,000	250,000	.....	12,000	65,000	.....	.....
Rumania	215,000	12,000	8,000	78,000	290,000	.....	10,000	78,000	.....	.....
Communist Asia	2,739,000	86,500	73,000	.....⁵	2,997,000	114,000	85,000	.....⁵	2,898,500	3,196,000
Comm. China	2,212,000	71,500 ⁴	62,000	.....	2,385,000	.....	70,000	.....	.....	.....
North Korea	312,000	15,000	11,000	.....	312,000	.....	15,000	.....	.....	.....
Viet Minh	215,000	.....	.....	.....	300,000	.....	.....	.....	.....	.....
BLOC TOTALS	6,354,000	975,200	796,300	711,000⁵	6,762,000	1,079,000	867,300	731,000	8,836,500	9,439,300

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 and 125,000 MVD naval frontier guards who become part of the Navy during wartime, but in this table are included under the security forces.³ Includes naval air arm.⁴ Includes naval air arm and 4,500 Soviet personnel.⁵ Because of their markedly inferior combat qualities, about 1,100,000 Communist Asian security troops are not included. Chinese Public Security Forces total about 1,000,000 men. These forces are lightly equipped and widely dispersed on security duties. The North Korean Security Forces number about 21,000 men.**SECRET**

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TABLE 2

APPENDIX D

ESTIMATED STRENGTH OF BLOC GROUND FORCES AND TRAINED RESERVES, MID-1954 AND MID-1959,
AND ESTIMATED GROUND MOBILIZATION POTENTIAL, MID-1954.

FORCES	Divisions by Type, Mid-1954				Total Line Divisions		Trained Ground Reserves		Ground Mobilization Potential Mid-1954			
	Line ¹			Support- ing	Mid- 1954	Mid- 1956-59	Ground Reserves		M+30		M+180	
	Rifle	Mech.	Tank				Mid-'54	Mid-'59	Personnel	Div.	Personnel	Div.
USSR (total)	110 ²	40	25	45 ³	175	175	6,250,000	8,000,000	8,750,000	300	11,875,000	475 ⁹
Occupied Europe ⁴	5	16	9	13	30	30	.....	.....	.....	.....	.....	.....
NW USSR	.....	.....	.....	.....	14	14	.....	.....	.....	.....	.....	.....
W USSR	.....	.....	.....	.....	51	51	.....	.....	.....	.....	.....	.....
W Central USSR	.....	.....	.....	.....	19	19	.....	.....	.....	.....	.....	.....
Caucassus	.....	.....	.....	.....	17	17	.....	.....	.....	.....	.....	.....
E Central USSR	.....	.....	.....	.....	14	14	.....	.....	.....	.....	.....	.....
Far East	.....	.....	.....	.....	30	30	.....	.....	.....	.....	.....	.....
Satellites (total)	63	13	6	.....	82	93	2,332,500	4,215,000	3,030,000	118	4,100,000	196
Albania	3	.....	.....	.....	3	3	37,500	90,000	80,000	4	100,000	6
Bulgaria	12 ⁵	.....	2	.....	14	16	550,000	800,000	500,000	20	700,000	28
Czechoslovakia	8	4	2	.....	14	14	415,000	750,000	500,000	20	1,000,000	48
East Germany	4	3	.....	.....	7	12	30,000	200,000	250,000	9	350,000	12
Hungary	12 ⁵	1	1	.....	14	14	300,000	350,000	450,000	18	650,000	25
Poland	12	5	.....	.....	17	19	550,000	1,000,000	675,000	25	1,200,000	42
Rumania	12 ⁵	.....	1	.....	13	15	450,000	825,000	575,000	22	1,000,000	35
Com. Asia (total)	163	.....	5	7	168	155	¹⁰	¹⁰	¹¹	¹¹	¹¹	¹¹
China	138 ⁶	.....	5	19	143	115	.....	.....	.....	.....	.....	.....
Korea	34	.....	.....	4	34	.....	.....	.....	.....	.....	.....	.....
Manchuria	22	.....	3	6	25	.....	.....	.....	.....	.....	.....	.....
N China	13	.....	1	2	14	.....	.....	.....	.....	.....	.....	.....
E China	25	.....	1	3	26	.....	.....	.....	.....	.....	.....	.....
Central S China	15	.....	.....	2	15	.....	.....	.....	.....	.....	.....	.....
SW China/Tibet	12	.....	.....	1	12	.....	.....	.....	.....	.....	.....	.....
NW China	17	.....	.....	1	17	.....	.....	.....	.....	.....	.....	.....
North Korea	19	.....	.....	.....	19	24	.....	.....	.....	.....	.....	.....
Viet Minh	6	.....	.....	1	6	16	.....	.....	.....	.....	.....	.....
BLOC TOTALS	336	53	36	65	425	423	8,582,000	12,215,000	11,780,000	418	15,975,000	671

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 This includes 5 cavalry divisions, and 8-10 airborne divisions.³ 20 artillery and 25 anti-aircraft divisions.⁴ In East Germany: 415,000 men; 22 divisions.⁵ Includes 1 cavalry division.⁶ Includes 2 mountain divisions.⁷ 20 artillery divisions.⁸ Includes 6 cavalry and 3 parachute divisions.⁹ Of these 475 divisions 300 could probably be equipped from stockpiles. The remaining 175 divisions would be equipped from current production and would probably be used primarily to provide replacement units or individual replacements.¹⁰ Communist Asian forces have no system of organized reserves. The Communist Chinese have an estimated 6-20,000,000 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.¹¹ Communist Asian forces are considered fully mobilized. Any further increment in the size of the Chinese Communist forces will be dependent upon the acquisition of weapons and equipment, and the size of the trained manpower pool. (See note ¹⁰ above.)~~TOP SECRET~~

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TABLE 3

APPENDIX D

ESTIMATED BLOC NAVAL FORCES, MID-1954 - MID-1959

SHIPS	FLEET		BALTIC			NORTHERN		BLACK SEA			PACIFIC			TOTALS			BLOC TOTAL	
	COUNTRY	U.S.S.R.		Satel- lites ¹	U.S.S.R.		U.S.S.R.		Satel- lites ¹	U.S.S.R.		Comm. China ¹	U.S.S.R.		Satell's & Comm. China ¹	Mid- 1954	Mid- 1959 ²	
		Mid- 1954	Mid- 1959		Mid- 1954	Mid- 1959	Mid- 1954	Mid- 1959		Mid- 1954	Mid- 1959		Mid- 1954	Mid- 1959				Mid- 1954	Mid- 1959
SURFACE VESSELS																		
A. MAJOR SURFACE VESSELS																		
1. aircraft carriers																		
2. battleships/monitors	2	3 ³			3	3	2	2				4	5 ⁴			4	5 ³	
3. cruisers	11	22			3	3	8	12			2	2	24	39	1	25	40	
4. destroyers	41	60	1		33	52	23	41	5		34	53	131	206	6	137	212	
5. coastal destroyers	21	25			2	2	9	11			14	17	46	55		46	55	
TOTAL (Major)	75	110	1		38	57	42	66	5		50	72	1	205	305	7	212	312
B. MINOR SURFACE VESSELS (TOTAL)																		
	989	989	58/96		188	188	278	278	94		394	394	185	1849 ⁴	1849 ⁴	337/375	2186	2224
SUBMARINES																		
1. long-range	52	112			48	138	28	58			20	70		148	378		148	379
2. medium range	26	26	3		2	2	8	8	3		37	37		73	73	7	79	79
3. coastal	51	51			3	3	41	41			49	49		144	144		144	144
TOTAL (Submarines)	129	189	3/4		53	143	77	107	3		106	156	1⁵	365	595	7/8	371	602

¹ No significant changes are anticipated during the period of this estimate.² Units considered obsolete in 1959 include—USSR: 4 battleship/monitors, 5 cruisers, 18 destroyers, 15 coastal destroyers, 17 long-range submarines, 34 medium-range submarines, 25 coastal submarines; Satellite and Communist China: 1 cruiser, 5 destroyers, 8 submarines.³ Includes one hull presently on ways estimated to be larger than a cruiser.⁴ Construction of minor combatant vessels is uncertain and probably will be limited to replacement needs.⁵ A submarine of unknown type was transferred from the USSR, but is also included in USSR totals.

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TABLE 4

APPENDIX D

ESTIMATED BLOC AIR STRENGTH IN OPERATIONAL UNITS, MID-1954 - MID-1959¹

	Mid-1954			Mid-1955			Mid-1956			Mid-1957		Mid-1958		Mid-1959	
	USSR	EE SAT	NCAF/ NKAF	USSR	USSR	EE SAT	CCAF/ NKAF	USSR	USSR	USSR	EE SAT	CCAF/ NKAF	USSR	EE SAT	CCAF/ NKAF
Fighter: Jet (Day)	10,150 ²	1,780	1,150	10,400	10,200	2,450	1,700	9,800	9,400	8,900	2,500 ²	1,900			
(All Weather)	A few			200	500			1,000	1,500	2,100					
Piston		260	400												
Attack: Jet				200	900	100		1,600	2,100	2,300	400	120			
Piston	2,350	910	240	2,300	1,600	840	360	900	400	200	600	320			
Lt. Bomber: Jet	3,250	60	280	3,200	3,200	280	520	3,200	3,200	3,200	600	720			
Piston		300	320			310	160				100				
Med. Bomber: Jet	60			200	400			650	850	1,050					
Piston	1,340		10	1,200	1,000		60	700	400	100	30	100			
Heavy Bomber: Jet								50	150	250					
Tankers: ⁴				300	500			550	750	850					
Transport: ⁵ Medium					50			100	200	400					
Light	1,900	140	120	1,900	1,850	180	140	1,800	1,700	1,500	270	200			
Helicopters	50			100	300			450	450	450					
Reconnaissance: Jet	660			750	900	70	60	1,000	1,070	1,070	200	80			
Piston	440	150		350	200	170	10	100	30	30	100	10			
TOTAL	20,200	3,600	2,520	21,100	21,600	4,400	3,010	21,900	22,200	22,400	4,800	3,450			
Jets	14,120	1,840	1,430	14,950	16,100	2,900	2,280	17,300	18,270	18,870	3,700	2,820			
BLOC TOTAL (TO&E)		25,920				29,010					30,650				
Jets		17,390				21,280					25,390				
BLOC TOTAL (ACTUAL)		21,000													
Jets		12,600													

¹ NOTE: a. Figures include Naval Air.

b. USSR figures are estimates of authorized TO&E strength, except in the categories showing introduction of new aircraft types, in which case the build-up phase in new types represents estimated actual strength. Present actual strength is estimated to be, for the various types of aircraft, the following percentages of TO&E strength: Jet fighters, 80%; Attack, 90-100%; Jet light bombers, 60-70%; Piston medium bombers, 82-87%; Transport, 90-95%; Jet reconnaissance, 60%; Piston reconnaissance, 90-95%. Based on present reequipment trends it is considered that the overall operational establishment will be at a figure close to full authorized strength by mid-1955. The possible effect which introduction of guided missiles might have on aircraft strength in the latter part of the period cannot presently be estimated.

c. Actual overall strength of European Satellite Air Forces is estimated at about 65% of authorized strength in mid-1954, at 75% for mid-1956, and 85% for mid-1959.

d. Actual strength of the CCAF-NKAF is about 75% of authorized strength in mid-1954, at 85% for mid-1956, and 90% for mid-1959.

² May include approximately 300 all-weather fighters.³ Approximately 2,000 are MIG-17's.⁴ There is no intelligence to indicate that the Soviets have developed tanker aircraft or inflight refueling techniques. It is estimated that without producing additional TU-4 aircraft and without reducing the actual strength of medium bombers in the long range air force, the Soviets could by converting TU-4's have about 300 tankers by mid-1955. However, this would require the conversion of almost all such aircraft not presently assigned to tactical units.⁵ In addition to Transports, it is estimated that 300 gliders are in organized glider regiments.

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TABLE 5

APPENDIX D


ESTIMATED 1954-1957 SOVIET LONG-RANGE AIRCRAFT CAPABILITIES

(Calculated in accordance with U.S. Military Mission profiles)

<u>Conditions</u>	<u>TU-4</u>	<u>Medium Bomber TU-4 (Modified)</u>	<u>Type 39¹</u>	<u>Heavy Bomber Type 37¹ (1957)</u>
<u>Combat Radius/ Range (nm)</u>				
a. 10,000 lb. load One refueling	1700/3100 2400/4300	2000/3600 2800/5000	1500/2900 2100/4000	2750/5300 3800/7300
b. 3,000 lb. load One refueling	1950/3500 2750/4900	2300/4100 3200/5700	1700/3300 2400/4600	2850/5500 3900/7500
<u>Speed/Altitude (kn/ft)</u>				
a. Maximum speed	350/30,000	360/30,000	535/15,000	535/19,000
b. Com. speed	350/30,000	360/30,000	475/41,000	475/44,500
<u>Combat Ceiling² (ft)</u>	36,500	37,500	43,500	48,000

¹ The Director of Naval Intelligence believes that the operating performance capabilities of these aircraft could be approximately as indicated. However, he desires to note that these data are based primarily on inflight photographs and a series of assumptions. Therefore, they may be subject to some revision, either upwards or downwards, as more substantial direct evidence becomes available.

² The altitude at which a rate of climb of 500 ft/min can be maintained at the end of the given combat radius of the aircraft.


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TABLE 6

APPENDIX D

**ESTIMATED 1954-1957 SOVIET LONG-RANGE AIRCRAFT CAPABILITIES
UNDER A MODIFIED MISSION PROFILE**

(Calculated in accordance with US Military Mission Profiles
except that fuel reserves are reduced and aircraft operate
at altitudes permitting maximum radius/range)

<u>Conditions</u>	<u>TU-4</u>	<u>Medium Bomber</u>		<u>Heavy Bomber</u>
		<u>TU-4 (Modified)</u>	<u>Type 39¹</u>	<u>Type 37¹ (1957)</u>
<u>Combat Radius/ Range (nm)</u>				
a. 10,000 lb. load One refueling	1800/3300 2500/4500	2150/4000 3000/5600	1600/3100 2200/4300	3100/6100 4300/8100
b. 3,000 lb. load One refueling	2050/3700 2850/5100	2450/4600 3450/6450	1850/3700 2250/5000	3200/6400 4300/8200
<u>Speed/Altitude (kn/ft)</u>				
a. Maximum speed	350/30,000	360/30,000	535/15,000	535/19,000
b. Com. speed	350/30,000	360/30,000	475/42,000	475/45,500
<u>Combat Ceiling² (ft)</u>	36,500	37,500	43,500	48,000

Estimated maximum target altitudes (100 ft/min. rate of climb) for the Type 37 and Type 39 aircraft on one-way missions, one hour fuel remaining, bombload aboard and with maximum power, are as follows:

<u>Type 37¹</u>		<u>Type 39¹</u>	
<u>Bombload (lbs.)</u>	<u>Altitude (ft.)</u>	<u>Bombload (lbs.)</u>	<u>Altitude (ft.)</u>
20,000	55,100	10,000	49,700
10,000	56,300	3,000	51,100
3,000	57,200		

¹The Director of Naval Intelligence believes that the operating performance capabilities of these aircraft could be approximately as indicated. However, he desires to note that these data are based primarily on inflight photographs and a series of assumptions. Therefore, they may be subject to some revision, either upwards or downwards, as more substantial direct evidence becomes available.

²The altitude at which a rate of climb of 500 ft/min can be maintained at the end of the given combat radius of the aircraft.

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TABLE 7

APPENDIX D

ESTIMATED PRODUCTION OF MAJOR ARMY WEAPONS IN 1953
(Soviet Bloc and NATO)

ITEM	USSR	TOTAL BLOC	US	TOTAL NATO
Armored Vehicles	6,000	6,000	9,134	9,734
Heavy Tanks (over 50 tons)	700	700	195	.....
Medium Tanks (35-50 tons)	3,700	3,700	7,816	.....
Light Tanks	1,123
Self-Propelled Guns	1,600	1,600
Artillery Pieces	11,300	11,750	3,042	3,281

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TABLE 8

APPENDIX D

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

ITEM	SOVIET BLOC			NATO		
	1946-51	1952-53	Postwar Total	1946-51	1952-53	Postwar Total
Fighters and Bombers (Units)	28,800	12,740	41,540	18,000	14,800	32,800
Production of Other Aircraft (Units) ²	28,190	7,470	35,660	100,000	20,600	120,600
Total Aircraft Production (million lbs.)	311	143	454	329	318	647

¹ BLOC and NATO production combined accounted for about 95 percent of world production. Except for small, but growing, contributions from Czechoslovakia and Poland the USSR has accounted for all of the Bloc aircraft production. The major contributions to NATO were roughly: US, 65-70 percent; UK, 20-25 percent; others, about 10-15 percent.

² Trainers are included in this category.

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TABLE 9

APPENDIX D

ESTIMATED TOTAL USSR NAVAL PRODUCTION, 1954-1959						
	1954	1955	1956	1957	1958	1959
Major Surface Vessels						
Lt. Cruisers ¹	3	2	1	1	6	5
Fleet Destroyers ²	1	8	24	19	16	8
Coastal Destroyers	16	9				
Minor Surface Vessels³						
Submarine (Long Range)	40	46	46	46	46	46

¹ Cruiser construction, previously estimated at 35 (average) ships per annum was interrupted by the diversion of two shipyards to the construction of tankers, which accounts for the decrease in cruiser deliveries 1955-1957.

² Includes 12 destroyer leaders estimated to be built during the period of this estimate.

³ We are unable to estimate the building rate of minor surface vessels, but believe it will be limited largely to the replacement of existing units as they become obsolete or are transferred to the Chinese Communists or Satellite navies.



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TABLE 10

APPENDIX D

ESTIMATED COMPOSITION OF BLOC MERCHANT
FLEETS MID-1954 AND MID-1959
(VESSELS 1,000 GROSS TONS UPWARD)

	Mid-1954						Mid-1959					
	Non-Tanker ¹		Tanker		Total		Non-Tanker ¹		Tanker		Total	
	No.	GRT (000's)	No.	GRT (000's)	No.	GRT (000's)	No.	GRT (000's)	No.	GRT (000's)	No.	GRT (000's)
USSR	597	1,952	41	172	638	2,124	810	2,551	93	484	903	3,034
E. European Satellites	84	307	3	21	87	328	153	689	3	21	156	678
Communist China	101	262	11	15	112	277	121	367	11	15	132	382
TOTAL	782	2,521	55	208	837	2,729	1,084	3,607	107	520	1,191	4,096

¹Includes passenger ships, freighters, and miscellaneous types such as crab canneries, whale factories, trawlers, and hydrographic ships.~~SECRET~~ SECRET



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