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JUNE 23, 1965.

*To Members of the Joint Economic Committee:*

Transmitted herewith for the use of the Joint Economic Committee and other Members of Congress is a compilation of statistical materials and interpretative articles entitled "Current Economic Indicators for the U.S.S.R." These materials will make up a successor volume to last year's study on the same subject. They are made available to the members of the Joint Economic Committee as a continuation of the studies which appeared in December 1962 under the title "Dimensions of Soviet Economic Power."

The committee is grateful to the Government departments and organizations for their assistance, as well as to the individual scholars who prepared various sections of this volume, and to the Research Analysis Corp. for permitting its staff members to help us in the study.

It should be clearly understood that the materials contained herein do not necessarily represent the views of the committee nor any of its individual members.

WRIGHT PATMAN, *Chairman.*

JUNE 21, 1965.

HON. WRIGHT PATMAN,  
*Chairman, Joint Economic Committee,  
Congress of the United States, Washington, D.C.*

DEAR MR. CHAIRMAN: Transmitted herewith is a compendium of statistical data and interpretative comment entitled, "Current Economic Indicators for the U.S.S.R."

This volume, which is a successor to the report on the same subject published in February 1964, reflects the committee's continuing interest in verifiable facts and scholarly interpretation of current economic developments in the U.S.S.R. These periodic statistical reviews, in turn, are intended to supplement the analytical materials published in the Joint Economic Committee's December 1962 study entitled, "Dimensions of Soviet Economic Power."

In light of our experience in publishing the 1964 volume, certain changes have been made in the present study, particularly in regard to the introduction of more narrative materials to go along with the statistical data presented in each chapter. In addition, the present volume includes an introductory essay summarizing the main findings of the component chapters.

The individual chapters of the present study were prepared for the committee by a number of professional experts in this field of research who have given generously of their valuable time and specialized

knowledge. The committee is indebted in particular to the following individual contributors for the praiseworthy job they have done:

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The present study was planned and coordinated by Leon M. Herman, senior specialist, Soviet economics, Legislative Reference Service, Library of Congress, to whom the committee feels particularly indebted for the high standards and patience he has brought to the present undertaking.

The initial work on behalf of the committee staff was handled by William H. Moore, senior economist, and the subsequent supervision of the completion and editing of the volume was handled by John R. Stark, deputy director.

JAMES W. KNOWLES,  
*Executive Director, Joint Economic Committee.*

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## INTRODUCTION

### THE SOVIET ECONOMY IN 1963

#### A. SLOWDOWN IN THE RATE OF ECONOMIC GROWTH

##### 1. GROSS NATIONAL PRODUCT

The performance of the Soviet economy during 1963 was marked by a sharp decline in the overall rate of growth, a decline that was manifestly induced by the absolute drop in the output of the agricultural sector. The gross national product of the country; i.e., the indicator which measures the aggregate value of all goods and services, increased somewhat in 1963, but the advance amounted to an abnormally low rate of 2.6 percent, the lowest percentage of growth in recent Soviet history. Five years earlier, in 1958, the annual growth rate of the Soviet Union was 8.5 percent.

In terms of average rates of growth, as indicated in detail in chapter I of the present study, the U.S.S.R. has recently slipped from the second highest position among the leading industrial nations, after West Germany, to the fifth position, below that of France. More recently, since 1961, in fact, the Soviet Union has fallen behind the United States, as far as annual growth rates are concerned.

In dollar terms, the aggregate value of goods and services produced in the U.S.S.R. in 1963 has been calculated in the present study (in 1963 market prices) at \$265 billion, an amount equal to 46 percent of the gross national product of the United States. In regard to its overall output, in other words, the U.S.S.R. continues to hold its position as the second largest economy in the world. In per capita terms, however, its comparative position in 1963 was considerably lower; namely, just barely ahead of Italy, as shown below:

*Comparative per capita dollar value of GNP, 1963*

	[In 1963 market prices]
United States.....	3,084
France.....	1,964
Germany (German Federal Republic).....	1,858
United Kingdom.....	1,803
U.S.S.R.....	1,178
Italy.....	1,107
Japan.....	907

##### 2. INVESTMENT TRENDS

The steady decline in the tempo of economic expansion in the U.S.S.R. during the past 5 years may be traced, in large part, to a sharp drop in the rate of growth in the allocation of new capital investment. As measured by the broad indicator of "fixed investment," the annual rate of growth of new capital investment had been

proceeding at an average of 10.8 percent during 1951-58. However, in the course of the subsequent 5-year period (1959-63) new capital was plowed into the economy at an incremental rate of 7.1 percent per annum. Moreover, for the most recent period, 1961-63, the investment effort slackened off still further, showing an annual average growth rate of only 4.7 percent; 6.7 percent if new housing is excluded.

In regard to investment, too, the year 1961 was something of a turning point in the recent economic history of the U.S.S.R. In that year, as shown in considerable detail in chapter IV of our study, a sharp decline began to manifest itself in the rate of growth of new construction activity which remained almost unchanged during the following 2 years. By comparison, it should be noted, the volume of construction grew at an annual rate of nearly 14 percent during 1956-60.

One major factor responsible for the low growth rates in industrial investment since 1961 has been the dislocation resulting from the recent well-publicized effort on the part of the political authorities to carry out a major shift in the industrial structure in favor of such "progressive," growth-inducing branches as the chemical, petrochemical, and electronics industries. Beyond that, however, the lower trends in investment growth of the past few years reflect the diversion of resources to other programs, including various research-intensive equipment, for the military establishment and for space exploration.

### 3. AGRICULTURE

The year 1963 also witnessed a serious depression in the level of agricultural output in the country. Grains were affected most adversely by a widespread incidence of dry weather, with the result that only 89.3 million metric tons of grain were harvested in 1963, as compared with 112 million tons produced in 1962. Wheat production, in particular, declined by 26.5 percent from the level of the preceding year.

In terms of yield, too, the Soviet farm economy performed poorly in 1963. In wheat, for example, the yield per acre amounted to 9.2 bushels, which is equal to 36 percent of the amount of grain produced per acre during the year in the United States; namely, 25.3 bushels.

The level of production of livestock commodities moved somewhat erratically in 1963. Owing to a severe shortage of feed, which induced distress slaughtering, meat went up slightly, while the output of milk and eggs moved downward at a moderate pace. In comparison with the level of output in the United States, production of the above four major livestock commodities showed the following proportions in 1963; pork, 56 percent; beef and veal, 40 percent; milk (cows), 92 percent; eggs, 45 percent.

### 4. INDUSTRIAL PRODUCTION

The industrial sector of the Soviet economy also witnessed a notable decline in growth during the year 1963. Civilian production increased by 6.6 percent over the preceding year, the smallest increase of the postwar period. This marks the fourth consecutive year of annual rates of expansion of less than 8 percent. By comparison, as shown by the data below, the average annual increase in industrial output during the fifties was about 10 percent.

*Annual rates of growth of civilian industrial output in the U.S.S.R.*

	1956-59 average	1960-63 average
Total industry.....	9.7	7.0
Industrial materials.....	9.6	6.1
Civilian machinery, including electronics.....	12.4	11.5
Nondurable consumer goods.....	7.4	3.9

The pattern of growth in recent years, as may be expected, has been fairly uneven. By viewing developments over the two most recent 4-year periods it is possible to observe that the officially favored branches of industry continue to be maintained more or less in the style of growth to which they had become accustomed over the decades. Accordingly, the average annual rate of increase declined from one 4-year period to the other, as illustrated above, by nearly a half for nondurable consumer goods, while industrial materials lost about a third of its earlier growth rate. In the category of machinery and electronics, by contrast, the decline in the rate of growth during the second 4-year period was by less than 10 percent.

There are several factors that help to account for the slowdown in the rate of industrial growth in the Soviet Union after 1959. To begin with, as explained more fully in the chapters dealing with investment and industry, there has been a sharp decline in industrial investment. Apart from that, there has been a shift in the allocation pattern of new capital, a shift that has involved the assimilation of unfamiliar new technology. Lowered levels of output in agriculture have also played a part in the reduced expansion of industry by shrinking the available supply of industrial raw materials. Another negative effect may be traced to the reduction in the length of the average workweek from 46 hours in 1959 to 41 in 1961. In addition to the above, industrial developments have been affected adversely by the preemption of high quality resources by the military sector, at the expense of investment of new plant and equipment for civilian industry.

5. DEFENSE EXPENDITURES

As has often been the case in the past, the sharp decline in the rate of increase in capital investment in the U.S.S.R., underway since 1960, has been accompanied by a conspicuous rise in defense expenditures. These two categories of expenditures have always been competing claimants upon the resources of the domestic economy. Judging by the evidence at hand, Soviet authorities have chosen to favor the defense sector in recent years. This is indicated by the fact that explicit defense outlays have risen by more than 10.5 percent per year between 1960 and 1963, from 9.3 to 13.3 billion rubles. In contrast, investment has grown at a rate of only 4.7 percent during the same 3-year period.

In recent months, the question has often been raised in public print as to whether the new leadership, which came to power in the Soviet Union in October 1964, is likely to reduce military spending in order to provide for a better supply of agricultural products and consumer goods in the domestic economy. The fact most responsible for this line of speculation has been the recent announcement by Party Chieftain Brezhnev that the Soviet Government will spend

\$79 billion on the improvement of the agricultural economy during the next 5-year plan (1966-70).

While the Soviet leaders have understandably avoided making any direct commitment on so sensitive a subject as the pattern of resource allocation, they have, since their accession to power, assured the public that agriculture would be treated more generously than it had been in the past.

It does not necessarily follow, however, that an increase in the allocation of more capital to agriculture would make it necessary for the Soviet authorities to cut back on their defense expenditures. A close analysis of the new agricultural plan for 1966-70, as presented by L. Brezhnev to the Central Committee on March 24, 1964, points to the conclusion that the rulers of the U.S.S.R. can continue their present intense effort in the sphere of military and space research and development, as well as in the expansion and deployment of advanced weapons system, without serious concern over the possible adverse impact of this effort on the agricultural economy. The kind of resources that are required to inject a higher level of productivity into agriculture, e.g., tractors, trucks, farm machinery, construction equipment, etc., no longer play a critical role in the modern defense industry. If anything, a large diversion of production inputs of this kind into agriculture would tend to impose a serious burden on the conventional branches of heavy industry, i.e., the branches which are both producers and consumers of this kind of mass-produced equipment. Modern weapon systems, on the other hand, depend more for their support and expansion upon the newer industries equipped especially to produce electronics, automatic mechanisms, precision instruments, and hand-tooled missiles of various kinds. They require, in addition, highly trained scientists, design engineers, and unusually skilled technicians of the kind that would not be, in the foreseeable future, conceivably transferred to jobs in the mass production lines of the farm machinery and automotive industries.

#### 6. CONSUMPTION LEVELS

It is important to bear in mind, however, that the absolute volume of new investment continues to be very high in the U.S.S.R. Only the rates of new increments in annual capital allocations have declined of late. In 1963, for example, the aggregate figure for new investment in the U.S.S.R., amounted to 42.2 billion rubles, an enormous sum that is fully equal, in dollars, to the amount allocated to investment in the United States, although total consumption in the Soviet economy is equal to only one-third of the value of goods and services consumed in this country. Inevitably, therefore, the large outlays which the Soviet Government makes annually on investment and defense reduces severely the fund of resources available for consumption by the population.

As compared with its own past, to be sure, per capita consumption in the U.S.S.R. has increased substantially in recent years. In 1963, for example, it had reached a level equal to 70 percent above that of 1950. This reflects an average increase of about 4 percent a year.

In comparison with the major Western nations, however, the U.S.S.R. has failed to make any dramatic progress within the past



dozen years. Thus, for example, in 1963 per capita consumption in the U.S.S.R. amounted to less than 90 percent of that in Italy. In respect to this important indicator, in other words, its position relative to Italy remained the same as it was in 1950.

In comparison with the United States, too, the recent Soviet record in per capita consumption has made little tangible relative progress. True, in 1963 Soviet per capita consumption reached a level equal to about 30 percent of that in the United States, whereas in 1950 it amounted to some 20 percent of our level. However, most of the gain made by the U.S.S.R., relative to the United States level, was achieved by 1958. Since then, consumption per capita has grown at about the same rate in both countries.

Apart from the difference in the aggregate volume of consumption, as shown in the relevant chapter, there are a number of important differences in the pattern of consumption in the two countries.

To cite one prominent difference: The share of starchy staples (grain products and potatoes) continues to be distinctively large in the U.S.S.R. It was larger in fact in the Soviet Union in 1962 than in the United States more than a half century ago. In addition, as shown in some detail in section VIII of this report, consumption of food per capita in the U.S.S.R. remains unusually high relative to other consumer goods to this day, reflecting a familiar social phenomenon; namely, that in a country with a low level of earnings a large proportion of the personal income of the population is devoted to food expenditures. By comparison, nonfood products and personal services absorb a smaller share of the consumer ruble. In fact, per capita consumption in 1963 of most of these items in the U.S.S.R. amounted to little more than 15 percent of that in the United States.

*Estimated stocks of consumer's durables at end of 1963*

[Units per 1,000 persons]

	U.S.S.R.	United States	U.S.S.R. as percent of United States
Sewing machines.....	132	135	98
Radios.....	190	974	20
Television sets.....	63	318	17
Automobiles.....	4	272	1
Refrigerators.....	23	288	8
Washing machines.....	36	216	17

Another distinctive feature of the Soviet pattern of consumption is the high level of consumption of state-provided services such as health and education. Their high priority in the allocation pattern reflects the fact that such services are regarded by the Soviet Government as falling under the heading of investment rather than consumption.

In housing, the improvements in the level of available space, relative to population, has slowed down in recent years. New additions of urban dwelling space in 1963 amounted to 77.4 million square meters, as against 82.8 in 1960. By way of comparison, living space per capita in the U.S.S.R. in 1963 amounted to approximately 20 percent of that available in the United States. In this respect, there was no measurable improvement since 1950.

#### 7. POPULATION, EMPLOYMENT AND LABOR PRODUCTIVITY

Because of the severe wartime losses in population, actual as well as potential, the Soviet Union has also had to contend with a less favorable manpower situation in recent years. In 1963, employment outside of agriculture increased by 2 million persons, as compared with the addition of 4.2 million nonfarm wage earners made in 1961. As far as the growth of the labor force as a whole is concerned, the rate of new additions has declined as follows: from an average rate of 1.9 percent for the period 1950-58 to an average of 1.4 percent during the next 5 years (1958-63).

This downward trend reflects (a) the delayed effect of the low birth rate of the wartime period and (b) the absence of any perceptible slack for raising further still the high labor participation ratio of the Soviet population, which is already quite high.

Another setback to the Soviet drive for rapid economic growth came in the form of a slowdown in the advancement of labor productivity. In the earlier of the two periods, under review here, Soviet performance in the sphere of labor productivity growth ranked very high, just below that of Germany. Specifically calculated in chapter I of this study, the average rate of growth in Soviet labor productivity measured 5.0 percent per year during 1950-58. During the subsequent 5-year period, however, labor productivity in the U.S.S.R. advanced at a much reduced average rate; namely 3.1 percent. Thus, the deterioration in the growth rate of Soviet productivity performance was the most pronounced among the major economies compared in this report.

#### 8. FOREIGN TRADE

In its commerce with other nations, the Soviet Union has maintained a fairly steady rate of expansion in recent years. Total trade turnover [exports plus imports] rose by 6 percent in 1963, reaching a level of \$14.3 billion. At that level it was equal to 35 percent of the dollar value of the foreign commerce of the United States. In comparison with the other major trading nations of the world, the U.S.S.R. now ranks fifth in line, behind France and slightly ahead of Canada.

Viewed over the past 10-year period, the annual value of Soviet foreign trade expanded by 150 percent; in part, at least, as a result of (a) the return of the U.S.S.R. to its traditional markets in Western Europe and (b) its more active involvement in commodity exchanges with the newly developing countries. Still, the strong preference for trading with other Communist nations remains in effect. In 1963, as in preceding years, 70 percent of all Soviet trade transactions were completed with trade partners within the Communist world.

#### B. THE SEARCH FOR HIGHER LEVELS OF ECONOMIC EFFICIENCY

##### 1. DISCONTENT OF THE LEADERSHIP

The loss of economic momentum during the past 3 to 5 years has produced a mood of serious self-examination among policymakers and economic experts alike in the U.S.S.R. By 1962, there was very little left of the buoyant optimism over economic prospects which pervaded official Soviet opinion during the mid-fifties.

Even before the shock of the depressed harvest of 1963 had spread through the society as a whole, Soviet leaders began to voice com-

plaints about the qualitative and dynamic aspects of their production system. They have complained, in general, about the failure of their planners and managers to make more effective use of the vast array of economic resources at their disposal. They have complained, in particular, about the declining yield in added output from new capital investment; about the all-too-slow growth of labor productivity; about the neglect of modern branches and processes of production; about the general indifference among the nation's plant managers to new, better, and cheaper materials; about the general resistance to innovation at the enterprise level; and about the deep-seated bureaucratic tendency on all levels of operation to rely on established, routine methods of manufacturing and distribution.

In one of his memorable addresses dealing with the problem of economic planning, delivered in November 1962, former Premier Khrushchev gave vent, in great detail, to the long pent-up discontent of the party hierarchy with the level of efficiency in the Soviet economy. He was especially critical of the pervasive lethargy among Soviet planners, administrators, and plant managers with respect to new, more efficient ideas and processes in the country's industrial plant. He was beginning to wonder, he declared, "whether this proves our inability to utilize technical progress."

An important reason for the loss of self-confidence among Soviet economic authorities is the fundamental fact that the economy of the U.S.S.R. has been growing bigger but not better. About a decade ago, official Soviet spokesmen were wont to cite as evidence of a considerable potential reserve for their own economic progress the fact that the country's industrial labor force was still well below its optimal size. Now, however, this particular reserve has been exhausted. Industrial employment in the U.S.S.R. is now beyond the proportion once considered optimal by Soviet economists; namely, 8 to 10 percent of the country's total population. In 1963, in fact, Russia's industrial manpower numbered 25 million persons, i.e., a figure larger by 40 percent than the 18 million that make up the industrial labor force of the United States. Yet, even according to their own undocumented claim, Soviet industry turns out a total annual product that is 35 percent lower than the aggregate U.S. industrial output.

In short, the continued annual recruitment of ever more new labor numbers into industry does not seem to be sufficient to alter the lagging relative position of the U.S.S.R. as an industrial producer. If anything, the mechanical practice of feeding a maximum of additional labor into the favored branches of production has tended to minimize the pressure for more efficient methods of labor utilization and, therefore, to delay progress in the critical area of labor productivity.

These practical difficulties arising from the low efficiency of new capital and labor inputs have generated a widespread discussion among academic economists and economic administrators in the U.S.S.R. aimed at a thoroughgoing reform of existing economic policies and practices. This officially sponsored discussion has been consciously directed toward a search for higher standards of production efficiency. In practical terms, as recently explained by Premier Kosygin in his address of December 9, 1964, to the Supreme Soviet, this discussion is expected to result in the discovery of new ways and means of "obtaining maximum results at minimum expenditure of

labor and material, based on high labor productivity and a high scientific and technical standard of production." Unless a "substantial change for the better" is achieved in this regard, Kosygin warned, it will be impossible to attain the party's declared goal of "an increase in the rate of growth of the national economy and the channeling of more resources toward raising the well-being of the people."

## 2. PROSPECTIVE ECONOMIC REFORMS

With the ouster of Khrushchev and the coming to power of the Brezhnev-Kosygin regime, public demand for economic reform in the U.S.S.R., which began in 1962, entered a new, more authoritative phase. The ideas that were presented in 1962 by a once obscure Kharkov professor and subjected at that time to widespread criticism, in the space of 2 years evolved to become the new orthodoxy of the post-Khrushchev Soviet leadership.

"We shall proceed toward planning on the basis of orders placed by consumers not only in industry producing consumer goods but also in other branches of the national economy." With these words, which were also addressed to the Supreme Soviet on December 9, 1964, Premier Kosygin announced the intention of the new Soviet leadership to adopt many of the very un-Marxian ideas that have come since 1962 to be associated with "Liberianism"—after Yevsey G. Liberman, professor of economics at the Kharkov Engineering-Economics Institute.

Liberman's main idea, which was first aired in Pravda in September 1962, affirms that the preparation by the central planners of detailed assignments to be executed without question by the industrial enterprises tends to hamper rather than help the latter in their basic effort to satisfy the needs of society. He proposed, therefore, that the attainment of maximum profitability—profits divided by total (fixed plus working) capital—rather than the physical fulfillment of specific production tasks assigned by the planners be made the criterion of enterprise performance. Under the operation of the profit incentive, he argued, enterprises could be relied upon to search more effectively for means of improving their economic performance than under present bureaucratically determined plans.

Publication of Liberman's proposals raised a storm of discussion in the Soviet press and resulted in the proliferation of many proposals for further reforms. Other reforms proposed included adoption of such capitalist ideas as quasi-markets, with centrally established prices, to distribute output of both consumer and producer goods; overhaul of wholesale prices; interest charges on the use of fixed and working capital.

Resistance in the U.S.S.R. to the proposals—both ideological and practical—is deep rooted. To a large extent these proposals were held in abeyance by the Khrushchev leadership. Yet, the proposals are designed to provide solutions to very real economic problems of the U.S.S.R. The present system of management of resources is inefficient and wasteful. Quality of products is poor. Supply is badly organized, which results in the creation of artificial scarcities. New products and new technological processes are introduced only slowly. Planning is grossly conceived, cumbersome, and prone to costly mistakes.

These problems are not at all new to the leadership of the U.S.S.R., since they have often been the subject of official complaints since the early 1930's. In recent years, however, they have become a matter of urgency to the extent that the rate of growth of the economy has slowed while the range of commitments has been expanding. It is this slowdown that has increased the pressure for better management of economic resources and stimulated the active quest of the new Soviet leadership for economic reform.

Kosygin's statement to the Supreme Soviet calls for the gradual extension in some form of a new production-marketing system based on Liberman's ideas, the testing of which was initiated belatedly in two garment enterprises by the Khrushchev leadership in July 1964.

The system provided for the two garment enterprises—Bol'shevichka in Moscow and Mayak in Gorki—to determine their own plans for volume, quality, and assortment of production on the basis of orders from the trade network. By the same token, they were freed from the routine of centrally allocated supply of material inputs other than capital goods.

The enterprises in the experiment are subjected to two performance criteria: first, the volume of output sold must be sufficiently large to make full use of existing production capacity; and second, the centrally established plan for profitability must be fulfilled (or overfulfilled). Decisions as to quality, amounts used, and inventories of inputs, including number of workers employed, as well as the introduction of new processing methods and new products, are left to the enterprise director to be determined on the basis of (a) orders from the trade network and (b) profitability of the work. The new system makes no provision for significant changes in the prices of the plants' products or inputs. Requests for purchases of capital goods and plant expansion continue to be subject to review by central authority. No provision is made for interest charges on fixed or working capital.

On October 20, 1964, shortly after the ouster of Khrushchev, the U.S.S.R. Sovnarkhoz announced that the new system is to be extended to enterprises accounting for one-fourth of the output of garments and footwear during 1965. Moreover, an additional test of the system was scheduled to begin January 1, 1965, in five enterprises in Lvov—including two heavy industry enterprises. Presumably the new system is to be extended, at some later date, to the remaining enterprises producing consumer goods and, eventually, to heavy industry as well.

Much work remains to be done to make the new system perform its tasks effectively. Well-known defects, such as the continued practice of central allocation of capital goods and the failure to adopt a capital charge, remain within the specific provisions of the new system. The elimination of irrational prices, upon which the system's effectiveness depends, must also be carried out. Moreover, extensive adoption of the system is likely to create difficult problems of integrating the sections using the new system with the remainder of the economy. The outlook for the next few years is for continued proposals, discussions, and controversy along with cautious experimentation with novel and un-Marxian methods of economic decision-making. Hence, no measurable improvement in the efficiency of use of resources, or in the rate of growth of the economy, can be expected from this source during the period.

## CHAPTER I

### TRENDS IN SOVIET GROSS NATIONAL PRODUCT

#### SUMMARY

In 1963 Soviet GNP growth continued the declining trend evident since 1958, thus exacerbating the policy dilemma of satisfying proliferating demands on a tightening resource base. The abnormally depressed 2.6-percent increase in 1963 reflected adverse agricultural weather conditions and would have been close to 5 percent under normal circumstances. Shortfalls in agriculture compounded the shift in the production structure from commodities to the services. From 1960 to 1963 both consumption and investment experienced sharply reduced growth rates, while defense expenditures have risen dramatically. However, in 1963 and 1964 defense outlays leveled off and the new regime has reiterated its pledges to the consumer and voiced its desire to move the economy ahead at a more rapid rate.

Growth retardation can be largely explained in terms of reduced percentage increments to the labor force and to sharply reduced labor productivity increases. In the latter respect Soviet performance has been notably poor in comparison with other major economies. Worsened labor productivity performance can be in part initially explained by the reduced rate of investment, but a more important factor has been the sharply reduced rate of return on investment (higher capital-output ratios). In this respect, too, the Soviet record by international comparison has been particularly dismal. In turn, both the reduced rate of investment and its falling efficiency can be ascribed to the longer time required to assimilate the new technologies of chemicals, oil and gas, and complex machinery and to the diversion of vital scarce human and material inputs into production of sophisticated weapons.

Soviet gross national product is somewhat less than half as large as that of the United States and 2½ times that of the major West European economies, but on a per capita basis about three-eighths as large as the United States and a third less than West Germany, France, or the United Kingdom. The U.S.S.R.-U.S. ratio has not been widened since 1961 and in absolute terms the U.S. margin has been increasing since 1958. Soviet growth through 1970 will probably average between 4.5 and 5.5 percent annually, about a percentage point above the United States, but no higher than France or Italy and much below that of Japan. Given these projections, the absolute GNP differential between the U.S.S.R. and the United States will continue to diverge. With a reduced growth rate the Soviet leadership will face a major challenge in reducing to realistic dimensions the simultaneous pursuit of increases in consumer welfare, rapid growth, and maintenance of military parity with the United States. A desire to minimize this overcommitment from a tightening resource base

could further stimulate efforts to improve the efficiency of the operation of the economy with consequent far-reaching institutional reforms.

COMPARATIVE GROWTH PERFORMANCE

The basic economic dilemma of limited resources to meet burgeoning requirements, which has plagued Soviet regimes in recent years, was particularly acute in 1963. The new leadership, as indicated by their public pronouncements and the 1965 state budget and plan, has reaffirmed this vexation. Commitments have proliferated beyond the simple Stalinist goals of rapid growth and a powerful conventional military posture to include consumer welfare, growth based on new technology, and parity with the United States in sophisticated weaponry. In contrast, the wherewithal to sustain this expanded array of priorities has worsened, both in terms of basic resource availabilities and of the efficiency with which these resources have been employed.

The long-term decline in the rate of growth of national produce which ensued after 1958 has continued through the present (table I-1).

TABLE I-1.—Annual and period growth rates of Soviet GNP<sup>1</sup>  
 [Percentages]

Year	Rate	Period	Rate
1958	8.5	1950-58 average	7.0
1959	4.2	1958-63 average	4.5
1960	4.9		
1961	6.8		
1962	4.3		
1963	2.6		

<sup>1</sup> For derivation of component origin sector growth rates see appendix table 1, and for derivation of sector weights see appendix table 2.

NOTE.—The 1964 estimates published by the Joint Economic Committee showed a considerably lower growth rate for 1962. The revision this year is explained by recalculation of the agricultural production estimate on the basis of more comprehensive information. The higher rate is also influenced by the substitution of 1959 originating sector value added weights (see appendix, table 2) for the 1955 weights used last year. The new weights reduce the weight of agriculture and hence the depressing effect on GNP of the decline in agricultural output.

In no year since 1958 has the Soviet Union matched the annual average growth rate it achieved in the 8 years prior to that date, as indicated in table I-1. In terms of international comparisons it has slipped from a position second only to West Germany among the principal industrial powers in the period 1950-58 to an average below that of Japan, Italy, West Germany, and France during the subsequent 5 years (table I-2). Moreover, since 1961 the U.S.S.R. has also fallen behind the United States in its growth performance.

TABLE I-2.—Comparative growth rates of gross national product

[Percentages]

Country	Annual rates						Period rates (annual averages)	
	1958	1959	1960	1961	1962	1963	1950-58	1958-63
U.S.S.R.....	8.5	4.2	4.9	6.8	4.3	2.6	7.0	4.5
France.....	2.5	2.8	7.3	4.3	6.3	4.3	4.4	5.0
Germany (Federal Republic).....	3.5	7.1	8.9	5.8	4.1	3.2	7.6	5.9
Italy.....	4.4	7.3	6.8	8.3	6.0	4.8	5.6	6.6
United Kingdom.....	1.0	3.6	4.5	3.3	.2	3.5	2.4	3.0
Japan.....	-.1	18.3	13.0	15.8	6.9	8.3	6.1	12.5
United States.....	-1.2	6.7	2.5	1.9	6.1	3.4	2.9	4.1

Sources: United States and Western European economies: OECD, *Statistics of National Accounts*, 1950-61, Paris, 1964. OECD, *General Statistics—National Accounts Supplement*, Paris, 1964. Statistical Office of the European Economic Communities, *General Statistical Bulletin*, No. 11, 1964. National Institute of Economic and Social Research, *National Institute Economic Review*, November 1964, London. U.S. Department of Commerce, *Survey of Current Business*, July 1964. United Nations, *Monthly Bulletin of Statistics*, November 1964, p. 8.

Japan: Bank of Japan, *Economic Statistics of Japan, 1961*. Ministry of Finance, *Quarterly Bulletin of Financial Statistics*, 1st quarter, fiscal year 1964.  
 U.S.S.R.—GNP. (See appendix, table 1.)

The trend of the last 2 years in the later period is below the long-term trend as it has been heavily influenced by 2 years of unfavorable weather. If weather factors are discounted and it is assumed that the agricultural growth trend for 1958-61 would have prevailed under normal conditions, the average annual rise in GNP would have been close to 5 percent.

#### CHANGE IN STRUCTURE OF PRODUCTION AND THE USE OF RESOURCES

The reduced pace of expansion has involved significant changes in the structure of the Soviet economy, particularly from primary, but also from secondary to tertiary production. If the 8 years prior to 1958 are contrasted with the 5 years following that year, the commodity producing sectors (primary and secondary) of the economy have exhibited sharp decelerations while the service rendering sectors (tertiary) have experienced higher growth rates (see appendix, table 1). Much of this shift can be explained by the evolution of the Soviet economy to a more advanced level, but it has been compounded by output shortfalls in agriculture with subsequent resource impacts on raw material availabilities to industry.

Agriculture has yet to attain the output level set in 1961, while the growth rate in industry has fallen from an average annual rate of 9 percent for the period 1950-58 to a rate of 7.5 percent since 1958. In construction the rate of increase has been halved as resources have been diverted away from investment and in transportation the rate is considerably less. By contrast the net outputs of the commerce and services sectors have risen at accelerated tempos since 1958. The decline in defense<sup>2</sup> and constancy in administrative services since 1958 has been more than offset by the rapid increase in educational medical, housing, and especially scientific services.<sup>2</sup>

Available computations of official data do not permit so clear a comparison of trends in the uses of GNP, but some significant changes

<sup>2</sup> As used in the context of income originating, defense services pertain only to personnel expenditures. Other elements of defense expenditure appear in other originating sector categories. Procurement is reflected in industrial production, research and some development in scientific services, and military construction in the construction sector.



are apparent. The retardation in growth has led to lessened increases in levels of consumption, half the rate in the period after 1958 of that experienced in the previous 8 years (table I-3). This decline is largely the result of stagnation in agricultural production with the reduction in the rate of new housing construction contributing in smaller measure. Since 1958 increases in Soviet per capita consumption levels have been considerably below those of the three principal continental economies whose consumers already enjoyed per capita consumption levels nearly twice as high as their Soviet counterparts.<sup>3</sup> In fact, the Soviet rate of improvement has only marginally exceeded that of the United Kingdom and the United States (table I-3) while the level at per capita consumption in the United States remained between three and four times that of the U.S.S.R.<sup>4</sup>

TABLE I-3.—Comparative growth of consumption and investment  
 [Average annual rates]

Country	Consumption per capita		Fixed investment		Nonresidential investment	
	1950-58	1958-63	1950-58	1958-63	1950-58	1958-63
U.S.S.R.....	5.0	2.5	10.8	7.1	12.5	8.9
France.....	3.3	3.8	5.5	6.5	4.5	6.6
Germany (Federal Republic)...	6.3	5.7	9.6	9.3	10.0	8.7
Italy.....	3.1	6.4	8.2	10.3	6.2	10.3
United Kingdom.....	1.6	2.4	4.4	5.4	4.7	3.8
Japan <sup>1</sup> .....	2.3	7.2	7.7	19.9	(?)	(?)
United States.....	1.1	2.3	1.3	5.7	1.6	5.8

<sup>1</sup> 1953-58.

<sup>2</sup> Not available.

Sources: Market economies—See table I-2.

U.S.S.R.: Consumption (see table VIII-1); investment (see sources for construction index in table I-1).

At the same time there has been a sharp decline in the rate of growth in new capital investment. In contrast, except for West Germany where the drop was nominal, the rate of investment rose in the market economies between the two periods. There has been an actual decline in housing construction, largely the result of a sharp curtailment in private housing authorizations. In recent years the investment decline has been even more dramatic, the annual average increment for 1961-63 being only 4.7 percent for all investment and 6.7 percent if housing is excluded.

Between 1960 and 1963 defense expenditures, as measured by the imperfect indicator of the state budget, increased by more than 10.5 percent per year though in 1963 the increases has fallen to 4.7 percent. Some rough notion of the change in emphasis in military efforts is conveyed by reference to two previously cited originating sector trends. Defense services, which refer in the income originating context only to personnel expenditures, have been declining since the midfifties; while scientific services, heavily oriented to defense support, have been rising very rapidly. These two disparate trends reflect the shift in military emphasis from mass armies to the research and developmental activities essential for sophisticated weaponry.

<sup>3</sup> Joint Economic Committee, U.S. Congress, *Annual Economic Indicators for the U.S.S.R.*, 1964. Table VIII-5.

<sup>4</sup> *Ibid.*

FACTORS AFFECTING GROWTH RETARDATION

Economic growth may be analyzed, as in the foregoing passages, in terms of originating sectors or of uses of national product. It may also be analyzed in terms of factor inputs into the productive process. Most simply it can be expressed as the input of labor times the output per unit of labor, usually designated as labor productivity. If sufficient data is available, the labor productivity expression can be less ambiguously replaced by other productive inputs—capital, education, land, organization, and the like.

Beginning with the simplified approach, we note that part of the explanation for the retardation in growth lies in a less favorable manpower situation, the rate of increase having dropped to 1.4 from 1.9 percent in the earlier period (table I-4). This trend reflects the delayed effect of reduced wartime birth rates and the increasing difficulty of further raising an already high labor participation ratio. However, the U.S.S.R. is not conspicuous in such a trend with larger declines in West Germany, Italy, and Japan without commensurate effects on output. More striking has been the sharp deceleration in labor productivity advancement, even if cyclical weather influences are removed. In the earlier period Soviet productivity growth performance ranked at the top just below Germany's; in the later period it was much below that of Japan and the large continental powers. It moved in the opposite direction to that of all major industrialized countries, except for Germany, with a considerably smaller decline.

TABLE I-4.—Employment and labor productivity as determinants in comparative growth of GNP

[Average annual rates]

Country	1950-58			1958-63		
	GNP	Employment	Productivity <sup>1</sup>	GNP	Employment	Productivity <sup>1</sup>
U.S.S.R.....	7.0	1.9	5.0	4.5	1.4	3.1
France.....	4.4	.4	4.0	5.0	.9	4.1
Germany (Federal Republic).....	7.6	2.4	5.1	5.9	1.5	4.3
Italy.....	5.6	1.6	3.9	6.6	1.1	5.4
United Kingdom.....	2.4	.4	1.9	3.0	.5	2.5
Japan <sup>2</sup> .....	6.1	2.1	4.0	12.5	1.3	11.1
United States.....	2.9	1.0	1.9	4.1	1.5	2.6

<sup>1</sup> Index of GNP: Index of employment expressed in man-years. No adjustment has been made for reductions in working hours. In the 2 time periods under consideration there was a larger reduction in annual hours worked in manufacturing in the U.S.S.R., 13 percent (*Narodnoe Khoziaistvo SSSR v 1962 Godu*, p. 488) than in the other economies—France, 0.5; Germany, 7.8; United Kingdom, 2.5; and the United States 3.2 percent (OECD, *Productivity Measurement Review*, November 1962, p. 12).

<sup>2</sup> Japanese working hours rose by 3.2 percent (Japan, Ministry of Foreign Affairs, *Statistical Survey of Japan, 1962*, p. 11.). Therefore, in terms of man-hours Soviet productivity accomplishments are relatively understated, but a precise adjustment cannot be made in the absence of information on hours of work in nonmanufacturing occupations for most of the countries in the comparison.

Sources: GNP—See table I-2.

Employment—Market economies: OECD, *Manpower Statistics, 1950-62*. United Nations, *Monthly Bulletin of Statistics*, November 1964.

U.S.S.R.—See table VI-2 for civilian employment and appendix table 1, services sources, for military employment.

An important factor in the decline in productivity advancement has been the cited sharp drop in the rate of growth in new capital investment (table I-3). However, the reduced investment growth rate does not suffice to explain, the productivity deceleration, as there has been

a sharp reduction in the return on or efficiency of investment. The economywide capital-output ratio has risen dramatically for the Soviet Union in the post-1958 period (table I-5).<sup>5</sup> In the period prior to 1958 the U.S.S.R., together with France and Germany, was enjoying the highest return on its capital outlays. After 1958 the U.S.S.R. found itself with the lowest return on its investment of any of the major industrial powers.

TABLE I-5.—Comparative incremental capital-output ratios

Country	Economywide <sup>1</sup>		Industry <sup>2</sup>	
	1950-58	1958-63	1950-58	1958-63
U.S.S.R.-----	3.7	8.0	4.3	9.6
France-----	4.0	3.5	( <sup>3</sup> )	3.5
Germany (Federal Republic)-----	3.6	5.0	4.6	4.4
Italy-----	4.4	3.5	3.9	2.6
United Kingdom-----	6.6	6.1	12.3	6.6
Japan-----	5.0	2.6	( <sup>3</sup> )	( <sup>3</sup> )
United States-----	7.0	4.9	4.5	3.4

<sup>1</sup> Increase in fixed nonhousing investment required to obtain a unit of increase in gross national product per employee. A lag of a year between a unit of investment and of output has been assumed. Thus, output for the period 1951-58 has been compared with investment for the period 1950-57. Similarly, output for 1959-63 is compared with investment for 1958-62.

The lower the ratio the higher the return on investment or the lower the capital investment per unit of output. The ratio is increased to the extent that unutilized productive capacity exists. Thus the apparent decrease in the U.S. ratio in the later period reflects the utilization of capacity idled during the 1958 recession.

<sup>2</sup> Increase in fixed investment per employee required to obtain a unit of increase in industrial (manufacturing, mining, public utilities) production. The same lag is assumed as in the economywide comparison.

<sup>3</sup> Not available.

Sources: See table I-3.

The sharply reduced efficiency of investment might be explained by the dismal farm record of recent years, which has led to a high level of inefficiently used productive capacity in agriculture and the consumer goods industries. However, the agricultural inefficiency hypothesis is nullified if the same investment efficiency test is limited to the industrial sector. While the return on industrial investments was rising in five of the large market economies, in the U.S.S.R. the amount of new investment required to produce additional output doubled (doubled capital-output ratio) in the years after 1958. The rate of increase in the ratio is less if the change in the industrial labor force is not taken into account, implying worsened performance in the labor productivity advancement.

The decline in efficiency of industrial investment cannot be explained by a shift in the composition of investment. If the 1959 average capital-net output ratios for nine industrial branches are weighted by the proportions of total industrial investment accruing to them,<sup>6</sup> respectively, for the periods 1950-58 and 1958-62,<sup>7</sup> the effect of the shift in investment composition is to change the aggregate capital-

<sup>5</sup> While useful as a rough indicator of the efficiency of capital utilization, capital-output ratios have limitations which should be kept in mind. If so aggregative as to cover the entire economy or all of industry, their ratios may be strongly influenced by differing economic structures with differences between sectors or industrial branches often larger than those between countries. The use of marginal, rather than average, ratios may introduce distortions arising from discontinuities in investment trends. Similarly, differences in capacity utilization on terminal dates may also bias the intercountry comparisons. Even with these limitations in mind, the divergence in trends in capital-output ratios between the U.S.S.R. and the market economies has been so glaring since 1958 as to be little affected by the qualifications cited above.

<sup>6</sup> Data on net output from Vladimir Treml, *The 1959 Soviet Intersectoral Flow Table*, vol. I, Research Analysis Corp. (TP-137), Table 33. Data on capital stock from Tsentral'noe Statisticheskoe Upravlenie, *Narodnogo Khoz'istvo SSSR v 1960 Godu* (Central Statistical Administration, National Economy of the U.S.S.R. in 1960), p. 87.

<sup>7</sup> 1961 edition of above statistical compendium, pp. 541 and 545, and 1962 edition, p. 434.

output ratio imperceptibly and in the opposite direction to the actual trend. Therefore, one must conclude that there must have been marked increases in marginal capital-output ratios within industrial branches. Preliminary calculations from an extended research effort by the author indicate that marginal capital-output ratios for most industrial branches increased significantly in the period 1958-63 as compared with the 8 years ending with 1958. Shifts in investment proportions among branches explained only one-seventh of the rise in the industry sector ratio. The rises were particularly large in ferrous metals, coal, chemicals, construction materials, and consumer goods branches. Calculations from Soviet sources, which utilize a gross rather than a net output concept, also disclose sharp increases in capital requirements per unit of output for 1960 as compared with 1955.<sup>8</sup>

The sharp decline in the rate of increase in investment since 1960 has been matched by a rapid upsurge in defense expenditures.<sup>9</sup> A similar development occurred during the Korean war mobilization of the early 1950's. Conversely the years of reduced military spending of the midfifties were those in which investment grew at rapid rates. Furthermore, the declining numbers of military personnel since 1958 implies that the bulk of the increase in defense outlays has occurred in nonpersonnel expenditures. The stress within the defense effort has been on research and development and procurement of sophisticated weaponry. Unfortunately for the Soviet planners the scarce resources in the form of scientists, engineers, managers, and supplies of high quality materials and components needed to sustain this emphasis are identical with those required to undertake the type of investment needed for rapid growth.

The investment emphasis in recent years has centered on the sectors featuring the introduction of new technology; e.g., chemicals, oil and gas, and complex machinery. Between 1958 and 1963 productive investment in industry as a whole rose by some 46 percent, but the increases in chemicals, oil and gas, and machinery were 226, 52, and 74 percent, respectively.<sup>10</sup> The increased difficulties of design, construction, and operation of finished facilities in these spheres of new technology are quantified by the high volume of uncompleted plants; as compared with an increase of over two-thirds for productive plant as a whole between 1958 and 1963, the rise was more than double for machinery and more than triple for chemicals.<sup>11</sup>

Apparently the competition for scarce productive factors between military and investment claims has become more acute and resolved in favor of defense needs. This decision may have been implemented both by explicitly higher priorities for military production and by the less explicit policy of giving investment claimants less timely and coordinated delivery of vital inputs. The rising volume of incompleting projects reflects the latter policy. Even if investment had been given a higher resource priority, there would still have been growth retardation resulting from the additional time required to assimilate new technologies.

<sup>8</sup> Akademiya Nauk S.S.S.R., *Kapital'noe vlozheniye i rezervy ikh ispol'zovaniya* (U.S.S.R. Academy of Sciences, Capital Investments and Reserves for their Utilization), 1963, p. 286.

<sup>9</sup> Since 1960 rates of increase in investment have averaged only 4 percent, while explicit defense outlays have risen by more than 10.5 percent per year (9.3 billion rubles in 1960 to 13.3 billion in 1963).

<sup>10</sup> *Economic Indicators* \* \* \*, table IV-5 and *Pravda*, Jan. 24, 1964.

<sup>11</sup> *Narodnoye Khozaystvo SSSR v. 1963 Godu*, pp. 460-461.

COMPARATIVE SIZE AND FUTURE TREND OF GNP

In 1963 the U.S.S.R. was the world's second largest economy with a GNP approximately 46 percent the size of the United States and some 2½ times as large as those of the principal Western European countries (table I-6). In per capita terms its relative position is less favorable—about three-eighths of the United States; more than a third below France, Germany, and the United Kingdom; about equal to that of Italy; and about 30 percent above Japan's.

TABLE I-6.—Comparative dollar values of gross national product in 1963

[Market prices]

Country	Ranked by GNP (billions)	Country	Ranked by per capita (dollars)
United States	584	United States	3,084
U.S.S.R.	265	France	1,964
Germany (Federal Republic)	107	Germany (Federal Republic)	1,858
United Kingdom	97	United Kingdom	1,803
France	94	U.S.S.R.	1,178
Japan	87	Italy	1,107
Italy	56	Japan	907

SOURCES AND METHODOLOGY

France, Germany, Italy, and United Kingdom: 1963 GNP is originally expressed in the countries' own currencies. They are obtained from the sources noted in table I-2. Ratios for converting these estimates to dollars are initially based on the 1960 ratios in Gilbert and Kravis, *An International Comparison of National Products and the Purchasing Power of Currencies*, OEEC, Paris, 1954. The geometric means of United States and European weighted ratios are used. The ratios are moved to 1963 by the quotients of relevant European price indexes divided by U.S. price indexes. The price indexes can be derived from sources used to obtain the original estimates.

Japan: The same methodology is followed for Japan. 1963 yen estimates are obtained from the source cited in table I-2. A 1960 geometric conversion ratio has been constructed by Irving Kravis in *Journal of Political Economy*, August 1963, p. 327. The ratio is expressed in 1963 prices by the same procedure used for the OECD economies.

U.S.S.R.: The same methodology is followed for the U.S.S.R. The base year ruble estimate for Soviet GNP in 1955 is obtained from Morris Bornstein and others, *Soviet National Accounts for 1955*, Center for Russian Studies, University of Michigan, 1961, pp. 71-72. The 1955 estimate is moved to 1963 by the GNP index shown in table I-1. The 1955 geometric conversion ratio has been obtained from Morris Bornstein "A Comparison of Soviet and United States National Product," Joint Economic Committee, *Comparisons of the United States and Soviet Economies*, 1959, pp. 385-386. There is no available Soviet price index for moving the ratio to 1963 values, but scattered available statistics indicate little change in price levels for national income, industrial products, and consumer goods. Therefore, the movement in the geometric ruble-dollar ratio from 1955 to 1963 is assumed to be only a function of changes in U.S. prices.

As a proportion of the U.S. equivalent, Soviet gross national product increased from a third in 1950 to a maximum of nearly 47 percent in 1961. Since then it has dropped a percentage point as U.S. growth has exceeded that of the Soviet Union. In absolute terms the U.S. margin reached a low of about \$266 billion in the recession of 1958 and has subsequently widened to approximately \$318 billion in 1963.

The future growth trend of the Soviet economy will be substantially below that of the early and middle 1950's, but should average somewhat in excess of performances since 1958 under the assumption of normal agricultural weather conditions. The projections for the market economies are based upon national target estimates for 1970 submitted to the Organization for Economic Cooperation and Development and upon official Japanese plan goal (table I-7). Through 1964 the continental economies and Japan have matched or exceeded targeted growth rates. The United Kingdom has lagged in its growth performance with future recoupment dependent on the adoption and successful execution of fundamental structural reforms. If the United States can maintain the expansion pace of the past 3 years,

it may be able to attain its 4.5-percent target. The lower limit of the U.S. estimate reflects the average growth rate since 1960.

The Soviet plan revisions of recent years provide little basis for reliance upon official intentions. Perhaps ample guide will be provided by the yet unpromulgated 5-year plan commencing in 1966.

TABLE I-7.—Comparative projections of GNP

[Annual averages]

Country	Projected growth rate, 1960-70	Performance, 1960-64
U.S.S.R.	4.5-5.5	4.6
France	5.0	5.0
Germany (Federal Republic)	4.1	5.0
Italy	5.6	5.5
United Kingdom	3.3	2.7
Japan	7.2	10.0
United States	4.0-4.5	4.0

SOURCES AND METHODOLOGY

Projections: For the European OECD countries rates represent official national projections of growth within the overall OECD target of 4.5 percent (OECD, *Policies for Economic Growth*, Paris, 1962, p. 28). For the United States the upper limit is the official OECD projection and the lower limit is the annual average since 1960.

The projection of Japan is the official plan goal (Japan, Economic Planning Agency, *New Long Range Economic Plan of Japan, 1961-70*, Tokyo, 1961, p. 2).

The U.S.S.R. projection represents a range bounded at the lower limit by the growth of GNP per employee from 1958-63 of 3.3 percent (table 4) and at the upper limit by the rate which would have been achieved had agricultural output continued to rise by the 1.5 percent average annual increase of 1958-61—5 percent. The upper limit productivity estimate has been reduced to 4.8 percent to reflect the continuing decline in the rise of nonagricultural productivity. When these 2 productivity projections are multiplied by the 1.1 percent projected growth of the labor force, the range of growth of 4.4 to 5.9 percent is obtained for the period 1964-70. When these estimates are combined with 1960-64 performance, the growth range shown in the table is derived.

Performance: 1960-63 estimates from sources to table 2; 1964 estimates for market economies from *London Economist*, Jan. 12, 1965. U.S.S.R. 1964 estimate based on preliminary calculations of industrial and agricultural performance and assumption of continuation of 1963 rate of growth for other sectors.

In the absence of any official Soviet growth target for 1970, the extrapolation of their GNP is based on recent trends. On the assumption that 1958 represented a kink in the Soviet growth path the base for extrapolation lies in the post-1958 period. In view of the non-repetitive measures adopted during the past decade to increase labor force participation and the high proportion of women in remunerative employment, it is unlikely that employment can be increased much beyond the annual increment of 1.1 percent projected for the working age group.<sup>12</sup> As for productivity expectations, the minimum would appear to be established by the economy's 1958-63 performance with its reduced industrial growth rate and stagnation in agriculture. The upper limit presumes the same industrial growth rate, but resumption of the 1.5 percent annual growth in agricultural output which prevailed from 1958 to 1961 before the onset of adverse weather factors. The computed upper limit has been adjusted slightly downward to reflect the continual deceleration in the rise of nonagricultural labor productivity.

Soviet growth superiority among the principal world economies is now a memory. For the remainder of this decade, Soviet growth will be little or no faster than that of France and Italy and considerably slower than that of Japan. The former wide disparity between Soviet and United States expansion rates will be reduced to around 1 percent. The absolute difference between the national products of the

<sup>12</sup> Joint Economic Committee, U.S. Congress, *Dimensions of Soviet Economic Power*, 1962, p. 521.

two economies will continue to widen, even given the lower limit United States and upper limit Soviet growth projections.

In the second half of the decade of the 1960's, the Soviet leadership finds itself faced with proliferating demands on a tightened resource base. Given reduced labor force increments and decreased efficiency of capital inputs, the regime cannot simultaneously upgrade living standards, maintain a rapid growth rate, and match the United States in aerospace and nuclear development. Since 1960 both the growth of consumption levels and the expansion in output have tapered off significantly. While defense outlays rose sharply until 1963, the U.S.S.R. was not successful in maintaining parity in sophisticated weaponry with the United States and has recently moderated the burgeoning defense effort. The new post-Khrushchev regime has stressed reemphasis on consumer needs and the resumption of rapid growth. In addition to this switch in priorities there has been increasing concern about the efficiency with which limited resources are being utilized. The emerging proposals for thoroughgoing institutional reform represent a determination to satisfy more claims on a tightened resource base.

APPENDIX

TABLE 1.—Annual origin sector growth rates for Soviet GNP

[Percentages]

Sector	1959 weights	1958	1959	1960	1961	1962	1963	1950-58 Average	1958-53 Average
Industry.....	31.0	9.1	8.5	6.8	7.1	7.8	6.6	9.0	7.5
Construction.....	10.9	17.3	15.3	8.7	1.2	1.2	2.8	13.1	5.3
Agriculture.....	29.2	10.4	-5.1	0.5	8.6	-1.2	-5.1	5.7	-0.4
Transportation.....	7.1	10.8	11.6	9.9	8.1	8.2	9.8	12.2	9.5
Communication.....	.7	7.1	6.6	8.5	6.9	7.8	8.2	6.0	7.6
Commerce.....	4.5	5.1	5.6	7.2	7.7	5.5	5.0	4.0	6.2
Services.....	16.9	.2	2.5	3.7	5.9	6.8	3.0	2.1	4.4
Gross national product..	100.0	8.5	4.2	4.9	6.8	4.3	2.6	7.0	4.5

DERIVATION OF SECTOR INDEXES

Industry—See table III-7 for indexes for years 1959-63. Estimates for 1958 obtained from table III-7 of *Annual Economic Indicators for the U.S.S.R.* and for 1950 from *Dimensions of Soviet Economic Power*, p. 120. This index measures civilian production. The inclusion of armaments production data in recent years based on evidence in the explicit defense budget for 1962 and 1963 would reinforce the indicated trend.

Construction—Indexes in 1955 prices of state and cooperative (p. 44), and private housing (pp. 188-189) from Tsentral'noe Staticheskoe Upravlenie, *Kapital'noe Stroitel'stvo v S.S.S.R.* (Central Statistical Administration, Capital Construction in the U.S.S.R.), 1961 for data through 1960. 1961 and 1962 data from same author, *Narodnoe Khoziaistvo SSSR v 1962 Godu* (the U.S.S.R. National Economy in 1962), pp. 433, 437. 1963 data from 1963 edition of same compendium. Collective farm investment from *Vestnik Statistiki* (Statistical Herald), No. 5, 1964, p. 92. 1950 collective farm investment assumes that productive investment in 1950 was the same ratio of total investment as in 1954.

Agriculture—The methodology used in constructing the index of net agricultural output in the U.S.S.R. is the same as that described on p. 98 of the JEC report for 1962, *Dimensions of Soviet Economic Power*, except for a few minor changes. For example, the commodities covered by the index have been increased with the inclusion of vegetables and eggs. Also, a change was made in the method of deducting the value of adjustment for free market sales. The relative importance of free market sales has declined significantly in recent years.

Transportation—Norman M. Kaplan, *Soviet Transport and Communications Output Indexes, 1928-52*, Rand Corp. (RM-4264-PR), 1964, p. 55. 1963 output obtained by adjusting 1963 link relative for volume of freight (table VII-2) by 1956-62 relationship between indexes of freight volume and Kaplan's computed freight output index.

Communications—Norman Kaplan, *op. cit.*, p. 55. 1963 index obtained by adjusting 1963 link relative for employment (SSSR v Tsifrah v 1963 Godu, p. 133) by 1955-62 relationship between index of employment and Kaplan's index of employment and revenue.

Commerce—Index moved by trend of employment in commerce, procurement, and supply (table V-A-7) times an assumed increase in productivity per worker of 0.7 percent per year. This increase in output per employee was computed for services sectors in the U.S. economy for the period 1929-61 (Victor Fuchs, *Productivity Trends in the Goods and Services Sectors, 1929-61*, National Bureau of Economic Research, 1964, p. 13). In lieu of indigenous information this trend is also presumed to apply to noncommodity sectors in the Soviet economy.

Services—Indexes for the services subsectors are based on employment trends, adjusted for the assumed 0.7 percent annual productivity increase. The defense manpower estimates are obtained from *Dimensions of Soviet Economic Power*, p. 43, the column on million man-years and from Institute of Strategic Studies, *Military Balance, 1962-63* and *Military Balance, 1962-63*, London. The employment indexes for the other subsectors are obtained from table—

TABLE 2.—*Composition of originating sector weights for 1959*  
 [In billions of rubles]

Sector	Cash incomes	Incomes in kind	Interest return	Depreciation	Land rent	Total factor payments	Proportion of GNP
Industry.....	29.1		6.0	4.7		39.8	31.0
Agriculture.....	15.0	13.0	3.2	2.1	4.3	37.6	29.2
Construction.....	12.6		.4	.0		13.6	10.6
Transportation.....	4.7		2.8	1.0		9.1	7.1
Communications.....	.6		.2	.1		.9	9.7
Commerce.....	4.8		.6	.4		5.8	5.4
Services.....	17.0	2.5	3.5	3.2		26.2	16.9
Gross national product..	79.3	15.5	16.7	12.7	4.3	128.5	100.0

The derivation of the component estimates and the methodology employed will be found in a separate publication by the author on "Derivation of 1959 Value Added Weights for Originating Sectors of Soviet Gross National Product."



## CHAPTER II

### POPULATION

#### GENERAL TRENDS

A declining birth rate is perhaps the most noteworthy development in Soviet demography in recent years. During the early 1950's, there were about 27 births per 1,000 population in the Soviet Union. By the end of the decade, the birth rate had declined to 25. Since 1960, however, the birth rate has declined quite rapidly and in 1964 stood at 19.7, 21 percent below its 1959 level. Twenty-eight percent of the 1959 to 1964 decline occurred between 1963 and 1964.

Several factors appear to be working to reduce the birth rate. Marital fertility has probably been declining at least since 1950, but because the proportion married among females presumably rose in response to the rising sex ratio, the birth rate declined only slightly. By 1960, however, there were about equal numbers of men and women in the prime reproductive ages and further increases in the sex ratio could not significantly increase the proportion married among females in these ages. Thus, further declines in marital fertility would necessarily cause birth rates to fall.

One other factor which serves to accelerate the decline in the birth rate since 1960 is that the population born during World War II, when birth rates were low, is now reaching childbearing age. This means that the population in these ages—and consequently the birth rate—is declining. For example, at the beginning of 1961, the female population 20 to 24 years old, the age group which has the highest fertility rate, was estimated to have numbered 11 million persons. But, by 1964, the number in this age group had declined by 26 percent, to an estimated 8.2 million.

Although the death rate in the Soviet Union has also declined, it has not declined enough to counteract the declining birth rate. This has meant that the natural increase rate has been falling. Only a sharp rise in the fertility of women, which would contravene prevailing trends, could prevent a declining growth rate. The total population of the Soviet Union has increased, of course, and unless the birth rate falls substantially below the levels postulated for the projections presented in tables II-7 to II-14, the increase should continue. The projections show the population as reaching 245 to 261 million by 1975 and 259 to 299 million by 1985. The growth rate, however, is expected to decline because as long as persons born during World War II are in the reproductive ages, the age structure of the Soviet population will serve to depress the birth rate.

## PROJECTED POPULATION OF SCHOOL AGE AND "COLLEGE AGE"

At the beginning of 1964, the Soviet Union had an estimated 18.6 million children aged 7 to 10 years, 17.6 million children aged 11 to 14 years, and 10.7 million adolescents aged 15 to 17 years. The number of children of primary school age (7 to 10 years) is expected to increase during the remainder of the present decade to a peak of about 20 million. There is expected to be a decline in the size of this group during the 1970's, however, as children born during the 1960's reach school age. The number of children of intermediate school age (11 to 14 years) is also expected to increase to about 20 million by the early 1970's. Thereafter it should decline. The population of secondary school age, which numbered 10.7 million at the beginning of 1964, is expected to increase during the remainder of the 1960's and into the 1970's. By 1976, there are expected to be about 15 million persons aged 15 to 17 years in the Soviet Union. Toward the end of the 1970's, however, this group will be comprised of those born during the 1960's and the number is expected to drop.

The number of persons 20 to 24 years old, or the "college age" population, has been declining. In 1961 there were an estimated 21.9 million persons in this age range; in 1964 there were only 16.4 million, a decline of about 25 percent. By 1967, when the projections show this population as reaching its lowest point, there are expected to be only 11.9 million persons of "college age," a 46-percent decline from the 1961 level. This decline is related to the movement into this age group of persons born during World War II. After 1967, the projections point to a fairly rapid recovery, although the age group is not expected to attain its 1961 level before 1975:

## PROJECTED MALE POPULATION OF MILITARY AGE

Males born during World War II began reaching military age during the early 1960's. As a consequence, the number of males 17 to 19 years old dropped from 6.1 million in 1959 to a low of 3.2 million during 1962 and 1963. By the beginning of 1964, however, the population in this group had increased to an estimated 3.9 million, but the projections show the number of males in the military ages as exceeding the 1959 figure only after 1968. The increase in the size of this group is expected to continue until the end of the 1970's when it will reach a high of 7.7 million, and then drop somewhat during the 1980's. The number of males in the broader range of military ages, 17 to 34 years, declined by about 10 percent between 1959 and 1964, from 33.7 million to 30.8 million. From its 1964 low, it is expected to increase gradually, reaching 33 million by 1970, 40 million by 1980, and between 41 and 43 million by 1985.

## PROJECTED POPULATION OF THE "ABLE-BODIED AGE"

Males aged 16 to 59 years and females aged 16 to 54 years constitute the able-bodied ages in the Soviet Union. Estimates indicate that during 1959 and 1960 the population in this age group declined by about 0.4 million and that from 1961 through 1963 the group grew less rapidly than it had prior to 1959. Thus, at the beginning

of 1964, there were an estimated 121.7 million persons of "able-bodied age" in the Soviet Union, an increase of only 2 million over the 1959 figure. During the 5-year period, 1966 through 1970, an increase of nearly 10 million is projected, and the population of "able-bodied age" is shown as reaching 134.9 million at the beginning of 1971. By 1980, the population in this group is expected to number 157 million, and, by 1985, between 159 and 164 million.

The projections point to persistently larger increases for men than for women of "able-bodied age." In 1959, because of the deficit of men due to World War II, women 16 to 54 years old outnumbered men 16 to 59 years old by about 9.7 million, despite the fact that the age span for men in this group is 5 years longer than that for women. By 1964, there were 0.6 million fewer women but 2.6 more men of "able-bodied age" than there were in 1959. By the mid-1970's, there are expected to be as many men as women in the "able-bodied ages," and by 1985, according to the projections, men in this group should outnumber women by about 8.5 million.

TABLE II-1.—Population of the U.S.S.R., by urban and rural residence, selected years, 1913-65

[Population figures in millions]

Territory and dates	Population			Percent		
	Total	Urban	Rural	Total	Urban	Rural
<b>Interwar territory:</b>						
1913.....	139.3	24.8	114.5	100	18	82
1917.....	143.5	25.8	117.7	100	18	82
1919.....	138.0	21.5	116.5	100	16	84
1920.....	136.8	20.9	115.9	100	15	85
Dec. 17, 1926.....	147.0	26.3	120.7	100	18	82
1929.....	153.4	28.7	124.7	100	19	81
1937.....	163.8	46.6	117.2	100	28	72
1938.....	167.0	50.0	117.0	100	30	70
Jan. 1, 1939.....	170.6	56.1	114.5	100	33	67
1940 territory: Jan. 1, 1939 <sup>1</sup> .....	190.7	60.4	130.3	100	32	68
<b>Postwar territory:</b>						
1913.....	159.2	28.5	130.7	100	18	82
1917.....	163.0	29.1	133.9	100	18	82
Jan. 1, 1950.....	178.5	69.4	109.1	100	39	61
Jan. 1, 1951.....	181.6	73.0	108.6	100	40	60
Jan. 1, 1952.....	184.8	76.8	108.0	100	42	58
Jan. 1, 1953.....	188.0	80.2	107.8	100	43	57
Jan. 1, 1954.....	191.0	83.6	107.4	100	44	56
Jan. 1, 1955.....	194.4	86.3	108.1	100	44	56
Jan. 1, 1956.....	197.9	88.2	109.7	100	45	55
Jan. 1, 1957.....	201.4	91.4	110.0	100	45	55
Jan. 1, 1958.....	204.9	95.6	109.3	100	47	53
Jan. 15, 1959.....	208.8	100.0	108.8	100	48	52
Jan. 1, 1960.....	212.3	103.8	108.5	100	49	51
Jan. 1, 1961.....	216.1	109.3	107.8	100	50	50
Jan. 1, 1962.....	219.7	111.8	107.9	100	51	49
Jan. 1, 1963.....	223.1	115.1	108.0	100	52	48
Jan. 1, 1964.....	226.2	118.6	107.7	100	52	48
Jan. 1, 1965.....	229.1	121.6	107.5	100	53	47

<sup>1</sup> The figures shown are official Soviet estimates for the territory of the U.S.S.R., including the western oblasts of the Ukraine and Byelorussia, Moldavia, Lithuania, Latvia, and Estonia. The figures presumably apply to the interwar territory adjusted for the annexations of 1939 and 1940, but exclude the population in the territory retroceded to Poland at the end of the war.

Source: 1913-63: Tsentral'noye statisticheskoye upravleniye pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1962 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1962, A Statistical Yearbook)*, Moscow, 1963, pp. 7-8. 1964-65: ----- *SSSR v tsifrakh v 1964 godu, Kraikly statisticheskiy sbornik (The U.S.S.R. in Figures in 1963, A Short Statistical Compilation)*, Moscow, 1965, p. 7.

TABLE-II 2.—Birth, death, and natural increase rates for the U.S.S.R., selected years 1913-64

[Rate per 1,000 population]

Year	Birth	Death	Natural increase	Year	Birth	Death	Natural increase
1913.....	47.0	30.2	16.8	1954.....	26.6	8.9	17.7
1926.....	44.0	20.3	23.7	1955.....	25.7	8.2	17.5
1928.....	44.3	23.3	21.0	1956.....	25.2	7.6	17.6
1937.....	38.7	18.9	19.8	1957.....	25.4	7.8	17.6
1938.....	37.5	17.5	20.0	1958.....	25.3	7.2	18.1
1939.....	36.5	17.3	19.2	1959.....	25.0	7.6	17.4
1940.....	31.3	18.1	13.2	1960.....	24.9	7.1	17.8
1950.....	26.7	9.7	17.0	1961.....	23.8	7.2	16.6
1951.....	27.0	9.7	17.3	1962.....	22.4	7.5	14.9
1952.....	26.5	9.4	17.1	1963.....	21.2	7.2	14.0
1953.....	25.1	9.1	16.0	1964.....	19.7	7.0	12.7

Source: Tsentral'noye statisticheskoye upravleniye pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1962 godu, statisticheskyy yezhegodnik (The National Economy of the U.S.S.R. in 1962, A Statistical Yearbook)*, Moscow, 1963, p. 30; -----, *Narodnoye khozyaystvo SSSR v 1963 godu, statisticheskyy yezhegodnik (The National Economy of the U.S.S.R. in 1963, A Statistical Yearbook)*, Moscow, 1965, p. 104; -----, *SSSR v tsifrah v 1964 godu, Kratkiy statisticheskyy sbornik (The U.S.S.R. in Figures in 1964, A Short Statistical Compilation)*, Moscow, 1965, p. 14.

TABLE II-3.—Estimated and projected population of the U.S.S.R. and the United States, selected years, 1913-85

[Unless otherwise noted, figures relate to July 1. Beginning with 1939, the figures for the United States include Armed Forces overseas; prior to 1962, they exclude Alaska and Hawaii]

[In millions]

Year	Population of the U.S.S.R. in—		Population of the United States	U.S. population as a percent of the Soviet population in—	
	Present territory	Pre-World War II territory		Present territory	Pre-World War II territory
1913.....	159.2	139.3	97.2	61.1	69.8
1917.....	-----	143.5	103.3	-----	72.0
1920.....	-----	136.8	106.5	-----	77.9
1926.....	-----	<sup>1</sup> 147.0	117.4	-----	79.9
1929.....	-----	153.4	121.8	-----	79.4
1939.....	-----	<sup>2</sup> 170.6	131.0	-----	76.8
1941.....	200.0	-----	133.4	66.7	-----
1950.....	180.1	-----	152.3	84.6	-----
1964.....	227.9	-----	192.1	84.3	-----
1970:	-----	-----	-----	-----	-----
A.....	246.4	-----	211.4	85.8	-----
B.....	244.6	-----	209.0	85.4	-----
C.....	241.4	-----	206.1	85.4	-----
D.....	239.3	-----	205.9	86.0	-----
1980:	-----	-----	-----	-----	-----
A.....	281.4	-----	252.1	89.6	-----
B.....	274.2	-----	245.3	89.5	-----
C.....	261.9	-----	236.5	90.3	-----
D.....	252.7	-----	233.1	92.2	-----
1985:	-----	-----	-----	-----	-----
A.....	299.3	-----	275.6	92.1	-----
B.....	290.9	-----	266.3	91.5	-----
C.....	273.2	-----	254.0	93.0	-----
D.....	268.9	-----	248.0	95.8	-----

<sup>1</sup> Census of Dec. 17, 1926.

<sup>2</sup> Census of Jan. 17, 1939.

Source: U.S.S.R.: 1913-39: Tsentral'noye statisticheskoye upravleniye pri Sovete ministrov SSSR *Narodnoye khozyaystvo SSSR v 1962 godu, statisticheskyy yezhegodnik (The National Economy of the U.S.S.R. in 1962, A Statistical Yearbook)*, Moscow, 1963, pp. 7-8. 1941: Estimate. 1950-85: U.S. Department of Commerce, Bureau of the Census, *Projections of the Population of the U.S.S.R., by Age and Sex: 1964-85*, by James W. Brackett, International Population Reports, Series P-91, No. 13, Washington, 1964 p. 35. See table II-7 for an explanation of the projection series.

United States: 1913-41: U.S. Department of Commerce, Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1957*, Washington, 1960, p. 7. 1950 and 1964: -----, *Estimates of the Population of the United States, Jan. 1, 1950, to Jan. 1, 1965*, Current Population Reports, series P-25, No. 209, Washington, 1965. 1970-85: -----, *Projections of the Population of the United States, by Age and Sex: 1964 to 1985* by Jacob S. Siegel, Meyer Zitter, and Donald S. Akers, Current Population Reports, series P-25, No. 286, Washington, 1964, p. 41. All four series assume that mortality will decline and that there will be 300,000 im-

migrants annually. The fertility assumptions, expressed in terms of the maternal gross reproduction rate are given below. For comparison, the maternal gross reproduction rate in 1962 was 171.

	Series A	Series B	Series C	Series D
1965.....	175	184	151	151
1970.....	172	157	139	136
1975.....	170	157	139	131
1980.....	168	156	139	126
1985.....	166	154	137	123

TABLE II-4.—Birth and death rates for the U.S.S.R. and the United States, 1955-63  
 [Rate per 1,000 population]

Year	Birth rate		Death rate	
	U.S.S.R.	United States	U.S.S.R.	United States
1955.....	25.7	25.0	8.2	9.3
1956.....	25.2	25.2	7.6	9.4
1957.....	25.4	25.3	7.8	9.6
1958.....	25.3	24.6	7.2	9.5
1959.....	25.0	24.3	7.6	9.4
1960.....	24.9	23.7	7.1	9.5
1961.....	23.8	23.3	7.2	9.3
1962.....	22.4	22.4	7.5	9.5
1963.....	21.2	21.6	7.2	9.6
1964.....	19.7	21.3	7.0	9.4

Source: U.S.S.R.: Table II-2.  
 United States: U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States: 1962*, Washington, 1962, p. 52; -----, *Statistical Abstract of the United States: 1964*, Washington, 1964, p. 48; -----, *Current Population Report*, Series P-26, No. 30, p. 1.

TABLE II-5.—Populations of cities in the U.S.S.R. with 1964 populations of 500,000 inhabitants or more, and of all Republic capitals, 1939, 1959, 1963, and 1964

[Population figures in thousands. Figures for 1939 presumably relate to the beginning of the year; those for 1959 to the census of Jan. 15. Figures for other years are official estimates for Jan. 1]

City	Population				Percent change		
	1939	1959	1963	1964	1939-64	1959-64	1963-64
1. Moscow.....	4,542	8,039	6,354	6,388	40.6	5.8	0.5
2. Leningrad.....	3,385	3,321	3,552	3,607	6.6	8.6	1.5
3. Kiyev.....	847	1,104	1,248	1,292	52.5	17.0	3.5
4. Baku.....	775	971	1,086	1,116	44.0	14.9	2.8
5. Gor'kiy.....	644	942	1,042	1,066	65.5	13.2	2.3
6. Tashkent.....	550	912	1,029	1,061	92.9	16.3	3.1
7. Khar'kov.....	833	934	1,006	1,048	25.8	12.2	4.2
8. Novosibirsk.....	404	886	990	1,013	150.7	14.5	2.3
9. Kuybyshev.....	390	806	901	928	137.9	15.1	3.0
10. Sverdlovsk.....	423	779	869	897	112.1	15.1	3.2
11. Donetsk.....	466	699	774	794	70.4	13.6	2.6
12. Chelyabinsk.....	273	689	767	790	189.4	14.7	3.0
13. Tbilisi.....	519	695	768	786	51.4	13.1	2.3
14. Dnepropetrovsk.....	527	660	738	755	43.3	14.4	2.3
15. Perm'.....	306	629	722	745	143.5	18.4	3.2
16. Kazan'.....	398	647	725	745	86.7	14.8	2.5
17. Odessa.....	602	667	709	721	19.8	8.1	1.7
18. Rostov-na-Donu.....	510	600	689	706	38.4	17.7	2.5
19. Omsk.....	289	581	674	702	142.0	20.8	4.2
20. Volgograd.....	445	592	663	684	53.7	15.5	3.2
21. Minsk.....	237	509	644	675	184.3	32.6	4.8
22. Saratov.....	372	531	644	665	78.8	14.5	3.3
23. Ufa.....	258	547	630	651	152.3	19.0	3.3
24. Riga.....	348	580	632	645	85.3	11.2	2.1
25. Yerevan.....	204	509	578	607	197.5	19.3	5.0
26. Alma-Ata.....	222	456	580	607	173.4	33.1	4.7
27. Voronezh.....	344	448	535	558	62.2	24.6	4.3
28. Zaporozh'ye.....	282	435	507	529	87.6	21.6	4.3
29. Krasnoyarsk.....	190	412	483	521	174.2	26.5	7.9
30. Frunze.....	93	220	326	342	287.7	55.5	4.9
31. Tallin.....	180	282	311	320	100.0	13.5	2.9
32. Dushanbe.....	83	224	276	298	259.0	33.0	8.0
33. Vil'nyus.....	215	236	271	282	31.2	19.5	4.1
34. Kishinev.....	112	216	254	267	138.4	23.6	5.1
35. Ashkhabad.....	127	170	207	215	69.3	26.5	3.9

Source: 1939, 1959, and 1963: Tsentral'noye statisticheskoye upravleniye pri Sovete ministrov SSSR, *Narodnoye Khozyaystvo SSSR v 1963 godu, statisticheskyy yezhegodnik (The National Economy of the USSR in 1963, a Statistical Yearbook)*, Moscow, 1963, p. 25. 1964: -----, *SSSR v tsifrakh v 1963 godu, Kratkiy statisticheskyy sbornik (U.S.S.R. in Figures in 1963, A Short Statistical Compilation)*, Moscow, 1964, pp. 16-17.

## 28 CURRENT ECONOMIC INDICATORS FOR THE U.S.S.R.

TABLE II-6.—Average family size in the U.S.S.R., by nationality and urban and rural residence, 1959

[Nationality groups are ranked according to average family size]

Nationality	Percent urban	Percent distribution of the total population	Average family size		
			Total	Urban	Rural
All nationalities.....	48	<sup>1</sup> 100.0	3.7	3.5	3.9
Tadzhik.....	21	0.7	5.2	5.1	5.2
Uzbek.....	22	2.9	5.0	4.9	5.0
Turkmen.....	25	0.5	5.0	4.7	5.1
Azerbaijdzhan.....	35	1.4	4.8	4.6	4.9
Armenian.....	57	1.3	4.7	4.4	5.0
Kazakh.....	24	1.7	4.6	4.7	4.5
Kirgiz.....	11	0.7	4.5	4.3	4.6
Georgian.....	36	1.3	4.0	3.8	4.1
Moldavian.....	13	1.1	3.9	3.6	4.0
Belorussian.....	32	3.8	3.7	3.4	3.7
Russian.....	58	54.6	3.6	3.5	3.7
Lithuanian.....	35	1.1	3.6	3.4	3.6
Ukrainian.....	39	17.8	3.5	3.3	3.6
Latvian.....	45	0.7	3.1	3.0	3.2
Estonian.....	47	0.5	3.0	3.1	3.0

<sup>1</sup> Because about 10 percent of the population are members of nationality groups other than those listed, the distribution does not add to the total. Data on average family size for other nationalities are not reported.

Source: Tsentral'noye statisticheskoye upravleniye pri Sovete ministrov SSSR Itogi Vsesoyuznoy perepisi naseleniya 1959 goda, SSSR (The Results of the All-Union Census of Population 1959, U.S.S.R.), Moscow, 1962, pp. 184 ff. and 262.

TABLE II-7.—Estimated and projected population of preschool age in the U.S.S.R.: 1959-85

[Jan. 1 figures in millions. Figures were independently rounded without adjustment to group totals. The letters A, B, C, and D denote the projection series]

Year	Under 7 years				Under 3 years				3 to 6 years				
	A	B	C	D	A	B	C	D	A	B	C	D	
1959.....			33.2				14.8					18.4	
1960.....			33.7				15.0					18.6	
1961.....			34.4				15.3					19.1	
1962.....			34.6				15.3					19.3	
1963.....			34.6				15.0					19.6	
1964.....			34.5				14.5					20.0	
1965.....	34.3	34.1	33.7	33.6	14.2	14.1	13.7	13.5				20.1	
1966.....	33.9	33.5	32.8	32.3	14.1	13.7	12.9	12.5				19.8	
1967.....	33.5	32.8	31.6	30.9	14.0	13.4	12.2	11.5				19.5	
1968.....	32.9	32.0	30.3	29.3	13.9	13.1	11.8	10.9	19.1	18.9	18.5	18.3	
1969.....	32.5	31.3	29.0	27.6	13.8	13.0	11.5	10.5	18.7	18.3	17.6	17.2	
1970.....	32.4	30.8	28.0	26.2	13.8	12.9	11.3	10.1	18.6	17.9	16.7	16.0	
1971.....	32.5	30.5	27.0	24.7	14.0	13.0	11.1	9.8	18.5	17.6	15.8	14.8	
1972.....	32.6	30.4	26.5	23.8	14.2	13.1	11.1	9.6	18.3	17.3	15.4	14.2	
1973.....	32.9	30.4	26.2	23.1	14.6	13.3	11.1	9.5	18.3	17.2	15.1	13.7	
1974.....	33.4	30.7	26.0	22.5	14.9	13.5	11.1	9.3	18.5	17.2	14.9	13.2	
1975.....	34.0	31.0	25.9	22.0	15.3	13.8	11.2	9.1	18.7	17.3	14.8	12.9	
1976.....	34.8	31.5	26.0	21.7	15.7	14.0	11.3	9.1	19.1	17.5	14.7	12.7	
1977.....	35.6	32.1	26.2	21.6	16.0	14.3	11.4	9.1	19.6	17.8	14.7	12.4	
1978.....	36.4	32.7	26.4	21.5	16.3	14.6	11.7	9.3	20.0	18.1	14.8	12.2	
1979.....	37.2	33.3	26.8	21.6	16.7	14.9	11.9	9.5	20.5	18.4	14.9	12.1	
1980.....	38.0	34.0	27.2	21.8	17.0	15.2	12.2	9.7	21.0	18.8	15.1	12.1	
1981.....	38.8	34.7	27.7	22.2	17.4	15.5	12.4	9.9	21.5	19.2	15.3	12.3	
1982.....	39.6	35.3	28.3	22.6	17.7	15.8	12.6	10.1	21.9	19.6	15.6	12.5	
1983.....	40.4	36.0	28.8	23.1	18.0	16.1	12.9	10.3	22.4	20.0	16.0	12.8	
1984.....	41.1	36.7	29.3	23.5	18.3	16.3	13.0	10.4	22.8	20.4	16.3	13.0	
1985.....	41.7	37.3	29.8	23.9	18.5	16.5	13.2	10.6	23.3	20.8	16.6	13.3	

Source: U.S. Department of Commerce, Bureau of the Census, Projections of the Population of the U.S.S.R., By Age and Sex: 1964-85, by James W. Brackett, International Population Reports, series P-91, No. 13, Washington, 1964. The assumptions used in the preparation of the projections are as follows:

Fertility: Series A: That the maternal gross reproduction rate will rise from its level of about 125 in 1963 to 130 in 1964 and will continue to rise by a constant annual amount until 1974, after which it will stabilize at 140. Series B: That the maternal gross reproduction rate will remain constant at the 1963 level throughout the projection period. Series C: That the maternal gross reproduction rate will decline to 115 in 1964 and will continue to decline by a constant annual amount until 1974, after which it will stabilize at 100. Series D: That the maternal gross reproduction rate will decline to 110 in 1964 and that it will continue to decline by a constant annual amount until 1974, after which it will stabilize at 80.

Mortality: That age-specific death rates will decline in accordance with postwar international experience.

TABLE II-8.—Estimated and projected population of school age in the U.S.S.R., 1959-85

[Jan. 1 figures in millions. Figures were independently rounded without adjustment to group totals. The letters A, B, C, and D denote the projection series]

Year	7 to 17 years				7 to 10 years				11 to 14 years				15 to 17 years			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
1959			36.3				17.1					11.3				8.0
1960			37.1				17.6					13.2				6.3
1961			39.1				17.8					14.9				6.4
1962			42.0				18.1					16.1				7.7
1963			44.6				18.4					17.1				9.2
1964			46.8				18.6					17.6				10.7
1965			48.5				19.1					17.7				11.8
1966			49.9				19.3					18.1				12.6
1967			50.9				19.5					18.3				13.0
1968			51.8				19.9					18.5				13.3
1969			52.3				20.0					19.0				13.3
1970			52.6				19.8					19.2				13.6
1971			52.7				19.4					19.5				13.8
1972	53.0	52.9	52.5	52.3	19.0	18.8	18.5	18.3				19.9				14.1
1973	52.9	52.5	51.7	51.3	18.7	18.3	17.5	17.1				20.0				14.3
1974	52.8	52.1	50.9	50.2	18.5	17.9	16.7	16.0				19.7				14.5
1975	52.6	51.7	50.0	48.9	18.4	17.5	15.8	14.8				19.4				14.8
1976	52.3	51.1	48.8	47.4	18.3	17.3	15.4	14.2	19.0	18.8	18.5	18.3				15.0
1977	52.0	50.4	47.5	45.7	18.3	17.1	15.0	13.6	18.7	18.3	17.5	17.1				15.0
1978	51.7	49.7	46.2	43.9	18.4	17.1	14.8	13.2	18.5	17.9	16.7	16.0				14.7
1979	51.4	49.0	44.8	42.0	18.7	17.2	14.7	12.9	18.4	17.5	15.8	14.8				14.3
1980	51.4	48.6	43.6	40.1	19.1	17.5	14.7	12.6	18.3	17.2	15.3	14.1	14.0	13.9	13.5	13.3
1981	51.7	48.4	42.5	38.4	19.5	17.7	14.7	12.4	18.3	17.1	15.0	13.6	13.9	13.6	12.8	12.4
1982	52.3	48.4	41.6	36.7	20.0	18.1	14.8	12.2	18.4	17.1	14.8	13.2	13.9	13.2	12.0	11.3
1983	52.9	48.6	41.2	35.8	20.5	18.4	14.9	12.1	18.7	17.2	14.7	12.9	13.7	13.0	11.6	10.8
1984	53.7	49.0	41.1	35.1	21.0	18.8	15.1	12.1	19.1	17.5	14.7	12.6	13.6	12.8	11.3	10.4
1985	54.6	49.6	41.2	34.7	21.4	19.1	15.3	12.2	19.5	17.7	14.7	12.4	13.7	12.8	11.1	10.0

Source: Same as table II-7.

TABLE II-9.—Estimated and projected population of college age in the U.S.S.R., 1959-85

[Jan. 1 figures in millions]

Year	Population 20 to 24 years old	Year	Population 20 to 24 years old
1959	20.3	1973	21.5
1960	21.4	1974	21.8
1961	21.9	1975	22.3
1962	21.6	1976	22.7
1963	19.3	1977	22.9
1964	16.4	1978	23.3
1965	14.0	1979	23.8
1966	12.4	1980	24.1
1967	11.9	1981	24.5
1968	13.0	1982	24.7
1969	15.2	1983	24.6
1970	17.3	1984	24.3
1971	19.2	1985	23.8
1972	20.5		

1 Series B projection. The figures for series A, C, and D are 24,000,000, 23,400,000, and 23,300,000, respectively.

Source: Same as table II-7.

TABLE II-10.—*Estimated and projected male population of military age in the U.S.S.R., 1959-85*

[Jan. 1 figures in millions. Figures were independently rounded without adjustment to group totals. The letters A, B, C, and D denote the projection series]

Year and series	17 to 34 years	17 to 19 years	17 years	18 years	19 years
1959	33.7	6.1	1.9	2.0	2.2
1960	33.4	5.1	1.2	1.9	2.0
1961	32.6	4.0	.9	1.2	1.9
1962	31.8	3.2	1.0	.9	1.2
1963	31.1	3.2	1.3	1.0	.9
1964	30.8	3.9	1.6	1.3	1.0
1965	30.8	4.6	1.8	1.6	1.3
1966	31.1	5.4	2.0	1.8	1.6
1967	31.5	6.0	2.1	2.0	1.8
1968	31.9	6.4	2.2	2.1	1.8
1969	32.3	6.6	2.3	2.2	2.0
1970	32.9	6.8	2.3	2.3	2.1
1971	33.4	6.8	2.2	2.3	2.2
1972	33.8	6.9	2.4	2.2	2.3
1973	33.9	7.0	2.4	2.4	2.3
1974	34.0	7.2	2.4	2.4	2.2
1975	34.2	7.3	2.5	2.4	2.4
1976	34.7	7.4	2.5	2.5	2.4
1977	35.5	7.6	2.6	2.5	2.4
1978	36.8	7.7	2.6	2.6	2.5
1979	38.4	7.7	2.5	2.6	2.5
1980	39.8	7.5	2.4	2.5	2.6
1981	40.9	7.3	2.4	2.4	2.5
1982:					
A	41.7	7.2	2.4		
B	41.6	7.1	2.3		
C	41.4	6.9	2.1	2.4	2.4
D	41.3	6.8	2.0		
1983:					
A	42.3	7.1	2.4	2.4	
B	42.1	6.9	2.3	2.3	
C	41.7	6.5	2.0	2.1	2.4
D	41.5	6.3	1.9	2.0	
1984:					
A	42.6	7.1	2.3	2.4	2.4
B	42.3	6.8	2.2	2.3	2.3
C	41.6	6.2	2.0	2.0	2.1
D	41.3	5.8	1.8	1.9	2.0
1985:					
A	42.8	7.0	2.3	2.3	2.4
B	42.3	6.6	2.2	2.2	2.3
C	41.4	6.0	1.9	2.0	2.0
D	40.9	5.5	1.8	1.8	1.9

Source: Same as table II-7.



TABLE II-11.—Estimated and projected population of "able-bodied age" in the U.S.S.R., 1959-85

[In millions. Figures were independently rounded without adjustment to group totals. Population figures refer to Jan. 1. The letters A, B, C, and D denote the projection series]

Year and series	Both sexes		Male		Female	
	Population of "able-bodied age"	Net change	Population 16 to 59 years	Net change	Population 16 to 54 years	Net change
1959.....	119.7	-0.3	55.0	0.1	64.7	-0.5
1960.....	119.4	-.1	55.2	.3	64.2	-.3
1961.....	119.3	.4	55.5	.5	63.9	-.1
1962.....	119.7	.9	55.9	.8	63.8	.1
1963.....	120.6	1.2	56.7	.9	63.9	.2
1964.....	121.7	1.6	57.6	1.1	64.1	.4
1965.....	123.3	1.7	58.8	1.2	64.6	.5
1966.....	125.0	1.8	60.0	1.3	65.0	.5
1967.....	126.7	1.9	61.2	1.3	65.5	.6
1968.....	128.6	2.1	62.5	1.3	66.1	.7
1969.....	130.6	1.9	63.8	1.2	66.8	.7
1970.....	132.5	2.3	65.0	1.3	67.6	1.0
1971.....	134.9	2.3	66.3	1.3	68.5	1.0
1972.....	137.2	2.4	67.7	1.4	69.6	1.0
1973.....	139.6	2.6	69.0	1.5	70.6	1.1
1974.....	142.2	2.7	70.5	1.6	71.6	1.1
1975.....	144.8	2.7	72.1	1.6	72.7	1.1
1976.....	147.6	2.8	73.7	1.7	73.8	1.1
1977.....	150.4	2.5	75.4	1.6	74.9	.9
1978.....	152.9	2.1	77.1	1.5	75.8	.6
1979.....	155.0	1.9	78.6	1.5	76.4	.4
1980.....	156.9	1.5	80.1	1.4	76.8	.1
1981:						
A.....	158.6	1.7	81.6	1.5	77.0	.2
B.....	158.4	1.5	81.5	1.4	76.9	.1
C.....	158.1	1.2	81.3	1.2	76.7	-----
D.....	157.9	1.0	81.2	1.1	76.7	-----
1982:						
A.....	160.1	1.5	83.0	1.4	77.1	-----
B.....	159.7	1.3	82.8	1.3	76.9	-----
C.....	159.0	.9	82.4	1.1	76.5	-.2
D.....	158.6	.7	82.2	1.0	76.3	-.3
1983:						
A.....	161.4	1.3	84.3	1.2	77.2	-----
B.....	160.8	1.1	84.0	1.1	76.9	-----
C.....	159.6	.6	83.3	.9	76.3	-.3
D.....	158.9	.4	83.0	.8	75.9	-.4
1984:						
A.....	162.6	1.2	85.3	1.0	77.3	.2
B.....	161.7	.9	84.9	.9	76.9	-----
C.....	160.0	.4	84.0	.6	76.1	-.2
D.....	159.0	.1	83.5	.5	75.6	-.4
1985:						
A.....	163.8	1.1	86.2	.9	77.6	.3
B.....	162.6	.8	85.6	.7	77.0	.1
C.....	160.3	.3	84.4	.4	75.9	-.1
D.....	158.9	-.1	83.7	.2	75.2	-.3

Source: Same as table II-7.

## 32 CURRENT ECONOMIC INDICATORS FOR THE U.S.S.R.

TABLE II-12.—Estimated and projected population of "retirement age" in the U.S.S.R.: 1959-85

[Jan. 1 figures in millions. Figures were independently rounded without adjustment to group totals]

Year	Both sexes	Males, 60 years old and over	Females, 55 years old and over	Year	Both sexes	Males, 60 years old and over	Females, 55 years old and over
1959.....	25.5	6.6	18.8	1973.....	38.4	10.6	27.7
1960.....	28.3	6.8	19.5	1974.....	39.0	10.9	28.1
1961.....	27.2	7.0	20.2	1975.....	39.5	11.1	28.4
1962.....	28.0	7.2	20.8	1976.....	40.0	11.3	28.7
1963.....	28.9	7.4	21.5	1977.....	40.4	11.4	29.0
1964.....	29.9	7.6	22.2	1978.....	41.0	11.5	29.4
1965.....	30.9	7.9	23.0	1979.....	41.7	11.6	30.0
1966.....	32.0	8.2	23.8	1980.....	42.5	11.7	30.8
1967.....	33.2	8.5	24.6	1981.....	43.5	11.8	31.7
1968.....	34.2	8.9	25.4	1982.....	44.6	11.9	32.7
1969.....	36.2	9.2	26.0	1983.....	45.7	12.1	33.7
1970.....	36.1	9.6	26.6	1984.....	47.0	12.6	34.5
1971.....	37.0	9.9	27.0	1985.....	48.2	13.0	35.2
1972.....	37.7	10.3	27.4				

Source: Same as table II-7.

TABLE II-13.—Estimated and projected total population, components of population change, and vital rates, for the U.S.S.R., by sex, 1950-85

[Absolute numbers in thousands; rates per thousand population]

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
<b>BOTH SEXES</b>								
<b>ESTIMATES</b>								
1950.....	178,520	180,050	3,060	17.0	4,805	26.7	1,745	9.7
1951.....	181,580	183,165	3,169	17.3	4,945	27.0	1,777	9.7
1952.....	184,749	186,349	3,199	17.2	4,948	26.6	1,749	9.4
1953.....	187,945	189,464	3,081	16.0	4,756	25.1	1,724	9.1
1954.....	190,979	192,685	3,411	17.7	5,125	26.6	1,714	8.9
1955.....	194,390	196,108	3,435	17.5	5,048	25.7	1,613	8.2
1956.....	197,825	199,582	3,513	17.6	5,029	25.2	1,516	7.6
1957.....	201,338	203,126	3,575	17.6	5,159	25.4	1,584	7.8
1958.....	204,913	206,788	3,749	18.1	5,240	25.3	1,491	7.2
1959.....	208,662	210,492	3,660	17.4	5,264	25.0	1,604	7.6
1960.....	212,322	214,228	3,812	17.8	5,341	24.9	1,529	7.1
1961.....	216,134	217,949	3,629	16.7	5,192	23.8	1,563	7.2
1962.....	219,763	221,409	3,292	14.9	4,959	22.4	1,667	7.5
1963.....	223,055	224,667	3,224	14.4	4,865	21.7	1,641	7.3
<b>PROJECTIONS</b>								
<i>Series A</i>								
1964.....	226,279	227,900	3,242	14.2	4,895	21.5	1,653	7.3
1965.....	229,521	231,096	3,150	13.6	4,814	20.8	1,664	7.2
1966.....	232,671	234,204	3,066	13.1	4,743	20.3	1,677	7.2
1967.....	235,737	237,247	3,019	12.7	4,706	19.8	1,687	7.1
1968.....	238,756	240,263	3,014	12.5	4,717	19.6	1,703	7.1
1969.....	241,770	243,291	3,042	12.5	4,769	19.6	1,727	7.1
1970.....	244,812	246,360	3,096	12.6	4,853	19.7	1,757	7.1
1971.....	247,908	249,498	3,179	12.7	4,961	19.9	1,782	7.1
1972.....	251,087	252,720	3,265	12.9	5,078	20.1	1,813	7.2
1973.....	254,352	256,029	3,353	13.1	5,202	20.3	1,849	7.2
1974.....	257,705	259,428	3,445	13.3	5,334	20.6	1,889	7.3
1975.....	261,150	262,907	3,513	13.4	5,436	20.7	1,923	7.3
1976.....	264,663	266,450	3,574	13.4	5,542	20.8	1,968	7.4
1977.....	268,237	270,063	3,652	13.5	5,654	20.9	2,002	7.4
1978.....	271,889	273,757	3,786	13.6	5,770	21.1	2,034	7.4
1979.....	275,625	277,525	3,800	13.7	5,888	21.2	2,085	7.5
1980.....	279,425	281,361	3,871	13.8	5,998	21.3	2,127	7.6
1981.....	283,296	285,299	3,946	13.8	6,098	21.4	2,152	7.5
1982.....	287,242	289,238	3,992	13.8	6,188	21.4	2,196	7.6
1983.....	291,234	293,245	4,022	13.7	6,259	21.3	2,237	7.6
1984.....	295,256	297,274	4,036	13.6	6,313	21.2	2,277	7.7
1985.....	299,292							

Footnotes on p. 33.

TABLE II-13.—Estimated and projected total population, components of population change, and vital rates, for the U.S.S.R., by sex, 1950-85—Continued

[Absolute numbers in thousands; rates per thousand population]

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
<b>BOTH SEXES</b>								
<b>PROJECTIONS</b>								
<i>Series B</i>								
1964	226,279	227,808	3,057	13.4	4,707	20.7	1,650	7.2
1965	229,336	230,805	2,937	12.7	4,693	19.9	1,656	7.2
1966	232,273	233,684	2,822	12.1	4,491	19.2	1,669	7.1
1967	235,095	236,468	2,745	11.6	4,423	18.7	1,678	7.1
1968	237,840	239,194	2,708	11.3	4,400	18.4	1,692	7.1
1969	240,548	241,898	2,699	11.2	4,416	18.3	1,717	7.1
1970	243,247	244,604	2,713	11.1	4,461	18.2	1,748	7.1
1971	245,960	247,338	2,756	11.1	4,626	18.3	1,770	7.2
1972	248,716	250,117	2,801	11.2	4,600	18.4	1,799	7.2
1973	251,517	252,939	2,843	11.2	4,678	18.5	1,835	7.3
1974	254,360	255,803	2,899	11.3	4,763	18.6	1,877	7.3
1975	257,246	258,718	2,943	11.4	4,854	18.8	1,911	7.4
1976	260,189	261,689	3,000	11.5	4,948	18.9	1,948	7.4
1977	263,189	264,719	3,060	11.6	5,048	19.1	1,988	7.5
1978	266,249	267,814	3,130	11.7	5,152	19.2	2,022	7.6
1979	269,379	270,973	3,188	11.8	5,267	19.4	2,069	7.6
1980	272,567	274,188	3,242	11.8	5,365	19.5	2,113	7.7
1981	275,809	277,461	3,304	11.9	5,446	19.6	2,141	7.7
1982	279,113	280,785	3,344	11.9	5,525	19.7	2,181	7.8
1983	282,457	284,139	3,364	11.8	5,689	19.7	2,225	7.8
1984	285,821	287,507	3,371	11.7	5,637	19.6	2,260	7.9
1985	289,192							
<i>Series C</i>								
1964	226,279	227,624	2,689	11.8	4,330	19.0	1,641	7.2
1965	228,968	230,282	2,527	11.0	4,170	18.1	1,643	7.1
1966	231,495	232,680	2,370	10.2	4,028	17.3	1,653	7.1
1967	233,865	234,990	2,249	9.6	3,910	16.6	1,661	7.1
1968	236,114	237,198	2,162	9.1	3,837	16.2	1,675	7.1
1969	238,276	239,326	2,100	8.8	3,788	15.9	1,698	7.1
1970	240,376	241,408	2,053	8.5	3,783	15.7	1,730	7.2
1971	242,420	243,446	2,034	8.4	3,784	15.5	1,750	7.2
1972	244,463	245,471	2,015	8.2	3,790	15.4	1,775	7.2
1973	246,478	247,470	1,984	8.0	3,798	15.3	1,814	7.3
1974	248,462	249,442	1,959	7.9	3,810	15.3	1,851	7.4
1975	250,421	251,419	1,996	7.9	3,883	15.4	1,887	7.5
1976	252,417	253,435	2,036	8.0	3,958	15.6	1,922	7.6
1977	254,453	255,489	2,072	8.1	4,038	15.8	1,966	7.7
1978	256,526	257,586	2,122	8.2	4,121	16.0	1,999	7.8
1979	258,647	259,729	2,183	8.3	4,206	16.2	2,043	7.9
1980	260,810	261,907	2,194	8.4	4,284	16.4	2,090	8.0
1981	263,004	264,124	2,239	8.5	4,356	16.5	2,117	8.0
1982	265,243	266,375	2,284	8.5	4,420	16.6	2,156	8.1
1983	267,507	268,643	2,272	8.5	4,471	16.6	2,199	8.2
1984	269,779	270,913	2,267	8.4	4,509	16.6	2,242	8.3
1985	272,046							
<i>Series D</i>								
1964	226,279	227,531	2,504	11.0	4,142	18.2	1,638	7.2
1965	228,783	229,931	2,296	10.0	3,931	17.1	1,635	7.1
1966	231,079	232,125	2,091	9.0	3,738	16.1	1,645	7.1
1967	233,170	234,132	1,923	8.2	3,574	15.3	1,651	7.1
1968	235,093	235,987	1,787	7.6	3,450	14.6	1,663	7.0
1969	236,880	237,715	1,670	7.0	3,356	14.1	1,686	7.1
1970	238,550	239,334	1,568	6.6	3,284	13.7	1,716	7.2
1971	240,118	240,862	1,488	6.2	3,223	13.4	1,735	7.2
1972	241,606	242,310	1,408	5.8	3,166	13.1	1,757	7.3
1973	243,014	243,689	1,310	5.4	3,107	12.8	1,797	7.4
1974	244,324	244,930	1,211	4.9	3,048	12.4	1,837	7.5
1975	245,536	246,155	1,240	5.0	3,107	12.6	1,867	7.6
1976	246,775	247,408	1,265	5.1	3,167	12.8	1,902	7.7
1977	248,040	248,683	1,285	5.2	3,231	13.0	1,946	7.8
1978	249,325	249,982	1,314	5.3	3,297	13.2	1,983	7.9
1979	250,639	251,311	1,344	5.3	3,364	13.4	2,020	8.0
1980	251,983	252,661	1,366	5.4	3,427	13.6	2,071	8.2

<sup>1</sup> Estimates of the total population for 1952, 1953, 1956, and 1961 through 1964 shown here are somewhat different from the official Soviet estimates for these years because the official figures imply unexplained residuals. These residuals for years 1960-62 are as follows: 1960, -34,000; 1961, +15,000; and 1962, +85,000.

<sup>2</sup> The projections were prepared prior to the release of the vital rates for 1963. The official rates for 1963 are: natural increase, 14.0; birth, 21.2; and death, 7.2. Absolute numbers of births and deaths have not yet been published.

TABLE II-13.—*Estimated and projected total population, components of population change, and vital rates, for the U.S.S.R., by sex, 1950-85—Continued*

[Absolute numbers in thousands; rates per thousand population]

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
<b>BOTH SEXES</b>								
<b>PROJECTIONS</b>								
<i>Series D</i>								
1981	253,339	254,031	1,383	5.4	3,485	13.7	2,102	8.3
1982	254,722	255,424	1,403	5.5	3,536	13.8	2,133	8.4
1983	256,125	256,822	1,394	5.4	3,577	13.9	2,183	8.5
1984	257,519	258,212	1,385	5.4	3,608	14.0	2,223	8.6
1985	258,904							
<b>MALE</b>								
<b>ESTIMATES</b>								
1950	77,896	78,697	1,602	20.4	2,475	31.4	873	11.1
1951	79,498	80,333	1,669	20.8	2,547	31.7	878	10.9
1952	81,167	82,014	1,694	20.7	2,548	31.1	864	10.4
1953	82,861	83,670	1,617	19.3	2,449	29.3	832	9.9
1954	84,478	85,389	1,822	21.3	2,639	30.9	817	9.6
1955	86,300	87,220	1,840	21.1	2,600	29.8	760	8.7
1956	88,140	89,082	1,884	21.1	2,590	29.1	706	7.9
1957	90,024	90,989	1,929	21.2	2,657	29.2	728	8.0
1958	91,953	92,904	2,022	21.8	2,699	29.0	677	7.3
1959	93,975	94,944	1,938	20.4	2,711	28.6	773	8.1
1960	95,913	96,926	2,026	20.9	2,751	28.4	725	7.5
1961	97,939	98,909	1,939	19.6	2,674	27.0	735	7.4
1962	99,878	100,761	1,765	17.5	2,554	25.3	789	7.8
1963	101,643	102,515	1,744	17.0	2,505	24.4	761	7.4
<b>PROJECTIONS</b>								
<i>Series A</i>								
1964	103,387	104,268	1,761	16.9	2,521	24.2	760	7.3
1965	105,148	106,008	1,719	16.2	2,479	23.4	760	7.2
1966	106,867	107,709	1,683	15.6	2,443	22.7	760	7.1
1967	108,550	109,379	1,657	15.1	2,424	22.2	767	7.0
1968	110,207	111,039	1,664	15.0	2,429	21.9	765	6.9
1969	111,871	112,714	1,686	15.0	2,456	21.8	770	6.8
1970	113,557	114,416	1,717	15.0	2,499	21.8	782	6.8
1971	115,274	116,159	1,770	15.2	2,555	22.0	785	6.8
1972	117,044	117,953	1,817	15.4	2,615	22.2	798	6.8
1973	118,861	119,797	1,872	15.6	2,679	22.4	807	6.7
1974	120,733	121,696	1,926	15.8	2,747	22.6	822	6.8
1975	122,658	123,643	1,969	15.9	2,800	22.6	831	6.7
1976	124,627	125,631	2,007	16.0	2,854	22.7	847	6.7
1977	126,634	127,660	2,052	16.1	2,912	22.8	860	6.7
1978	128,686	129,735	2,098	16.2	2,971	22.9	873	6.7
1979	130,784	131,851	2,133	16.2	3,032	23.0	899	6.8
1980	132,917	134,003	2,171	16.2	3,089	23.1	918	6.9
1981	135,088	136,195	2,213	16.2	3,140	23.1	927	6.8
1982	137,301	138,419	2,235	16.1	3,186	23.0	951	6.9
1983	139,536	140,664	2,255	16.0	3,223	22.9	968	6.9
1984	141,791	142,926	2,269	15.9	3,251	22.7	982	6.9
1985	144,060							
<i>Series B</i>								
1964	103,387	104,220	1,666	16.0	2,424	23.3	758	7.3
1965	105,053	105,858	1,610	15.2	2,365	22.3	755	7.1
1966	106,663	107,442	1,657	14.5	2,313	21.5	756	7.0
1967	108,220	108,979	1,617	13.9	2,278	20.9	761	7.0
1968	109,737	110,490	1,606	13.6	2,265	20.5	760	6.9
1969	111,243	111,998	1,510	13.5	2,274	20.3	764	6.8
1970	112,753	113,513	1,520	13.5	2,287	20.2	777	6.8
1971	114,273	115,049	1,552	13.5	2,331	20.3	779	6.8
1972	115,825	116,615	1,580	13.6	2,369	20.3	789	6.8
1973	117,405	118,211	1,611	13.6	2,408	20.4	798	6.8
1974	119,016	119,835	1,638	13.7	2,453	20.5	815	6.8
1975	120,654	121,492	1,675	13.8	2,500	20.6	825	6.8
1976	122,329	123,185	1,712	13.9	2,548	20.7	836	6.8
1977	124,041	124,915	1,747	14.0	2,600	20.8	853	6.8
1978	125,788	126,681	1,786	14.1	2,653	20.9	867	6.8
1979	127,574	128,485	1,821	14.2	2,707	21.1	886	6.9
1980	129,395	130,319	1,848	14.2	2,758	21.2	910	7.0
1981	131,243	132,184	1,882	14.2	2,804	21.2	922	7.0
1982	133,125	134,077	1,903	14.2	2,845	21.2	942	7.0
1983	135,028	135,987	1,917	14.1	2,878	21.2	961	7.1
1984	136,945	137,909	1,928	14.0	2,903	21.1	975	7.1
1985	138,873							

TABLE II-13.—Estimated and projected total population, components of population change, and vital rates, for the U.S.S.R., by sex, 1950-85—Continued  
 [Absolute numbers in thousands; rates per thousand population]

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
<b>MALE</b>								
<b>PROJECTIONS</b>								
<i>Series C</i>								
1964	103,387	104,126	1,477	14.2	2,230	21.4	753	7.2
1965	104,864	105,664	1,399	13.3	2,147	20.3	748	7.1
1966	106,263	106,926	1,326	12.4	2,072	19.4	746	7.0
1967	107,589	108,220	1,261	11.7	2,014	18.6	753	7.0
1968	108,850	109,463	1,226	11.2	1,976	18.1	760	6.9
1969	110,076	110,677	1,202	10.9	1,956	17.7	754	6.8
1970	111,278	111,869	1,181	10.6	1,948	17.4	767	6.9
1971	112,459	113,050	1,182	10.5	1,949	17.2	767	6.8
1972	113,641	114,229	1,176	10.3	1,952	17.1	776	6.8
1973	114,817	115,403	1,171	10.1	1,956	16.9	785	6.8
1974	115,988	116,569	1,161	10.0	1,962	16.8	801	6.9
1975	117,149	117,743	1,188	10.1	2,000	17.0	812	6.9
1976	118,337	118,946	1,218	10.2	2,038	17.1	820	7.0
1977	119,555	120,175	1,239	10.3	2,080	17.3	841	7.0
1978	120,794	121,428	1,268	10.4	2,122	17.5	854	7.1
1979	122,062	122,710	1,295	10.6	2,166	17.7	871	7.2
1980	123,357	124,012	1,310	10.6	2,206	17.8	896	7.3
1981	124,667	125,334	1,333	10.6	2,243	17.9	910	7.3
1982	126,000	126,675	1,350	10.7	2,276	18.0	926	7.4
1983	127,350	128,029	1,357	10.6	2,302	18.0	945	7.4
1984	128,707	129,388	1,362	10.5	2,322	17.9	960	7.4
1985	130,069							
<i>Series D</i>								
1964	103,387	104,078	1,382	13.3	2,133	20.5	751	7.2
1965	104,769	105,410	1,281	12.2	2,024	19.2	743	7.0
1966	106,050	106,641	1,182	11.1	1,924	18.0	742	7.0
1967	107,232	107,779	1,094	10.2	1,841	17.1	747	6.9
1968	108,325	108,843	1,033	9.5	1,777	16.3	744	6.8
1969	109,359	109,850	981	8.9	1,728	15.7	747	6.8
1970	110,340	110,807	933	8.4	1,691	15.3	758	6.8
1971	111,273	111,723	900	8.1	1,660	14.9	760	6.8
1972	112,173	112,606	865	7.7	1,630	14.5	765	6.8
1973	113,038	113,450	824	7.3	1,600	14.1	776	6.8
1974	113,862	114,251	777	6.8	1,570	13.7	793	6.9
1975	114,639	115,039	800	7.0	1,600	13.9	800	7.0
1976	115,439	115,850	821	7.1	1,631	14.1	810	7.0
1977	116,260	116,678	835	7.2	1,664	14.3	829	7.1
1978	117,095	117,521	852	7.2	1,698	14.4	846	7.2
1979	117,947	118,386	876	7.4	1,732	14.6	856	7.2
1980	118,823	119,262	878	7.4	1,765	14.8	887	7.4
1981	119,701	120,149	895	7.4	1,795	14.9	900	7.5
1982	120,596	121,050	908	7.5	1,821	15.0	913	7.5
1983	121,504	121,957	905	7.4	1,842	15.1	937	7.7
1984	122,409	122,863	908	7.4	1,868	15.1	950	7.7
1985	123,317							
<b>FEMALE</b>								
<b>ESTIMATES</b>								
1950	100,624	101,353	1,458	14.4	2,330	23.0	872	8.6
1951	102,082	102,832	1,500	14.6	2,398	23.3	890	8.7
1952	103,582	104,335	1,605	14.4	2,400	23.0	895	8.6
1953	105,087	105,794	1,414	13.4	2,307	21.8	892	8.4
1954	106,501	107,296	1,589	14.8	2,486	23.2	897	8.4
1955	108,090	108,888	1,595	14.6	2,448	22.5	853	7.8
1956	109,685	110,500	1,629	14.7	2,439	22.1	811	7.3
1957	111,314	112,157	1,646	14.7	2,502	22.3	856	7.6
1958	112,960	113,824	1,727	15.2	2,541	22.3	814	7.2
1959	114,687	115,548	1,722	14.9	2,553	22.1	831	7.2
1960	116,409	117,302	1,786	15.2	2,590	22.1	804	6.9
1961	118,195	119,040	1,690	14.2	2,518	21.2	828	7.0
1962	119,885	120,649	1,627	12.7	2,405	19.9	878	7.3
1963	121,412	122,152	1,480	12.1	2,360	19.3	880	7.2

## 36 CURRENT ECONOMIC INDICATORS FOR THE U.S.S.R.

TABLE II-13.—Estimated and projected total population, components of population change, and vital rates, for the U.S.S.R., by sex, 1950-85—Continued

[Absolute numbers in thousands; rates per thousand population]

Year	Population		Natural increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
<b>FEMALE</b>								
<b>PROJECTIONS</b>								
<i>Series A</i>								
1964	122,892	123,633	1,481	12.0	2,374	19.2	893	7.2
1965	124,873	125,089	1,431	11.4	2,335	18.7	904	7.2
1966	125,804	126,496	1,383	10.9	2,300	18.2	917	7.2
1967	127,187	127,868	1,362	10.7	2,282	17.8	920	7.2
1968	128,549	129,224	1,350	10.4	2,288	17.7	938	7.3
1969	129,599	130,577	1,356	10.4	2,318	17.7	957	7.3
1970	131,255	131,945	1,379	10.5	2,354	17.8	975	7.4
1971	132,634	133,339	1,409	10.6	2,405	18.0	997	7.5
1972	134,043	134,767	1,448	10.7	2,459	18.3	1,015	7.5
1973	135,491	136,232	1,431	10.6	2,523	18.5	1,042	7.6
1974	136,972	137,732	1,520	11.0	2,587	18.8	1,067	7.7
1975	138,492	139,264	1,644	11.1	2,636	18.9	1,092	7.8
1976	140,036	140,820	1,567	11.1	2,688	19.1	1,121	8.0
1977	141,603	142,403	1,600	11.2	2,742	19.3	1,142	8.0
1978	143,203	144,022	1,638	11.4	2,799	19.4	1,161	8.1
1979	144,841	145,875	1,667	11.4	2,856	19.6	1,189	8.2
1980	146,508	147,358	1,700	11.5	2,909	19.7	1,209	8.2
1981	148,208	149,075	1,733	11.6	2,958	19.8	1,225	8.2
1982	149,941	150,820	1,757	11.6	3,002	19.9	1,245	8.3
1983	151,698	152,582	1,767	11.6	3,036	19.9	1,260	8.3
1984	153,465	154,349	1,767	11.4	3,062	19.8	1,295	8.4
1985	155,282							
<i>Series B</i>								
1964	122,892	123,668	1,391	11.3	2,283	18.5	892	7.2
1965	124,283	124,947	1,327	10.6	2,228	17.8	901	7.2
1966	125,610	126,243	1,265	10.0	2,178	17.3	913	7.2
1967	126,875	127,489	1,228	9.6	2,145	16.8	917	7.2
1968	128,103	128,704	1,202	9.3	2,134	16.6	932	7.2
1969	129,305	129,900	1,189	9.2	2,142	16.5	953	7.3
1970	130,494	131,091	1,193	9.1	2,164	16.5	971	7.4
1971	131,687	132,289	1,204	9.1	2,195	16.6	991	7.5
1972	132,891	133,502	1,221	9.1	2,231	16.7	1,010	7.6
1973	134,112	134,728	1,232	9.1	2,269	16.8	1,037	7.7
1974	135,344	135,968	1,248	9.2	2,310	17.0	1,062	7.8
1975	136,582	137,220	1,268	9.2	2,354	17.2	1,086	7.9
1976	137,860	138,504	1,288	9.3	2,400	17.3	1,112	8.0
1977	139,148	139,805	1,313	9.4	2,448	17.5	1,138	8.1
1978	140,461	141,133	1,344	9.5	2,499	17.7	1,165	8.2
1979	141,805	142,489	1,367	9.6	2,550	17.9	1,183	8.3
1980	143,172	143,869	1,394	9.7	2,597	18.1	1,203	8.4
1981	144,566	145,277	1,422	9.8	2,641	18.2	1,219	8.4
1982	145,988	146,709	1,441	9.8	2,680	18.3	1,239	8.4
1983	147,429	148,163	1,447	9.8	2,711	18.3	1,264	8.5
1984	148,876	149,598	1,443	9.6	2,734	18.3	1,291	8.6
1985	150,319							
<i>Series C</i>								
1964	122,892	123,498	1,212	9.8	2,100	17.0	888	7.2
1965	124,104	124,668	1,128	9.0	2,023	16.2	895	7.2
1966	125,282	125,754	1,044	8.3	1,951	15.5	907	7.2
1967	126,276	126,770	988	7.8	1,896	15.0	908	7.2
1968	127,264	127,732	936	7.3	1,861	14.6	925	7.2
1969	128,200	128,649	898	7.0	1,842	14.3	944	7.3
1970	129,098	129,534	872	6.7	1,835	14.2	963	7.4
1971	129,970	130,396	852	6.5	1,835	14.1	983	7.5
1972	130,822	131,242	839	6.4	1,838	14.0	999	7.6
1973	131,661	132,068	813	6.2	1,842	13.9	1,029	7.8
1974	132,474	132,873	798	6.0	1,848	13.9	1,050	7.9
1975	133,272	133,676	808	6.0	1,863	14.1	1,075	8.0
1976	134,080	134,489	818	6.1	1,920	14.3	1,102	8.2
1977	134,888	135,315	833	6.2	1,958	14.5	1,126	8.3
1978	135,731	136,168	854	6.3	1,999	14.7	1,145	8.4
1979	136,585	137,019	868	6.3	2,040	14.9	1,172	8.5
1980	137,453	137,895	884	6.4	2,078	15.1	1,194	8.7
1981	138,337	138,790	906	6.5	2,113	15.2	1,207	8.7
1982	139,243	139,700	914	6.5	2,144	15.3	1,230	8.8
1983	140,157	140,615	915	6.5	2,169	15.4	1,254	8.9
1984	141,072	141,525	905	6.4	2,187	15.5	1,282	9.1
1985	141,977							

TABLE II-13.—*Estimated and projected total population, components of population change, and vital rates, for the U.S.S.R., by sex, 1950-85—Continued*

[Absolute numbers in thousands; ratios per thousand population]

Year	Population		Natural Increase		Births		Deaths	
	Jan. 1	July 1	Number	Rate	Number	Rate	Number	Rate
FEMALE								
PROJECTIONS								
<i>Series D</i>								
1964	122,892	123,453	1,122	9.1	2,009	16.3	887	7.2
1965	124,014	124,522	1,015	8.2	1,907	15.3	892	7.2
1966	125,029	125,484	909	7.2	1,812	14.4	903	7.2
1967	125,938	126,353	829	6.6	1,733	13.7	904	7.2
1968	126,767	127,144	754	5.9	1,673	13.2	919	7.2
1969	127,521	127,866	689	5.4	1,628	12.7	939	7.3
1970	128,210	128,528	635	4.9	1,593	12.4	958	7.5
1971	128,845	129,139	588	4.6	1,563	12.1	975	7.6
1972	129,433	129,705	543	4.2	1,535	11.8	992	7.6
1973	129,976	130,219	486	3.7	1,507	11.6	1,021	7.8
1974	130,462	130,679	434	3.3	1,478	11.3	1,044	8.0
1975	130,896	131,116	440	3.4	1,507	11.5	1,067	8.1
1976	131,336	131,558	444	3.4	1,536	11.7	1,092	8.3
1977	131,780	132,005	450	3.4	1,567	11.9	1,117	8.5
1978	132,230	132,461	462	3.5	1,599	12.1	1,137	8.6
1979	132,692	132,926	468	3.5	1,632	12.3	1,164	8.8
1980	133,160	133,399	478	3.6	1,662	12.5	1,184	8.9
1981	133,638	133,882	488	3.6	1,690	12.6	1,202	9.0
1982	134,126	134,374	495	3.7	1,715	12.8	1,220	9.1
1983	134,621	134,866	489	3.6	1,735	12.9	1,246	9.2
1984	135,110	135,349	477	3.5	1,760	12.9	1,273	9.4
1985	135,587							

Source: Same as table II-7.

TABLE II-14.—Estimated and projected population of the U.S.S.R., by 5-year age groups and sex, Jan. 1, 1959-85  
[In thousands]

Series and age	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
<b>BOTH SEXES</b>														
All ages:														
A	208,662	212,322	216,184	219,763	223,055	226,279	229,521	232,671	235,737	238,756	241,770	244,812	247,908	251,087
B							229,336	232,273	235,095	237,840	240,548	243,247	245,960	248,716
C							228,968	231,495	233,865	236,114	238,276	240,376	242,429	244,463
D							228,783	231,079	233,170	235,093	236,880	238,550	240,118	241,606
Under 5 years:							24,311	23,826	23,435	23,237	23,133	23,048	23,123	23,367
A							24,126	23,428	23,428	22,798	22,321	21,911	21,568	21,632
B							23,738	22,650	21,563	20,595	19,639	19,155	18,806	18,597
C							23,573	22,234	20,868	19,574	18,243	17,510	16,905	16,429
D														
5 to 9 years:														
A							24,290	24,662	24,874	24,739	24,437	24,132	23,663	23,285
B														
C														
D														
10 to 14 years:														
A							22,467	22,811	23,047	23,362	23,962	24,211	24,589	24,809
B														
C														
D														
15 to 19 years:														
A							17,381	19,229	20,566	21,548	21,873	22,408	22,754	22,992
B														
C														
D														
20 to 24 years:														
A							13,986	12,425	11,875	12,965	15,171	17,308	19,154	20,459
B														
C														
D														
25 to 29 years:							21,219	21,788	21,448	19,205	16,275	13,904	12,357	11,813
30 to 34 years:							17,626	17,526	18,035	19,092	20,021	21,062	21,630	21,802
35 to 39 years:							18,006	18,981	18,365	17,905	17,822	17,455	17,363	17,876
40 to 44 years:							18,762	14,279	16,865	17,584	18,517	18,908	18,692	18,140
45 to 49 years:							12,624	14,279	16,080	17,584	18,517	18,908	18,692	18,140
50 to 54 years:							9,975	9,869	9,864	10,389	11,205	12,404	14,035	15,809
55 to 59 years:							11,672	11,247	10,714	10,229	9,901	9,703	9,605	9,703
60 to 64 years:							10,319	10,787	11,133	11,373	11,378	11,180	10,779	10,272
65 to 69 years:							8,385	8,604	8,810	9,050	9,341	9,674	10,074	10,451
70 to 74 years:							6,298	6,568	6,810	7,120	7,370	7,604	7,901	8,165
75 years and over:							4,426	4,578	4,756	4,988	5,161	5,381	5,617	5,865
							5,197	5,591	5,786	6,203	6,203	6,430	6,670	6,923



Series and age	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
BOTH SEXES													
All ages:													
A	254,352	257,705	261,150	264,663	268,237	271,889	275,625	279,425	283,286	287,242	291,234	295,256	299,292
B	251,517	254,360	257,246	260,189	263,189	266,249	269,379	272,567	275,809	279,113	282,457	285,821	289,192
C	246,478	248,462	250,521	252,417	254,453	256,525	258,647	260,810	263,004	265,243	267,507	269,779	272,046
D	243,014	244,324	245,585	246,775	248,040	249,325	250,639	251,983	253,369	254,722	256,126	257,519	258,904
Under 5 years:													
A	23,759	24,239	24,837	25,431	26,016	26,600	27,180	27,738	28,306	28,871	29,409	29,903	30,336
B	21,532	22,128	22,490	22,895	23,326	23,783	24,267	24,767	25,274	25,777	26,259	26,690	27,064
C	18,507	18,487	18,522	18,637	18,824	19,081	19,413	19,815	20,219	20,621	21,009	21,381	21,667
D	16,053	15,736	15,451	15,236	15,233	15,381	15,530	15,850	16,176	16,496	16,807	17,086	17,334
5 to 9 years:													
A	23,095	22,998	22,922	23,003	23,252	23,649	24,151	24,730	25,325	25,916	26,502	27,081	27,644
B	22,187	21,784	21,546	21,458	21,528	21,733	22,031	22,396	22,803	23,236	23,694	24,170	24,682
C	20,473	19,527	19,060	18,711	18,511	18,423	18,409	18,444	18,563	18,731	19,009	19,344	19,746
D	19,463	18,140	17,416	16,823	16,384	15,982	15,666	15,391	15,234	15,193	15,273	15,475	15,797
10 to 14 years:													
A	24,679	24,383	24,063	23,691	23,245	23,059	22,964	22,886	22,968	23,218	23,614	24,116	24,697
B			23,902	23,228	22,611	22,152	21,751	21,513	21,426	21,496	21,701	21,969	22,364
C			23,541	22,401	21,304	20,440	19,495	19,021	18,683	18,453	18,386	18,383	18,419
D			23,360	22,051	20,709	19,431	18,113	17,392	16,798	16,329	15,960	15,648	15,367
15 to 19 years:													
A	23,329	23,911	24,160	24,538	24,762	24,637	24,344	24,045	23,584	23,211	23,028	22,936	22,861
B								23,865	23,193	22,578	22,122	21,724	21,488
C								23,504	22,426	21,362	20,413	19,471	19,000
D								23,324	22,013	20,678	19,404	18,060	17,371
20 to 24 years:													
A	21,473	21,800	22,336	22,683	22,922	23,260	23,842	24,083	24,472	24,697	24,573	24,281	23,985
B													23,805
C													23,445
D													23,266
25 to 29 years:													
A	12,902	15,100	17,232	19,074	20,406	21,387	21,715	22,232	22,600	22,842	23,182	23,764	24,017
B	19,080	16,178	13,817	12,279	11,744	12,829	15,020	17,146	18,982	20,310	21,289	21,620	22,047
C	18,932	19,862	20,897	21,465	21,742	18,939	16,054	13,719	12,195	11,668	12,750	14,932	17,047
D	17,692	17,615	17,258	17,174	17,085	17,733	19,661	20,690	21,256	20,940	18,739	15,900	13,500
30 to 34 years:													
A	17,288	18,205	18,588	18,381	17,948	17,409	17,334	16,985	16,906	17,412	18,454	19,376	20,382
B	10,124	10,924	12,097	13,690	15,419	16,859	17,928	18,129	17,928	17,406	16,987	16,916	17,453
C	9,813	9,507	9,322	9,233	9,331	9,574	10,517	11,650	13,183	14,848	16,234	17,095	17,453
D	10,680	10,504	10,504	10,129	9,660	9,234	8,951	8,786	8,707	8,806	9,198	9,935	11,008
35 to 39 years:													
A	8,210	8,475	8,782	9,151	9,660	9,706	9,719	9,551	9,211	8,787	8,407	8,156	8,013
B	6,101	6,321	6,523	6,692	6,852	7,046	7,270	7,536	7,841	8,160	8,407	8,349	8,201
C	7,195	7,484	7,792	8,119	8,461	8,806	9,148	9,489	9,817	10,150	10,507	10,896	11,312

TABLE II-14.—Estimated and projected population of the U.S.S.R., by 5-year age groups and sex, Jan. 1, 1959-85—Continued

Series and age	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
<b>MALE</b>														
<b>All ages:</b>														
A	93,975	95,913	97,939	99,878	101,643	103,337	{ 105,148	111,871	108,550	110,207	111,871	113,557	115,274	117,044
B							{ 105,053	111,243	108,220	109,737	111,243	112,753	114,273	115,825
C							{ 104,864	106,263	107,589	108,850	110,076	111,278	112,469	113,641
D							{ 104,769	106,050	107,232	108,326	109,359	110,340	111,273	112,173
<b>Under 5 years:</b>														
A	12,424	12,552	12,760	12,934	12,905	12,646	{ 12,480	11,931	12,032	11,890	11,838	11,838	11,877	12,003
B							{ 12,385	11,702	11,461	11,227	11,078	11,078	11,078	11,111
C							{ 12,196	11,627	11,071	10,574	10,085	9,838	9,659	9,552
D							{ 12,101	11,414	10,714	10,050	9,368	8,936	8,683	8,438
<b>5 to 9 years:</b>														
A	11,106	11,474	11,660	11,793	11,977	12,235	12,427	12,539	12,751	12,688	12,539	12,383	12,142	11,951
B														11,624
C														11,649
D														11,545
<b>10 to 14 years:</b>														10,899
A	7,749	8,841	9,784	10,469	10,974	11,146	11,425	12,233	11,741	11,925	12,233	12,378	12,638	12,712
B														
C														
D														
<b>15 to 19 years:</b>														
A	8,272	7,078	6,302	6,034	6,566	7,720	8,812	11,116	10,439	10,944	11,116	11,395	11,580	11,711
B														
C														
D														
<b>20 to 24 years:</b>														
A	10,049	10,592	10,900	10,756	9,651	8,201	7,022	7,679	5,997	6,559	7,679	8,767	9,707	10,390
B														
C														
D														
<b>25 to 29 years:</b>														
A	8,912	8,764	8,728	8,074	9,486	9,947	10,490	10,798	10,656	9,566	8,133	6,967	6,211	5,966
B	8,606	8,932	8,975	8,846	8,743	8,733	8,652	8,619	8,866	9,360	9,841	10,352	10,688	10,554
C	4,523	5,166	6,054	7,027	7,886	8,465	8,791	8,837	8,713	8,620	8,674	8,745	8,515	8,763
D	3,983	3,884	3,807	3,870	4,013	4,430	5,064	5,938	6,905	7,745	8,320	8,943	9,689	10,573
<b>30 to 34 years:</b>														
A	4,701	4,599	4,426	4,217	3,874	3,771	3,697	3,697	3,713	3,903	4,315	4,940	5,797	6,745
B	4,005	4,157	4,325	4,415	4,018	3,874	3,771	3,697	3,713	3,903	4,315	4,940	5,797	6,745
C	2,348	2,042	2,310	2,394	2,574	2,492	2,435	2,435	2,471	2,624	2,915	3,264	3,555	3,574
D	2,382	2,392	2,493	2,394	2,524	2,621	2,746	2,902	3,072	3,243	3,405	3,624	3,862	3,798
<b>35 to 39 years:</b>														
A	1,751	1,805	1,965	1,925	1,983	2,062	2,074	2,105	2,141	2,106	2,282	2,386	2,484	2,687
B	1,330	1,301	1,330	1,359	1,386	1,416	1,464	1,514	1,567	1,614	1,659	1,689	1,715	1,746
C	1,267	1,324	1,388	1,448	1,512	1,579	1,633	1,690	1,748	1,808	1,870	1,936	2,006	2,077

Series and age	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
MALE													
All ages:													
A	118,861	120,733	122,638	124,627	126,634	128,686	130,784	132,917	135,088	137,301	139,536	141,791	144,060
B	117,405	119,016	120,654	122,329	124,041	125,788	127,574	129,395	131,243	133,125	135,028	136,945	138,873
C	114,817	115,988	117,149	118,337	119,555	120,794	122,062	123,357	124,687	126,000	127,350	128,707	130,069
D	113,098	113,862	114,639	115,439	116,250	117,095	117,947	118,823	119,701	120,586	121,504	122,409	123,317
Under 5 years:													
A	12,204	12,462	12,760	13,067	13,368	13,670	13,970	14,267	14,548	14,840	15,114	15,388	15,661
B	11,214	11,368	11,555	11,764	11,986	12,222	12,472	12,730	12,990	13,249	13,495	13,721	13,920
C	9,506	9,498	9,516	9,576	9,673	9,806	9,977	10,185	10,382	10,588	10,797	10,978	11,136
D	8,245	8,084	7,988	7,858	7,703	7,570	7,461	7,347	7,214	7,079	6,938	6,791	6,639
5 to 9 years:													
A	11,855	11,806	11,768	11,810	11,940	12,146	12,406	12,704	13,012	13,316	13,619	13,917	14,206
B	11,389	11,183	11,062	11,017	11,054	11,161	11,316	11,505	11,716	11,939	12,176	12,426	12,684
C	10,509	10,025	9,781	9,606	9,505	9,481	9,456	9,476	9,538	9,634	9,768	9,941	10,148
D	9,991	9,313	8,942	8,637	8,397	8,207	8,046	7,907	7,827	7,806	7,849	7,962	8,118
10 to 14 years:													
A	12,653	12,508	12,353	12,114	11,922	11,828	11,779	11,740	11,733	11,913	12,118	12,378	12,678
B			12,260	11,912	11,597	11,363	11,157	11,036	10,942	11,029	11,136	11,291	11,490
C			12,075	11,519	10,973	10,455	10,000	9,758	9,585	9,453	9,439	9,435	9,456
D			11,962	11,308	10,621	9,997	9,231	8,922	8,617	8,377	8,189	8,061	7,887
15 to 19 years:													
A	11,887	12,207	12,332	12,562	12,686	12,627	12,482	12,326	12,086	11,865	11,801	11,762	11,715
B								12,234	11,886	11,571	11,337	11,131	11,011
C								12,049	11,493	10,948	10,462	9,977	9,737
D								11,957	11,254	10,597	9,944	9,269	8,901
20 to 24 years:													
A	10,895	11,068	11,248	11,534	11,666	11,853	12,163	12,310	12,521	12,646	12,688	12,443	12,287
B													12,195
C													12,011
D													11,919
25 to 29 years:													
A	6,517	7,630	8,714	9,651	10,332	10,834	11,008	11,289	11,476	11,611	11,800	12,110	12,259
B	9,478	8,062	6,907	6,169	5,911	6,469	7,575	8,653	9,564	10,261	10,761	10,968	11,218
C	9,275	9,735	10,273	10,579	10,448	9,386	7,965	6,845	6,105	5,800	6,415	7,514	8,585
D	8,487	8,544	8,417	8,284	8,641	9,148	9,608	10,141	10,446	10,319	9,270	7,886	6,762
30 to 34 years:													
A	7,587	8,130	8,447	8,466	8,388	8,309	8,365	8,243	8,223	8,468	8,972	9,428	9,954
B	8,782	8,164	7,771	7,603	7,521	7,317	7,063	6,762	6,421	6,120	5,804	5,406	4,991
C	8,628	4,164	4,771	5,003	5,521	6,046	6,572	7,047	7,521	8,047	8,562	9,036	9,478
D	3,490	3,506	3,490	3,359	3,278	3,160	3,046	2,926	2,821	2,703	2,583	2,473	2,368
35 to 39 years:													
A	3,850	3,850	3,775	3,641	3,479	3,326	3,144	2,944	2,744	2,544	2,344	2,144	1,944
B	3,864	3,880	3,811	3,641	3,441	3,241	3,041	2,841	2,641	2,441	2,241	2,041	1,841
C	3,880	3,980	4,080	4,180	4,280	4,380	4,480	4,580	4,680	4,780	4,880	4,980	5,080
D	1,703	1,899	2,095	2,291	2,487	2,683	2,879	3,075	3,271	3,467	3,663	3,859	4,055
40 to 44 years:													
A	2,147	2,212	2,276	2,338	2,403	2,460	2,515	2,568	2,619	2,668	2,715	2,759	2,801
B													2,842
C													2,794
D													2,741
45 to 49 years:													
A													2,668
B													2,619
C													2,570
D													2,521
50 to 54 years:													
A													2,473
B													2,424
C													2,375
D													2,326
55 to 59 years:													
A													2,276
B													2,227
C													2,178
D													2,129
60 to 64 years:													
A													2,080
B													2,031
C													1,982
D													1,933
65 to 69 years:													
A													1,884
B													1,835
C													1,786
D													1,737
70 to 74 years:													
A													1,688
B													1,639
C													1,590
D													1,541
75 years and over:													
A													1,492
B													1,443
C													1,394
D													1,345

TABLE II-14.—Estimated and projected population of the U.S.S.R., by 5-year age groups and sex, Jan. 1, 1959-85—Continued

Series and age	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
FEMALE														
All ages:														
A	114,687	116,409	118,195	119,885	121,412	122,802	124,253	125,804	127,187	128,549	129,899	131,255	132,634	134,043
B							124,253	125,804	126,875	128,103	129,305	130,494	131,657	132,891
C							124,104	125,232	126,276	127,264	128,200	129,098	129,970	130,822
D							124,014	125,029	125,938	126,767	127,521	128,210	128,845	129,438
Under 5 years:														
A							11,831	11,595	11,403	11,306	11,253	11,210	11,246	11,364
B							11,741	11,401	11,091	10,860	10,659	10,537	10,490	10,521
C							11,562	11,023	10,492	10,021	9,554	9,317	9,147	9,045
D							11,472	10,820	10,154	9,524	8,875	8,517	8,222	7,991
5 to 9 years:														
A							11,863	12,080	12,123	12,051	11,898	11,749	11,521	11,334
B							11,042	11,201	11,306	11,457	11,729	11,661	11,330	11,025
C							11,042	11,201	11,306	11,457	11,729	11,485	10,956	10,432
D							11,042	11,201	11,306	11,457	11,729	11,387	10,756	10,097
10 to 14 years:														
A							11,042	11,201	11,306	11,457	11,729	11,833	12,001	12,097
B							11,042	11,201	11,306	11,457	11,729	11,833	12,001	12,097
C							11,042	11,201	11,306	11,457	11,729	11,833	12,001	12,097
D							11,042	11,201	11,306	11,457	11,729	11,833	12,001	12,097
15 to 19 years:														
A							8,569	9,475	10,127	10,604	10,757	11,013	11,174	11,281
B							8,569	9,475	10,127	10,604	10,757	11,013	11,174	11,281
C							8,569	9,475	10,127	10,604	10,757	11,013	11,174	11,281
D							8,569	9,475	10,127	10,604	10,757	11,013	11,174	11,281
20 to 24 years:														
A							6,964	6,169	5,878	6,406	7,492	8,541	9,447	10,099
B							6,964	6,169	5,878	6,406	7,492	8,541	9,447	10,099
C							6,964	6,169	5,878	6,406	7,492	8,541	9,447	10,099
D							6,964	6,169	5,878	6,406	7,492	8,541	9,447	10,099
25 to 29 years:							10,729	10,990	10,792	9,639	8,142	6,937	6,146	5,857
A							10,729	10,990	10,792	9,639	8,142	6,937	6,146	5,857
B							8,974	8,907	9,169	9,712	10,140	10,680	10,942	10,748
C							8,974	8,907	9,169	9,712	10,140	10,680	10,942	10,748
D							8,974	8,907	9,169	9,712	10,140	10,680	10,942	10,748
30 to 34 years:							10,094	10,094	9,652	9,285	9,148	8,913	8,848	9,113
A							10,094	10,094	9,652	9,285	9,148	8,913	8,848	9,113
B							7,560	8,341	9,175	9,839	10,197	10,265	10,003	9,507
C							7,560	8,341	9,175	9,839	10,197	10,265	10,003	9,507
D							7,560	8,341	9,175	9,839	10,197	10,265	10,003	9,507
35 to 39 years:							6,204	6,172	6,251	6,486	7,464	7,464	8,238	9,064
A							6,204	6,172	6,251	6,486	7,464	7,464	8,238	9,064
B							7,273	7,012	6,676	6,377	6,883	6,079	6,050	6,129
C							7,273	7,012	6,676	6,377	6,883	6,079	6,050	6,129
D							7,273	7,012	6,676	6,377	6,883	6,079	6,050	6,129
40 to 44 years:							6,421	6,688	6,962	7,139	7,163	7,049	6,797	6,474
A							6,421	6,688	6,962	7,139	7,163	7,049	6,797	6,474
B							5,639	5,702	5,788	5,808	5,941	6,128	6,386	6,647
C							5,639	5,702	5,788	5,808	5,941	6,128	6,386	6,647
D							5,639	5,702	5,788	5,808	5,941	6,128	6,386	6,647
45 to 49 years:							4,224	4,463	4,708	4,924	5,088	5,208	5,269	5,304
A							4,224	4,463	4,708	4,924	5,088	5,208	5,269	5,304
B							2,957	3,064	3,189	3,336	3,505	3,692	3,902	4,119
C							2,957	3,064	3,189	3,336	3,505	3,692	3,902	4,119
D							2,957	3,064	3,189	3,336	3,505	3,692	3,902	4,119
50 to 54 years:							3,172	3,901	4,088	4,180	4,333	4,494	4,664	4,846
A							3,172	3,901	4,088	4,180	4,333	4,494	4,664	4,846
B							3,172	3,901	4,088	4,180	4,333	4,494	4,664	4,846
C							3,172	3,901	4,088	4,180	4,333	4,494	4,664	4,846
D							3,172	3,901	4,088	4,180	4,333	4,494	4,664	4,846

Series and age	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
FEMALE													
All ages:													
A	135,491	136,972	138,492	140,086	141,603	143,203	144,841	146,508	148,208	149,941	151,698	153,465	155,232
B	134,112	135,344	136,692	137,860	139,148	140,461	141,805	143,172	144,566	145,968	147,429	148,876	150,376
C	131,661	132,474	133,272	134,060	134,898	135,731	136,585	137,453	138,337	139,248	140,157	141,072	141,977
D	129,976	130,462	130,896	131,336	131,780	132,230	132,692	133,160	133,638	134,128	134,621	135,110	135,587
Under 5 years:													
A	11,555	11,797	12,077	12,364	12,648	12,930	13,210	13,481	13,758	14,031	14,305	14,578	14,745
B	10,618	10,760	10,885	11,131	11,340	11,561	11,795	12,037	12,284	12,528	12,764	12,978	13,164
C	9,001	8,989	9,006	9,061	9,151	9,275	9,436	9,630	9,827	10,023	10,212	10,383	10,532
D	7,808	7,652	7,513	7,435	7,415	7,452	7,459	7,483	7,502	7,517	7,528	7,535	7,538
5 to 9 years:													
A	11,240	11,192	11,154	11,193	11,312	11,503	11,745	12,026	12,313	12,600	12,883	13,164	13,438
B	10,798	10,601	10,441	10,474	10,474	10,572	10,715	10,891	11,087	11,297	11,518	11,733	11,908
C	9,964	9,502	9,269	9,105	9,006	8,962	8,953	8,969	9,025	9,117	9,241	9,403	9,598
D	9,472	8,827	8,474	8,186	7,957	7,775	7,620	7,484	7,407	7,357	7,424	7,523	7,679
10 to 14 years:													
A	11,730	11,323	11,042	11,507	11,323	11,231	11,185	11,146	11,135	11,305	11,496	11,738	12,019
B	11,642	11,014	10,484	11,316	11,014	10,789	10,594	10,477	10,434	10,467	10,555	10,708	10,884
C	11,466	10,942	10,421	10,942	10,421	9,955	9,495	9,263	9,098	9,000	8,956	8,948	8,964
D	11,378	10,743	10,188	10,743	10,188	9,464	8,822	8,470	8,181	7,952	7,771	7,617	7,480
15 to 19 years:													
A	11,432	11,704	11,808	11,976	12,076	12,010	11,862	11,719	11,498	11,316	11,227	11,184	11,146
B	11,432	11,704	11,808	11,976	12,076	12,010	11,862	11,719	11,498	11,316	11,227	11,184	11,146
C	11,432	11,704	11,808	11,976	12,076	12,010	11,862	11,719	11,498	11,316	11,227	11,184	11,146
D	11,432	11,704	11,808	11,976	12,076	12,010	11,862	11,719	11,498	11,316	11,227	11,184	11,146
20 to 24 years:													
A	10,578	10,732	10,868	11,149	11,256	11,407	11,579	11,783	11,951	12,051	11,985	11,838	11,698
B	10,578	10,732	10,868	11,149	11,256	11,407	11,579	11,783	11,951	12,051	11,985	11,838	11,698
C	10,578	10,732	10,868	11,149	11,256	11,407	11,579	11,783	11,951	12,051	11,985	11,838	11,698
D	10,578	10,732	10,868	11,149	11,256	11,407	11,579	11,783	11,951	12,051	11,985	11,838	11,698
25 to 29 years:													
A	6,385	7,470	8,518	9,423	10,074	10,553	10,707	10,983	11,194	11,231	11,382	11,654	11,758
B	6,002	8,111	9,610	10,120	10,833	11,360	11,445	11,783	12,000	12,049	12,228	12,508	12,687
C	9,657	10,127	10,624	10,886	10,694	9,553	8,784	8,493	8,090	7,908	7,535	7,418	7,328
D	9,205	9,071	8,841	8,780	9,044	9,585	10,053	10,546	10,870	11,321	11,839	12,314	12,748
30 to 34 years:													
A	6,362	6,760	7,326	8,087	8,898	9,542	9,892	10,242	10,594	10,948	11,302	11,656	12,010
B	6,185	6,001	5,902	5,874	5,953	6,181	6,371	6,528	6,707	6,894	7,082	7,270	7,458
C	6,816	6,838	6,729	6,488	6,181	5,908	5,573	5,233	4,917	4,631	4,345	4,059	3,773
D	5,371	5,485	5,671	5,912	6,155	6,311	6,437	6,528	6,595	6,643	6,688	6,733	6,778
35 to 39 years:													
A	4,308	4,452	4,557	4,611	4,643	4,704	4,737	4,775	4,808	4,822	4,842	4,858	4,872
B	4,308	4,452	4,557	4,611	4,643	4,704	4,737	4,775	4,808	4,822	4,842	4,858	4,872
C	4,308	4,452	4,557	4,611	4,643	4,704	4,737	4,775	4,808	4,822	4,842	4,858	4,872
D	4,308	4,452	4,557	4,611	4,643	4,704	4,737	4,775	4,808	4,822	4,842	4,858	4,872
40 to 44 years:													
A	5,048	5,272	5,516	5,781	6,038	6,325	6,575	6,806	7,017	7,228	7,447	7,669	7,895
B	5,048	5,272	5,516	5,781	6,038	6,325	6,575	6,806	7,017	7,228	7,447	7,669	7,895
C	5,048	5,272	5,516	5,781	6,038	6,325	6,575	6,806	7,017	7,228	7,447	7,669	7,895
D	5,048	5,272	5,516	5,781	6,038	6,325	6,575	6,806	7,017	7,228	7,447	7,669	7,895

Source: Same as table II-7.

CHAPTER III  
INDUSTRY

A. TRENDS IN OUTPUT OF INDUSTRIAL PRODUCTION, 1956-63

1. The 6.6-percent increase in civilian industrial production in 1963 was the lowest of the postwar period. Moreover, it marked the fourth consecutive year of annual rates of growth of less than 8 percent, a marked change from the average annual increase of about 10 percent for the 1950's. For the 4-year period 1960-63, the average annual rate came to 7 percent compared to an average of 9.7 percent for the years 1956-59. In the absence of armaments production data, the degree of slowdown in overall industrial production is uncertain, but we do not believe that its inclusion would eliminate the slowdown effect.

2. The change in the rate of increase in production did not show a consistent slowdown, however, in all the major sectors or in branches within the major sectors. Thus, the average annual rate of increase between the two 4-year periods declined by nearly a half for non-durable consumer goods, about a third for industrial materials, and less than a tenth for civilian machinery.

*U.S.S.R.: Average annual rates of growth of civilian industrial output*  
[Percent]

	1956-59	1960-63	1962	1963
Total industry.....	9.7	7.0	7.8	6.6
Industrial materials.....	9.6	6.1	6.6	6.3
Civilian machinery, including electronics.....	12.4	11.5	12.7	10.6
Nondurable consumer goods.....	7.4	3.9	4.6	2.0

3. Most of the decline in the rate of growth in industrial materials was caused by reduced rates of growth in the output of coal, forest products, construction materials, and a continuing fall in the rate of increase of petroleum products and natural gas. The sharp break in the rate of growth of output of nondurable consumer goods after 1959 reflects the steady decline in the rates of increase in production of soft goods and the virtual stagnation in the output of processed foods in 1960 and in 1963.

B. FACTORS IN THE INDUSTRIAL SLOWDOWN

1. Factors that help to explain the slowdown in the rate of industrial growth after 1959 are: (1) a sharp decline in industrial investment and the continued difficulty in introducing and assimilating new technology (see discussion in ch. IV); (2) difficulties in agriculture which led to a lessened supply of raw materials for industry; (3) the preemption of high quality resources by defense activities which further weakened programs in investment of new plant and equipment; reduction of the length of the standard workweek in industry from 48 hours in 1955 to 41 in 1961; and (5) the decline in the rate of growth of factor productivity (ratio of output per unit of input of labor and capital combined).

TABLE III-1.—U.S.S.R.: Production of selected industrial commodities, 1959, 1963, and 1965 plan

Commodity	Unit	1959	1963	1965		Percent	
				Original plan	Revised plan <sup>1</sup>	Average annual increase, 1959-63	Required annual increase, 1964-65 <sup>2</sup>
Primary energy <sup>3</sup> ...	Million metric tons of standard fuel.	659.4	847.1	1,016	(4)	6.5	(4)
Electric power.....	Billion kilowatt-hours.	265.1	412.4	500-520	510	11.9	11.2
Crude oil.....	Million metric tons...	129.6	206.1	230-240	242	12.7	8.4
Natural gas <sup>5</sup> .....	Billion cubic meters...	35.4	89.8	148.2	126	26.2	18.6
Pig iron.....	Million metric tons...	43.0	58.7	65-70	65.7	8.2	5.8
Crude steel.....	do.....	60.0	80.2	89-91	90	7.9	6.9
Cement.....	do.....	38.8	61	75-81	70	12.9	7.1
Mineral fertilizers <sup>6</sup>	do.....	12.9	19.9	35	33.5	9.9	29.7
Artificial and synthetic fibers.	Thousand metric tons.	179.5	308.4	666	416	13.2	16.1
Textiles <sup>7</sup> .....	Billion square meters.	6.18	6.85	8.32	7.41	3.3	4.0
Leather footwear...	Million pairs.....	389.9	462.7	515	477	5.4	1.5

<sup>1</sup> Revisions of plan announced in December 1964.

<sup>2</sup> Based on revised plan data for 1965.

<sup>3</sup> Primary energy expressed in terms of standard fuel. Including coal, crude oil, natural gas, peat, shale, and firewood, but excludes hydroelectric power.

<sup>4</sup> Not available.

<sup>5</sup> Excluding a small amount of gas manufactured from coal and shale.

<sup>6</sup> In standard Soviet units.

<sup>7</sup> Including cotton, wool, linen, and silk (including rayon, nylon, etc.).

TABLE III-2.—Production of major chemicals in the U.S.S.R., 1955 and 1959-63, plan for 1965, and United States, 1963

[Unclassified]

Commodity	Unit	U.S.S.R.							United States, 1963
		1955	1959	1960	1961	1962	1963	1965 (plan)	
Sulfuric acid (100 percent)	Thousand metric tons	3,798	5,082	5,398	5,718	6,132	6,885	19,000	18,993
Soda ash (95 percent)	do	1,437	1,728	1,887	2,115	2,332	2,545		24,247
Caustic soda (92 percent)	do	563	757	766	897	961	1,040		5,168
Mineral fertilizers <sup>1</sup>	do	2,299	3,064	3,280	3,593	4,078	4,646	47,835	8,827
Plastics	do	177	295	332	404	473	589	1,920	4,063
Rubber tires	Thousand units	10,190	15,480	17,225	18,096	20,846	22,563	26,000	142,941
Chemical fiber	Thousand metric tons	110.6	180	211	250	277	308	416	1,136

<sup>1</sup> Figures represent a downward revisions of goals under original 7-year plan for 1959-65.

<sup>2</sup> In terms of 100 percent.

<sup>3</sup> In terms of pure nutrient, production between 1 July 1962 and 30 June 1963.

<sup>4</sup> Estimated plan includes a small amount of trace fertilizers.

#### NEW SOVIET CHEMICAL PROGRAM

A significant development affecting the Soviet chemical industry in 1963 was the announcement at the December plenum of the Central Committee of the Communist Party of a new plan for rapid development of the industry in 1964-70. The plan called for production of the most important branches to increase by 200 to 230 percent, with the proportion of chemical output in the gross value of all industrial output to double by 1970. Primary attention was to be devoted to raising output of agricultural chemicals and synthetic materials. To support the program of "chemicalization" of the economy, a direct investment of about 25 billion rubles was planned in the chemical industry, with an additional 17 billion rubles to be invested in allied industries to support the chemical program and to assure efficient use of fertilizers and pesticides in agriculture. While events following the shift in Soviet leadership in 1964 suggest that the chemical program will be reduced somewhat, there is good reason to expect that Soviet planners will accord a high priority to development of the chemical industry for some years to come.



TABLE III-3.—Production of consumer goods in the U.S.S.R., 1955 and 1959-63, and in the United States, 1963<sup>1</sup>

Unit	1955	1959	1960	1961	1962	1963	Original 1965 plan	Revised 1965 plan	United States, 1963 (preliminary)
Fabrics, total.....	5,230	6,178	6,467	6,504	6,655	6,849	8,222	7,414	12,401
Cotton.....	4,227	4,615	4,838	4,875	4,914	5,089	5,852	5,396	8,591
Wool.....	316	415	438	454	469	471	640	(*)	406
Rayon, synthetic and silk.....	415	683	678	682	767	800	1,233	(*)	3,404
Linen.....	272	455	516	493	485	509	597	(*)	(*)
Leather footwear.....	271	380	419	443	456	463	515	477	4,591
Sewn garments.....	(*)	8,108	8,739	9,328	9,688	9,494	11,870	(*)	(*)
Knit underwear.....	85	104	112	118	125	133	160	165	(*)
Hosiery.....	846	926	964	1,000	1,033	1,122	780	750	(*)
Sewing machines.....	1,611	2,941	3,096	3,292	3,341	2,602	4,550	4,400	2,136
Refrigerators.....	161	426	530	686	838	911	1,450	(*)	(*)
Washing machines.....	87	648	896	1,286	1,797	2,282	2,570	1,860	4,125
Radios.....	3,649	4,086	4,166	4,228	4,251	4,802	7,000	6,000	4,058
Television sets.....	496	1,277	1,726	1,949	2,168	2,473	3,500	3,300	10,732

<sup>1</sup> Principal sources: Statistical Abstract of the United States, 1964. Official Soviet sources (U.S.S.R. Central Statistical Administration); Promyshlennost' S.S.S.R., Moscow 1964.  
<sup>2</sup> Not available.  
<sup>3</sup> Negligible.  
<sup>4</sup> Excludes Alaska. Includes slippers; excludes rubber footwear and sneakers.  
<sup>5</sup> Figures are for retail sales.  
<sup>6</sup> Includes 7,000,000 auto radios and 1,500,000 radio-phonograph combinations.

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TABLE III-4.—Production of selected metals in the U.S.S.R., 1955, 1959-63, and 1965 plan, and in the United States, 1963

[In thousands of metric tons]

Commodity	U.S.S.R. <sup>1</sup>							United States, 1963
	1955	1959	1960	1961	1962	1963	1965 plan	
Crude steel.....	45,272	59,972	65,294	70,756	76,307	80,231	90,100	99,120
Aluminum (primary).....	435	575	650	725	800	875	1,450	2,557
Copper (refined).....	377	450	490	530	590	640	772	1,723
Lead (primary).....	258	306	324	343	364	385	433	378
Tin (primary and secondary).....	10	13	13	14	15	16	16	25
Zinc (refined primary).....	222	344	364	377	403	419	504	805

<sup>1</sup> Data for crude steel are official Soviet data; all other data are estimates.<sup>2</sup> Estimated data.<sup>3</sup> Including refined primary zinc and secondary zinc refined at primary refineries.

TABLE III-5.—Production of selected fuels in the U.S.S.R., 1955 and 1959-63, and in the United States, 1963

Commodity	Unit of measure	1955	1959	1960	1961	1962	1963	United States, 1963
Coal.....	Million metric tons.....	391.3	506.6	513.2	510.5	517.4	531.7	432.9
Crude oil.....	do.....	70.8	129.6	147.9	165.1	186.2	206.1	372.0
Natural gas...	Billion cubic meters.....	9.0	35.4	45.3	59.0	73.5	89.8	417.6

TABLE III-6.—U.S.S.R.: Indexes of civilian industrial production, 1955 and 1959-63\*

	1955 value— Added weights (percent)	1955=100					
		1955	1959	1960	1961	1962	1963
Industrial materials.....	52.3	100	144.3	153.2	161.4	172.1	182.9
Electric power.....	3.3	100	155.7	171.8	192.6	216.6	242.6
Coal.....	9.3	100	130.4	133.4	133.4	136.0	139.9
Petroleum products and natural gas.....	2.4	100	184.8	210.5	236.4	268.3	298.1
Nonferrous metals.....	6.0	100	133.1	144.2	156.4	167.9	176.6
Forest products.....	4.8	100	129.2	142.0	154.0	168.0	180.8
Paper products.....	14.2	100	124.4	118.8	114.2	114.7	117.2
Construction materials.....	.8	100	130.7	136.5	144.6	154.7	164.4
Chemicals.....	6.8	100	199.5	229.7	253.6	275.9	292.9
.....	4.7	100	154.5	168.6	182.0	198.1	219.2
Civilian machinery, including electronics.....	22.2	100	159.5	176.0	198.3	223.4	247.1
Machinery, excluding electronics.....	19.5	100	150.7	163.0	181.0	200.2	216.1
Electronics.....	2.7	100	222.0	268.8	322.0	389.0	468.8
Nondurable consumer goods.....	25.5	100	133.2	138.9	145.8	152.5	155.5
Soft goods.....	16.2	100	131.3	139.0	143.5	149.3	152.5
Processed foods.....	9.3	100	136.4	138.8	149.9	158.0	160.6
Aggregate civilian industrial production.....	100.0	100	144.8	154.6	165.6	178.5	190.2

NOTE.—For methodology, see "Dimensions of Soviet Economic Power," pp. 119-136.  
 \*Machinery uniquely military in character (e.g., munitions) are excluded from the index shown in the table. If military machinery were included the slowdown in industrial growth between the 2 periods 1955-59 and 1960-63 would probably be reinforced.

TABLE III-7.—U.S.S.R.: Annual rates of growth in industrial production, 1959-63  
 [In percent]

	1959	1960	1961	1962	1963
Industrial materials.....	9.7	6.2	5.4	6.6	6.3
Electric power.....	12.4	10.3	12.1	12.5	12.0
Coal.....	2.9	2.3	0.0	2.0	2.9
Petroleum products and natural gas.....	14.5	13.9	12.3	13.5	11.1
Nonferrous metals.....	9.1	8.2	8.5	7.4	5.1
Forest products.....	9.8	9.9	8.4	9.1	7.6
Paper products.....	7.0	-4.5	-3.9	.5	2.2
Construction materials.....	4.5	4.5	5.9	7.0	6.2
Chemicals.....	17.8	15.1	10.4	8.8	6.2
Civilian machinery, including electronics.....	11.7	9.1	8.0	8.8	10.6
Machinery, excluding electronics.....	7.0	10.3	12.7	12.7	10.6
Electronics.....	4.7	8.1	11.0	10.6	7.9
Nondurable consumer goods.....	19.8	21.1	19.8	20.8	20.5
Soft goods.....	7.3	4.3	5.0	4.6	2.0
Processed foods.....	6.7	5.8	3.2	4.1	2.2
Aggregate civilian industrial production.....	8.2	1.8	8.0	5.4	1.7
.....	8.5	6.8	7.1	7.8	6.6

NOTE.—For methodology, see "Dimensions of Soviet Economic Power," pp. 119-136.

## CHAPTER IV

### INVESTMENT

1. The official Soviet investment series appearing in the latest statistical yearbook, *Narodnoye khozyaystvo SSSR v 1963 godu*, reflects a reclassification of some previously published data. The handbook also shows an upward revision in the total gross fixed investment originally announced for 1963 (from 41.3 billion rubles to 42.2 billion rubles). The figures in the accompanying tables are based on the new yearbook and therefore may vary from those published in the 1964 edition of *Annual Economic Indicators for the U.S.S.R.*

2. As indicated by tables IV-1 through IV-3, the year 1961 was the turning point in a number of trends in investment. In that year a sharp decline began in the rate of growth of construction; construction grew at an average annual rate of only about 1.7 percent in 1961-63 as compared with nearly 14 percent during 1956-60. This retardation was largely the result of an average annual decline of 2.3 percent in housing investment during 1961-63.

3. A significant increase of investment in equipment buoyed up total investment in 1961-62. In 1963, however, the rate of growth of investment in equipment also decelerated and total investment in the Soviet economy showed an increase of only about 5 percent.

4. There has been a stepup in the rate of increase of productive new investment in agriculture in recent years—from an average annual rate of 4.6 percent in 1959-60 to about 10.5 percent in 1961-63 (see table IV-6). The current agricultural program is heavily oriented toward construction, including construction of livestock shelters, grain and fertilizer storage facilities, and land reclamation projects.

5. Among various consumer-oriented fields of investment—agriculture, housing, services, and manufactured consumer goods—all but manufactured goods presently require a large proportion of construction resources relative to equipment. Consequently there is competition among them for construction resources. Thus the growing rate of investment in agriculture since 1960 has, to some extent, been at the expense of investment in housing and services.

6. Although precise data are lacking, investment in industry is characterized by a relatively high percentage for equipment—about 35 to 40 percent. The share of equipment in industrial investment has probably been rising in recent years, the construction of completely new industrial plants having been dampened in favor of expansion and modernization of existing plants.

7. The relatively low growth rates in industrial investment since 1961 partly reflect dislocations resulting from efforts to restructure industry in favor of such modern "growth" branches as the chemical, petrochemical, and electronics industries. They also reflect, however, the diversion of resources to other sectors, including equipment to military and space programs.

8. Significant trends in individual branches of industry since 1960 include a marked decline in the rate of growth of investment in ferrous metallurgy. For consumer goods and construction materials the absolute level of investment in 1963 remained below the level attained in 1960. At the same time, the energy industries experienced an increasing rate of growth in investment.

9. The rate of growth of investment in transportation and communications has slowed since 1960. In railroad investment, heavy emphasis has been placed on the modernization of existing facilities rather than further expansion of the rail system. Transportation investment now includes investment in pipeline construction.

TABLE IV-1.—U.S.S.R.: Gross fixed investment, by function, 1955 and 1959-63<sup>1</sup>  
 [In millions of rubles]<sup>2</sup>

	1955	1959	1960	1961	1962	1963
Total investment.....	19,931	33,986	36,705	38,271	40,150	42,214
Construction.....	12,831	22,291	24,240	24,542	24,852	25,520
Equipment.....	5,532	9,501	10,099	11,286	12,505	13,595
Other capital outlays.....	1,568	2,194	2,366	2,443	2,793	3,099
Productive investment.....	13,599	<sup>3</sup> 20,710	22,508	<sup>3</sup> 23,768	25,500	27,433
Of which:						
Construction.....	7,413	<sup>3</sup> 10,765	12,064	<sup>3</sup> 12,721	13,473	14,509
Equipment.....	4,784	<sup>3</sup> 8,198	8,498	<sup>3</sup> 9,280	10,058	10,803
Nonproductive investment.....	6,332	<sup>3</sup> 13,276	14,197	<sup>3</sup> 14,503	14,650	14,781
By function:						
Of which:						
Construction.....	5,418	<sup>3</sup> 11,526	12,176	<sup>3</sup> 11,821	11,379	11,011
Equipment.....	748	<sup>3</sup> 1,303	1,601	<sup>3</sup> 2,054	2,447	2,792
By use:						
Housing.....	3,806	8,319	8,275	7,879	7,729	7,714
Services.....	2,526	<sup>3</sup> 4,957	5,922	<sup>3</sup> 6,624	6,921	7,067

<sup>1</sup> Based on revised Soviet investment series appearing in *Narodnoye khozyaystvo SSSR v 1963 godu*, pp. 462 and 469.  
<sup>2</sup> Expressed in terms of new rubles at 1955 prices.  
<sup>3</sup> Estimated.

TABLE IV-2.—U.S.S.R.: Index of gross fixed investment, by function, 1955 and 1959-63

[In Percent (1955=100)]

	1955	1959	1960	1961	1962	1963
Total investment.....	100	171	184	192	201	212
Construction.....	100	174	189	191	194	199
Equipment.....	100	172	183	204	226	246
Other capital outlays.....	100	140	151	156	178	193
Productive investment.....	100	152	166	175	188	202
Of which:						
Construction.....	100	145	163	172	182	196
Equipment.....	100	171	178	193	210	226
Nonproductive investment.....	100	210	224	229	231	233
By function:						
Of which:						
Construction.....	100	213	225	218	210	203
Equipment.....	100	174	214	275	327	373
By use:						
Housing.....	100	219	217	207	203	203
Services.....	100	196	234	262	274	280

<sup>1</sup> Based on table IV-1, which contains estimated data for 1959 and 1961.

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CURRENT ECONOMIC INDICATORS FOR THE U.S.S.R. 53

TABLE IV-3.—U.S.S.R.: Annual rates of growth of gross fixed investment, by function, 1959-63<sup>1</sup>

[In percent]

	1959	1960	1961	1962	1963
Total investment.....	13.2	8.0	4.3	4.9	5.1
Construction.....	15.3	8.7	1.2	1.3	2.7
Equipment.....	8.8	6.3	11.8	10.8	8.7
Other capital outlays.....	13.0	7.8	3.3	14.3	11.0
Productive investment.....	13.9	8.7	5.6	7.3	7.6
Of which:					
Construction.....	17.0	12.1	5.4	5.9	7.7
Equipment.....	7.5	3.7	8.6	9.0	7.4
Nonproductive investment.....	12.2	6.9	2.2	1.0	0.9
By function:					
Of which:					
Construction.....	13.7	5.6	-2.9	-3.7	-3.2
Equipment.....	17.6	22.9	23.3	19.1	14.1
By use:					
Housing.....	10.4	-0.5	-4.8	-1.9	-0.2
Services.....	15.3	10.5	11.9	4.5	2.1

<sup>1</sup> Based on table IV-1, which contains estimated data for 1959 and 1961.

TABLE IV-4.—U.S.S.R.: Productive gross fixed investment, by sector, 1955 and 1959-63<sup>1</sup>

[In millions of rubles]<sup>2</sup>

	1955 <sup>3</sup>	1959 <sup>3</sup>	1960	1961 <sup>3</sup>	1962	1963
Productive investment, all sectors.....	13,599	20,710	22,508	23,763	25,500	27,433
Industry, total.....	7,609	11,692	12,854	13,308	14,165	15,130
Ferrous metallurgy.....	586	1,089	1,219	1,327	1,413	1,450
Chemicals.....	278	695	910	1,063	1,164	1,466
Fuels and power.....	2,865	3,688	3,797	3,959	4,176	4,510
Machine building.....	1,139	1,514	1,805	2,046	2,397	2,441
Construction materials.....	310	800	1,011	1,018	932	954
Consumer goods.....	903	1,756	1,962	1,771	1,849	1,929
Others.....	1,528	2,150	2,151	2,124	2,234	2,380
Construction.....	530	946	1,030	1,117	1,050	1,081
Agriculture.....	3,804	5,057	5,172	5,702	6,316	6,983
Transport and communications.....	1,656	3,015	3,452	3,641	3,969	4,239

<sup>1</sup> Based on revised Soviet investment series appearing in *Narodnoye khozyaystvo SSSR v 1963 godu*, pp. 462 and 455.

<sup>2</sup> Expressed in terms of new rubles at 1955 prices.

<sup>3</sup> Estimated.

TABLE IV-5.—U.S.S.R.: Index of productive gross fixed investment, by sector, 1955 and 1959-63<sup>1</sup>

[In percent (1955=100)]

	1955	1959	1960	1961	1962	1963
Productive investment, all sectors.....	100	152	166	175	188	202
Industry, total.....	100	154	167	175	188	199
Ferrous metallurgy.....	100	186	208	226	241	247
Chemicals.....	100	250	327	382	419	527
Fuels and power.....	100	129	133	138	149	157
Machine building.....	100	133	158	180	210	214
Construction materials.....	100	258	326	323	301	308
Consumer goods.....	100	194	217	196	205	214
Others.....	100	141	141	139	147	156
Construction.....	100	178	194	211	198	204
Agriculture.....	100	133	136	150	166	184
Transportation and communications.....	100	182	208	220	230	256

<sup>1</sup> Based on table IV-4, which contains estimated data for 1955, 1959, and 1961.

TABLE IV-6.—U.S.S.R.: Annual rates of growth of productive gross fixed investment, by sector,<sup>1</sup> 1959-63

[In percent]

	1959	1960	1961	1962	1963
Productive investment, all sectors.....	13.9	8.7	5.6	7.3	7.6
Industry, total.....	15.2	9.9	3.5	6.4	6.8
Ferrous metallurgy.....	25.0	11.9	8.9	6.5	2.6
Chemicals.....	50.1	30.9	16.8	9.5	25.9
Fuels and power.....	2.2	3.0	4.3	5.5	8.0
Machine building.....	19.4	19.2	13.4	17.2	1.8
Construction materials.....	26.0	26.2	0.8	-8.4	2.4
Consumer goods.....	19.0	11.7	-9.7	4.4	4.3
Others.....	17.6	0.0	-1.3	5.2	6.5
Construction.....	12.9	8.9	8.4	-6.0	3.0
Agriculture.....	7.0	2.3	10.2	10.8	10.6
Transportation and communications.....	22.6	14.5	5.5	9.0	6.8

<sup>1</sup> Based on table IV-4, which contains estimated data for 1959 and 1961.

CHAPTER V  
AGRICULTURE

AGRICULTURE IN THE UNITED STATES AND U.S.S.R.

The following tables present a brief statistical comparison of inputs, farm organization, and agricultural output in the United States and the Soviet Union. The comparison is limited to 1963 except for 1955-59 average data on the area, yield, and production of grain.

An international comparison is an inadequate tool to describe the structure and functioning of the agriculture of a foreign nation. Nevertheless, it does provide a frame of reference for basic understanding. Perhaps the principal observation to be drawn from the accompanying data is the striking difference in the productivity of American and Soviet agriculture. While some of the difference is attributable to more favorable natural conditions—weather and soil fertility—in the United States, much of it derives from the pattern of resource utilization in each country. The Soviet Union relies on massive inputs of labor and land to obtain mediocre results; the United States substitutes advanced technology to achieve better results. The gargantuan size of collectivized farm units in the U.S.S.R.—both in terms of land area and labor force—also militates against efficiency. Unwieldy units are difficult to manage, and individual incentive is dulled by the herd approach to personnel management.

A final generalization is that because of low yields and the pressure of population Soviet agriculture is forced into the pattern of a bread grain and potato economy. Higher yields and greater productivity have permitted American agriculture to assume the more advanced pattern of a corn-hog economy—a pattern the Soviet Union hopes to emulate.

The U.S. lead in agricultural productivity is somewhat overstated in the present comparison. U.S. crop output was at a record high in 1963, despite critical moisture shortages in the Southern Plains and Mid-Atlantic States. Conversely, the Soviet crop production index in 1963 was at its lowest level since 1957 because of a crop failure in the Virgin Lands and extensive drought in the European U.S.S.R.

Data on American agriculture are from publications of the U.S. Department of Agriculture unless otherwise noted. Most data on Soviet agriculture are from Soviet sources, but are expressed in units common to the United States. Certain data on Soviet agriculture are estimates, necessitated by the unavailability of information (e.g., labor force), or the unreliability of official Soviet statistics (e.g., crop production, especially grain).



TABLE V-1.—Agricultural resources

Item	Year	Unit	United States	Soviet Union	U.S.S.R. as percent of United States
Population	July 1, 1963	Million	<sup>1</sup> 189.4	<sup>2</sup> 224.8	119
Civilian labor force (work experience)	1962	do	<sup>3</sup> 82.0	<sup>4</sup> 115.0	140
Annual average employment	1963	do	<sup>5</sup> 68.8	<sup>6</sup> 102.0	148
Agricultural labor force (work experience)	do	do	<sup>7</sup> 6.5	<sup>8</sup> 47.0	723
Annual average employment in agriculture	do	do	<sup>9</sup> 4.9	<sup>10</sup> 37.0	755
Percent farm of total labor force (work experience)	do	Percent	7.9	40.9	-----
Percent farm employment of total (annual average)	do	do	7.1	36.3	-----
Sown crop land	do	Million acres	<sup>11</sup> 309	<sup>12</sup> 54.0	175
Sown crop land per capita	do	Acre	1.6	2.4	150
Tractors on farms	Jan. 1, 1964	Thousand	<sup>13</sup> 4,657	<sup>14</sup> 1,442	31
Motortrucks on farms	do	do	<sup>13</sup> 2,915	<sup>14</sup> 922	32
Graincombines on farms	do	do	<sup>13</sup> 1,010	<sup>14</sup> 517	51
Agricultural consumption of electricity	1962	Billion kilowatt-hours	<sup>15</sup> 28	<sup>15</sup> 14.1	50
Primary commercial fertilizer consumption in terms of available plant nutrients:					
Total	1963	Thousand short tons	<sup>17</sup> 9,532	<sup>16</sup> 3,594	38
Per acre of sown area	do	Pounds	62	15	24

<sup>1</sup> U.S. Bureau of the Census, *Statistical Abstract of the United States: 1964*, eighty-fifth edition, Washington, D.C., 1964, p. 5.

<sup>2</sup> USSR Central Statistical Administration, *Narodnoe khozyaystvo SSSR v 1962 godu*, Moscow, 1963, p. 7.

<sup>3</sup> *Statistical Abstract* \* \* \*, op. cit., p. 219.

<sup>4</sup> U.S. Department of Agriculture (USDA) estimate based on Soviet census of 1959.

<sup>5</sup> *Statistical Abstract* \* \* \*, op. cit., p. 216.

<sup>6</sup> U.S. Bureau of the Census preliminary estimate.

<sup>7</sup> USDA, Office of Information, *Fact Book of U.S. Agriculture*, Washington, D.C., January 1965, p. 3.

<sup>8</sup> USDA estimate based on Soviet census of 1959. Persons employed in agriculture in 1962, including those working their private plots.

<sup>9</sup> *Statistical Abstract* \* \* \*, op. cit., p. 216.

<sup>10</sup> U.S. Bureau of the Census preliminary estimate.

<sup>11</sup> USDA, Statistical Reporting Service, *Crop Production: 1964 Annual Summary*, Washington, D.C., December 18, 1964, p. 6.

<sup>12</sup> *Narodnoe khozyaystvo SSSR v 1963 godu*, Moscow, 1965, p. 242.

<sup>13</sup> USDA, Economic Research Service, *Changes in Farm Production and Efficiency, Summary Report, 1964*, Statistical Bulletin No. 233, Washington, D.C., July, 1964, p. 30.

<sup>14</sup> *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., p. 332.

<sup>15</sup> *Fact Book* \* \* \*, op. cit., p. 31.

<sup>16</sup> *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., p. 337.

<sup>17</sup> *Changes in Farm Production* \* \* \*, op. cit., p. 22.

<sup>18</sup> *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., p. 300.

TABLE V-2.—Farm numbers and size, 1963

Number of farms:		
All U.S. farms <sup>1</sup>	-----	3,573,000
Soviet collective farms <sup>2</sup>	-----	38,772
Soviet state farms <sup>2</sup>	-----	9,176
Average farm size:		
Land area per U.S. farm <sup>3</sup>	----- acre-----	325
Sown area per U.S. farm	----- do-----	86
Land area per Soviet collective farm <sup>4</sup>	----- do-----	32,470
Sown area per Soviet collective farm <sup>4</sup>	----- do-----	7,156
Land area per Soviet state farm <sup>5</sup>	----- do-----	147,300
Sown area per Soviet state farm <sup>6</sup>	----- do-----	24,160
Workers per U.S. farm	-----	1.4
Households per Soviet collective farm <sup>7</sup>	-----	411
Workers per Soviet state farm <sup>8</sup>	-----	775

<sup>1</sup> USDA, ERS, *Farm Income Situation, FIS-196*, Washington, D.C., November 1964, p. 22.

<sup>2</sup> *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., pp. 348, 356.

<sup>3</sup> *Fact Book* \* \* \*, op. cit., p. 5.

<sup>4</sup> *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., pp. 238, 342, 348.

<sup>5</sup> *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., pp. 238, 356. Includes all state agricultural enterprise.

<sup>6</sup> *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., p. 358.

<sup>7</sup> *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., p. 342.

<sup>8</sup> *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., p. 358.

TABLE V-3.—Crop acreage, 1963

Crop	United States <sup>1</sup>	Soviet Union <sup>2</sup>	U.S.S.R. as percent of United States
	Thousand acres	Thousand acres	
Corn, grain.....	60,549	17,280	29
Wheat.....	45,209	159,600	353
Rye <sup>3</sup> .....	1,594	37,100	2,327
Oats.....	21,683	14,100	65
Barley.....	11,586	450,700	438
Sorghum grain.....	13,582	( <sup>4</sup> )	---
Rice.....	1,771	247	14
Cotton, lint.....	14,212	6,130	43
Soybeans for beans.....	26,580	( <sup>5</sup> )	---
Sunflowers.....	( <sup>6</sup> )	10,860	---
Peanuts harvested for nuts.....	1,409	( <sup>7</sup> )	---
Flax <sup>8</sup> .....	3,183	3,620	114
Sugarbeets <sup>9</sup> .....	1,285	9,261	750
Sugarcane, for sugar and seed.....	579	( <sup>10</sup> )	---
Tobacco.....	1,176	3405	34
Potatoes.....	1,347	21,000	1,559
Sweet potatoes.....	196	( <sup>11</sup> )	---
Vegetables <sup>12</sup> .....	3,354	3,556	106
Fruits and berries, including citrus <sup>13</sup> .....	2,499	5,011	201
Citrus.....	703	( <sup>14</sup> )	---
Hay, all.....	66,738	( <sup>15</sup> )	---

<sup>1</sup> Area harvested. *Crop Production* \* \* \*, op. cit., pp. 3-4, 51.

<sup>2</sup> Sown area after completion of spring planting. *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., pp. 242, 243, 205.

<sup>3</sup> Includes only winter rye in the U.S.S.R.

<sup>4</sup> U.S.S.R. Central Statistical Administration, *SSSR v tsifrakh v 1963 godu*. Moscow, 1964, p. 96.

<sup>5</sup> Not available.

<sup>6</sup> Flaxseed in the United States; fiber flax in the U.S.S.R.

<sup>7</sup> Includes only sugarbeets for factory processing in the U.S.S.R.

<sup>8</sup> USDA estimate.

<sup>9</sup> United States: Commercial acreage only.

<sup>10</sup> United States: 21 fruits only.

TABLE V-4.—Yields per acre of major crops, 1963

Crop	Unit	United States <sup>1</sup>	Soviet Union <sup>2</sup>	U.S.S.R. as percent of United States
Corn, grain.....	Bushel.....	67.6	22.3	33
Wheat.....	do.....	26.3	9.2	36
Rye.....	do.....	18.3	12.4	68
Oats.....	do.....	45.2	18.1	40
Barley.....	do.....	35.1	14.9	42
Sorghum grain.....	do.....	45.3	( <sup>3</sup> )	---
Rice.....	Pound.....	3,968	2,400	60
Cotton, lint.....	do.....	517	637	123
Soybeans for beans.....	Bushel.....	24.5	( <sup>4</sup> )	---
Sunflower seeds.....	Pound.....	( <sup>5</sup> )	726	---
Sugarbeets.....	Ton.....	18.9	5.2	27
Tobacco.....	Pound.....	1,993	840	42
Potatoes.....	Hundredweight.....	201.8	67.9	34

<sup>1</sup> *Crop Production* \* \* \*, op. cit., pp. 4, 5.

<sup>2</sup> Derived from tables V-3 and V-5.

<sup>3</sup> Not available.

TABLE V-5.—Crop production, 1963

Crop	Unit	United States <sup>1</sup>	Soviet Union <sup>2</sup>	U.S.S.R. as percent of United States
Corn, grain	Thousand bushels	4,091,685	3,386,000	9
Wheat	do	1,142,013	1,470,000	129
Rye	do	29,215	461,000	1,578
Oats	do	979,400	255,000	26
Barley	do	405,577	753,000	186
Sorghum grain	do	587,909	( <sup>4</sup> )	-----
Rice, rough	Thousand tons	3,514	300	9
Cotton, lint	Thousand bales	15,334	8,138	53
Soybeans for beans	Thousand bushels	699,363	10,400	1
Sunflower seed	Thousand tons	( <sup>4</sup> )	3,940	-----
Peanuts harvested for nuts	do	1,011	( <sup>4</sup> )	-----
Flaxseed	Thousand bushels	31,151	10,000	32
Sugarbeets	Thousand tons	23,328	48,559	208
Sugarcane, for sugar and seed	do	24,073	( <sup>4</sup> )	-----
Sugar production <sup>5</sup>	do	76,439	6,477	101
Tobacco	Thousand pounds	2,343,230	340,000	15
Fiber flax	Thousand tons	( <sup>4</sup> )	419	-----
Potatoes	Thousand hundred-weight	271,730	1,425,000	524
Sweetpotatoes	do	15,381	( <sup>4</sup> )	-----
Vegetables	Thousand tons	19,040	16,700	88
Citrus	do	6,209	( <sup>4</sup> )	-----
Grapes	do	3,793	2,835	75
Total fruits (including citrus, grapes and berries)	do	16,659	7,067	42
Hay, all kinds	do	116,092	( <sup>4</sup> )	-----

<sup>1</sup> Crop production: 1964 \* \* \*, op. cit., pp. 3, 4, and 50.

<sup>2</sup> Narodnoe khozyaystvo 1963 \* \* \*, op. cit., pp. 276-288, 299.

<sup>3</sup> USDA estimate.

<sup>4</sup> Not available.

<sup>5</sup> For sugar production.

<sup>6</sup> Raw value, 1963-64 processing year.

<sup>7</sup> Production in 1963-64 from continental beet and cane, and from Puerto Rico, Hawaii, and Virgin Islands.

USDA, Foreign Agricultural Service, *World Agricultural Production and Trade*, Washington, D.C., November 1964, p. 6.

<sup>8</sup> Production from domestic beets.

<sup>9</sup> Commercial vegetable production.

<sup>10</sup> Excluding berries.

TABLE V-6.—Livestock numbers, 1964<sup>1</sup>

	United States <sup>2</sup>	Soviet Union <sup>3</sup>	U.S.S.R. as percent of United States
	Million head	Million head	Percent
All cattle	106.7	85.4	80
Cows	48.6	38.3	79
Hogs	58.1	40.9	70
Sheep	28.0	133.9	478
Horses	3.0	8.5	283
Poultry	376.2	550.4	146

<sup>1</sup> Beginning of year.

<sup>2</sup> USDA, SRS, *Livestock and Poultry Inventory, Jan. 1*. Washington, D.C., Feb. 12, 1965, p. 9.

<sup>3</sup> Narodnoe Khozyaystvo 1963 \* \* \*, op. cit., p. 311.

<sup>4</sup> 2 years and older.

<sup>5</sup> All cows.

<sup>6</sup> *Fact Book* \* \* \*, op. cit., p. 31.

<sup>7</sup> Chickens and turkeys.

<sup>8</sup> All poultry; 1963. Narodnoe khozyaystvo 1963 \* \* \*, op. cit., p. 307.

TABLE V-7.—Production of livestock commodities, 1963

Commodity	Unit	United States	Soviet Union <sup>1</sup>	U.S.S.R. as percent of United States
Beef and veal.....	Million pound.....	<sup>2</sup> 17,360	6,930	40
Pork.....	do.....	<sup>2</sup> 12,439	6,940	56
Mutton, lamb, and goat.....	do.....	<sup>2</sup> 770	2,120	275
Poultry meat.....	do.....	<sup>3</sup> 7,400	1,760	24
Lard.....	do.....	<sup>4</sup> 2,476	1,390	56
Margarine and shortening.....	do.....	<sup>4</sup> 4,355	<sup>1</sup> 1,243	29
Tallow and grease.....	do.....	<sup>4</sup> 4,490	460	10
Milk (cows).....	do.....	<sup>5</sup> 124,800	114,640	92
Butter.....	do.....	<sup>6</sup> 1,434	<sup>7</sup> 1,927	134
Eggs.....	Billion.....	<sup>8</sup> 83.4	<sup>8</sup> 28.5	45
Wool.....	Million pound.....	<sup>8</sup> 237	814	284

- <sup>1</sup> USDA estimate.  
<sup>2</sup> USDA, ERS, *Livestock and Meat Situation*, LMS-140. Washington, D.C., November 1964, p. 27.  
<sup>3</sup> *Fact Book* \* \* \*, op. cit., pp. 22, 23.  
<sup>4</sup> USDA, ERS, *Fats and Oils Situation*, FOS-222. Washington, D.C., March 1964.  
<sup>5</sup> *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., p. 204.  
<sup>6</sup> USDA, FAS, *World Agricultural Production and Trade*. Washington, D.C., July 1964, p. 10.  
<sup>7</sup> *Tsifrah* \* \* \*, op. cit., p. 37.  
<sup>8</sup> *Narodnoe khozyaystvo 1963* \* \* \*, op. cit., p. 314.  
<sup>9</sup> USDA, FAS, *World Agricultural Production and Trade*. Washington, D.C., August 1964, p. 10.

TABLE V-8.—Area of major grains, 1955-59 average, 1963

Item	1955-59 average			1963		
	United States <sup>1</sup>	U.S.S.R. <sup>2</sup>	U.S.S.R. as percent of United States	United States <sup>1</sup>	U.S.S.R. <sup>3</sup>	U.S.S.R. as percent of United States
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Percent</i>	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Percent</i>
Corn, grain.....	66,409	11,853	18	60,549	17,300	29
Oats.....	33,083	36,109	109	21,683	14,100	65
Barley.....	14,391	24,809	172	11,566	50,700	438
Sorghum grain.....	14,742			13,582		
4 feed grains.....	128,635	72,771	57	107,380	82,000	76
Wheat.....	49,128	158,722	323	45,209	159,600	353
Rye.....	1,729	44,742	2,588	1,504	37,100	2,327
Buckwheat.....	00	5,384	5,982	40	4,448	11,120
Rice.....	1,547	299	19	1,771	247	14
4 food grains.....	52,494	209,147	398	48,614	201,400	414
Total, 8 grains.....	181,129	281,918	156	155,994	283,400	182

- <sup>1</sup> *Crop Production* \* \* \*, op. cit., p. 41.  
<sup>2</sup> U.S.S.R. Central Statistical Administration, *Se l'skoe khozyaystvo SSSR*, Moscow, 1960, pp. 132-33.  
<sup>3</sup> *Tsifrah* \* \* \*, op. cit., p. 96.

TABLE V-9.—Yields of major grains, 1955-59 average, 1963

Item	1955-59 average			1963		
	United States <sup>1</sup>	U.S.S.R. <sup>2</sup>	U.S.S.R. as percent of United States	United States <sup>1</sup>	U.S.S.R. <sup>2</sup>	U.S.S.R. as percent of United States
	<i>Bushels per acre</i>	<i>Bushels per acre</i>	<i>Percent</i>	<i>Bushels per acre</i>	<i>Bushels per acre</i>	<i>Percent</i>
Corn, grain.....	48.7	25.0	51	67.6	22.3	33
Oats.....	38.6	22.9	59	45.2	18.1	40
Barley.....	29.5	17.8	60	36.1	14.9	42
Sorghum grain.....	29.2			43.3		
4 feed grains <sup>3</sup> .....	2,072	883	43	2,914	803	28
Wheat.....	22.2	12.0	54	25.3	9.2	36
Rye.....	15.6	13.4	86	18.3	12.4	68
Buckwheat.....	17.5	7.2	41	20.7	6.5	31
Rice, rough.....	70.9	36.8	52	88.2	53.5	61
4 food grains <sup>3</sup> .....	1,390	720	52	1,588	576	36
Total, 8 grains <sup>3</sup> .....	1,874	762	41	2,501	642	26

<sup>1</sup> *Crop Production* \* \* \* op. cit., p. 44.  
<sup>2</sup> Derived from tables V-8 and V-10.  
<sup>3</sup> Pounds per acre.

TABLE V-10.—Production of major grains, 1955-59 average, 1963

Item	1955-59 average			1963		
	United States <sup>1</sup>	U.S.S.R. <sup>2</sup>	U.S.S.R. as percent of United States	United States <sup>1</sup>	U.S.S.R. <sup>2</sup>	U.S.S.R. as percent of United States
	<i>Million bushels</i>	<i>Million bushels</i>	<i>Percent</i>	<i>Million bushels</i>	<i>Million bushels</i>	<i>Percent</i>
Corn, grain.....	3,235	297	9	4,092	386	9
Oats.....	1,278	828	65	979	255	26
Barley.....	424	441	104	406	753	185
Sorghum grain.....	430			588		
4 feed grains <sup>3</sup> .....	133	32	24	156	33	21
Wheat.....	1,095	1,911	174	1,142	1,470	129
Rye.....	27	599	2,218	29	461	1,580
Buckwheat.....	2	38	1,900	1	29	2,900
Rice, rough.....	110	11	10	156	13	8
4 food grains <sup>3</sup> .....	36	75	208	39	58	149
Total, 8 grains <sup>3</sup> .....	170	107	63	195	91	47

<sup>1</sup> *Crop Production* \* \* \* op. cit., p. 46.  
<sup>2</sup> USDA estimate.  
<sup>3</sup> Million short tons.

TABLE V-11.—Soviet Union: Production of 5 major grains and total grain, USDA estimates and official Soviet estimates, 1958-64

[In million metric tons]

Year	Total grain <sup>1</sup>		5 major grains <sup>2</sup>	
	USDA estimates	Soviet official <sup>3</sup>	USDA estimates	Soviet official <sup>3</sup>
1958.....	115.0	134.7	110.0	128.9
1959.....	94.2	119.5	90.6	115.3
1960.....	95.0	125.5	89.4	118.4
1961.....	109.4	130.8	102.2	122.5
1962.....	111.9	140.2	101.6	127.9
1963.....	89.3	107.5	81.6	(4)
1964.....	<sup>5</sup> 115.1	(4) ±150.0	103.9	(4)

<sup>1</sup> Wheat, rye, barley, oats, corn for grain, millet, buckwheat, rice, pulses (immature corn excluded in both categories).

<sup>2</sup> Wheat, rye, barley, oats, corn for grain.

<sup>3</sup> *Narodnoe khozyaystvo SSSR v 1963 godu*, pp. 234-235.

<sup>4</sup> Not available.

<sup>5</sup> The increasing gap between total grain and the 5 major grains since 1958 is due to the rapid expansion of pulses.

<sup>6</sup> Implied in *Ekonomika Sel'skogo Khozyaystva*, No. 2, 1965. p. 2.

## CHAPTER VI EMPLOYMENT

Labor force participation—the civilian labor force as a proportion of the total population 16 years of age and over—is estimated to have increased in the Soviet Union from 74 percent during the years 1958-60 to 77 percent in 1963 (table VI-1). The rise in the participation rate was due largely to the greater participation of women in the labor force, although a contributing factor was the somewhat lesser increase in the population 16 years of age and over resulting from the smaller cohorts born during World War II entering the labor force ages.

The labor force estimates, which are given here for the first time, are based on the census concept of numbers of persons who participated in economic activity during the year. As can be expected, they are markedly higher than the average numbers of persons employed shown in the estimates of civilian employment. The differences between the two series are in large part methodological, although they do reflect the high degree of seasonality and mobility characteristic of the Soviet labor force.

The estimates of civilian employment shown in table VI-2 reveal some interesting developments. Despite the many claims of larger investment to be devoted to agriculture, employment in that sector did not decrease to a level below 40 million persons until 1963. As a proportion of total civilian employment, however, agricultural employment has decreased from 50 percent in 1955 to 39 percent in 1963. Further decrease in the level of employment is not expected—at least until the impact of recent investments can make possible the transfer of labor to other sectors. Also, the policy of forbidding further conversion of collective farms into state farms recently announced should tend to keep agricultural employment at a relatively high level, as there is evidence that after such conversions in the past a certain proportion of the collective farmers did not continue to participate in either the socialized or private sectors.<sup>1</sup>

Within the state sector, the rates of increase in the employment of workers and employees have undergone perceptible reduction, particularly in the production branches (table VI-4). During the early part of the Seven-Year Plan period, the increase in almost all branches was greater than it has been in recent years. For example, in the period 1959-60, the following rates of increase were achieved: 10.3 percent in industry, 7.1 percent in construction, 5.3 percent in transport and communications, 19.6 percent in science and scientific services, 6.5 percent in trade and procurement, 5.4 percent in education, and 6.6 percent in public health. In the period 1962-63, the increase in the production branches had slowed down to 3.1 percent in industry, 1.3 percent in construction, and 2.8 percent in transport

<sup>1</sup> N. I. Shishkin, *Trudovyye resursy SSSR*, Moscow, 1961, p. 92. In 1959 and 1960, according to this source, 3.4 percent of the able-bodied group did not participate in the labor force after conversion.

and communications. The major services branches, however, maintained somewhat higher rates of growth: 7.1 percent in science and scientific services, 4.4 percent in trade and procurement, and 3 percent in public health.

Several new tables have been incorporated in the employment section this year. The first, on industrial employment (table VI-5), is based on a previous table, but contains a larger number of branches for which data are available on the employment of wage workers (*rabochiye*), and, as reported for the first time since the 1930's, systematic data on the number of industrial-production personnel in many branches of industry. The second new table, VI-6, includes the average number of days and hours worked in industry by wage workers. The third new table, VI-7, presents a Soviet economist's own comparison over time of Soviet and U.S. labor productivity, by selected branches of industry. (A single column (5a) from this table was analyzed by Dr. Gertrude Schroeder in *Dimensions of Soviet Economic Power*, pp. 137-162.) The comparisons here show the difficulty which the Soviet Union has been having in achieving levels of productivity approaching those of the United States. According to these estimates, in only one branch—bread and bakery products—has the level of Soviet productivity exceeded the level of American productivity. In most branches, the Soviet Union has not achieved large relative advances since the initial years of the comparison, and, in many branches, it has even lost ground. For example, the ratio of productivity in the vital synthetic rubber industry has declined from 18.6 percent (U.S.S.R. 1950; U.S. 1947) to 12.1 percent in the most recent year (U.S.S.R. 1959; U.S. 1958). Constant declines in the levels of the U.S.S.R./U.S. ratios appear in 8 of the 31 other branches for which estimates are given.

Detailed estimates of basic employment data pertinent to the socialized economy of collective farms are given in table VI-8. The decline in the total number of participants and in the average number of collective farmers may not continue, not only because of the factors indicated above, but also because of changes in the pension laws which encourage the return of retired persons to the active work force to obtain the required number of years of continuous work.

Significant changes in the pension law for workers and employees engendered a Soviet estimate of 1 million persons to be added to the active work force from among persons already on a pension or not working. The need for experienced, skilled persons was reflected in changes in the school system which will eventually reduce the length of training in higher and secondary specialized educational institutions, eliminate the 11th year of school, and reduce the period of active service for military personnel with higher educational training. The thrust of all these measures will be to allow a longer working life for trained persons and to relieve the evident shortage of skills throughout the economy.

Comparisons of total employment estimates for the U.S.S.R. and the United States (table VI-11) indicate that U.S. employment has remained at about 68 percent of Soviet employment since 1961. Some slight reduction has taken place in the proportion of total employment in agriculture in the U.S.S.R. (adjusted to approximate U.S. sectors—table VI-12) from 40.5 percent in 1959 to 36.1 percent in 1963. For the corresponding period in the United States, this proportion



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was reduced from 8.8 to 7.2 percent. Soviet employment in agriculture, as adjusted to U.S. concepts, is estimated to be more than seven times that of the United States (36,499,000 as compared with 4,946,000).

TABLE VI-1.—Population, Labor Force, and Employment, U.S.S.R.: 1958-65

[In thousands. Population figures are as of July 1, labor force figures are as of Jan. 1, and employment figures are annual averages. Figures are independently rounded and may not add to totals; NA indicates data not available and no estimate made]

Population characteristic	1958	1959	1960	1961	1962	1963	1964	1965
Total population.....	206,806	210,492	214,228	217,948	221,409	224,667	227,808	230,804
I. Population aged 12 years and over.....	153,643	155,875	158,374	161,203	164,143	167,171	170,260	173,264
Excluding population aged 12 to 15 years.....	144,641	145,484	146,144	147,141	148,021	150,565	152,942	155,632
A. Able-bodied group.....	119,613	119,566	119,373	119,526	120,142	121,162	122,538	124,158
1. Males aged 16 to 59 years.....	54,799	55,114	55,322	55,702	56,320	57,166	58,192	59,368
2. Females aged 16 to 54 years.....	64,814	64,451	64,052	63,824	63,822	64,006	64,346	64,789
B. Overaged group.....	25,028	25,918	26,772	27,616	28,478	29,402	30,403	31,475
1. Males aged 60 years and over.....	6,528	6,730	6,914	7,102	7,302	7,526	7,782	8,064
2. Females aged 55 years and over.....	18,500	19,188	19,858	20,512	21,176	21,876	22,621	23,411
C. Underaged group.....	9,002	10,391	12,230	14,065	15,522	16,606	17,318	17,632
1. Males aged 12 to 15 years.....	4,530	5,259	6,194	7,128	7,872	8,426	8,794	8,959
2. Females aged 12 to 15 years.....	4,472	5,132	6,036	6,937	7,651	8,180	8,524	8,674
II. Civilian labor force <sup>1</sup> .....	106,500	108,000	108,100	110,100	113,100	116,000	NA	NA
1. Workers and employees <sup>1</sup> .....	64,300	66,200	68,900	73,100	76,000	79,500	NA	NA
2. Collective farmers <sup>1</sup> .....	42,200	41,800	39,200	37,000	36,500	36,500	NA	NA
III. Civilian employment.....	93,790	94,352	95,692	98,274	100,051	101,048	104,000	NA
A. Socialized sector.....	80,805	82,409	84,332	86,561	88,300	89,926	92,600	NA
1. Workers and employees.....	54,105	56,509	62,032	65,861	68,300	70,526	73,200	<sup>2</sup> 76,100
2. Members of producers' cooperatives.....	1,300	1,400	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )
3. Members of collective farms.....	25,400	24,500	22,300	20,700	20,000	19,400	19,400	NA
B. Nonsocialized sector.....	12,985	11,943	11,360	11,713	11,751	11,122	11,400	NA
1. Private agricultural sector.....	12,829	11,769	11,186	11,539	11,577	11,122	11,400	NA
(a) Workers and employees.....	3,654	3,418	3,893	4,424	4,531	NA	NA	NA
(b) Collective farmers.....	9,050	8,259	7,218	7,075	7,015	NA	NA	NA
(c) Individual peasants.....	125	92	76	40	31	0	0	0
2. Independent artisans.....	156	174	174	174	174	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )
IV. Other activities of persons aged 12 years and over—line I less line II—Armed Forces, domestics, day laborers, students, housewives, disabled, unemployed, etc.....	47,143	47,875	50,274	51,106	51,043	51,171	NA	NA
Excluding youths aged 12 to 15 years.....	38,141	37,484	38,044	37,041	36,521	34,565	NA	NA

<sup>1</sup> Including private subsidiary economy.

<sup>2</sup> Plan figure reported in A. Korobov, "Basic Tasks of the Two-Year Plan," *Planovoye khozyaystvo (Planned Economy)*, No. 2, February 1964, p. 10.

<sup>3</sup> The system of producers' cooperatives was abolished in October 1960. Employment for this sector is now included in the workers and employees category.

<sup>4</sup> In 1962, further legal restrictions caused the virtual elimination of employment in this category. See note 13, table VI-2.

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## Source:

A. Population: Estimates and projections prepared by the Foreign Demographic Analysis Division, Bureau of the Census.

B. Civilian labor force: All figures are estimated. The total for this category is derived as the sum of the 2 components.

1. Workers and employees: The total is the sum of estimates for the socialized and private subsidiary economies.

(a) Socialized economy: Estimates of the "average" number of workers and employees on January 1 of each year were prepared by averaging the annual average number reported for a year (table VI-4) with the annual average number reported for the previous year. These beginning-of-year "averages" were expanded to labor force figures for each year by multiplying them by the ratio of workers and employees reported in the census of Jan. 15, 1959, to the "average" figure for Jan. 1, 1959. The census figure used here excluded 1,000,000 persons who reportedly are not included in current employment statistics.

(b) Private subsidiary economy: Derived as the difference between estimates of total and collective farm employment in this category. See below.

2. Collective farmers: The total is the sum of estimates for the socialized and private subsidiary economies.

(a) Socialized economy: Computed as the product of an index (1958=100) of households on agricultural collective farms and the ratio of participants in the socialized economy in 1958 (table VI-8, col. 1) to the number of households in 1958. The numbers of households are reported in TsSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1962 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1962, A Statistical Yearbook)*, Moscow 1963, p. 330, and TsSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1963 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1963, A Statistical Yearbook)*, Moscow, 1965, p. 348.

(b) Private subsidiary economy: Computed by expanding reported totals of "man-year employment" in this sector to numbers of participants. The man-year employment data are reported in the Soviet statistical handbooks—TsSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1960 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1960, A Statistical Yearbook)*, Moscow, 1961, p. 521, TsSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1961 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1961, A Statistical Yearbook)*, Moscow, 1962, p. 461, *Narodnoye khozyaystvo SSSR v 1962 \* \* \**, *op. cit.*, p. 368, and *Nar. khoz. v 1963 \* \* \**, *op. cit.*, p. 363. The ratio used to expand the employment figures was computed by dividing the total of 9,900,000 persons reported in the 1959 census as participating solely in this sector (see *Annual Economic Indicators*, 1964, table V-A-1, p. 44) by the man-year employment in this sector in 1959 (6,800,000, reported in TsSU pri Sovete ministrov SSSR, *Sel'skoye khozyaystvo SSSR, statisticheskiy sbornik (Agriculture of the U.S.S.R., A Statistical Compilation)*, Moscow, 1960, p. 450). The collective farm component was estimated from the total for each year by applying the ratio of collective farmers in the private subsidiary sector reported in the 1959 census (5,700,000) to the total participants in this sector as reported by the census (9,900,000).

C. Employment: Table 2.

TABLE VI-2.—Civilian employment, by socioeconomic category, U.S.S.R., selected years, 1940-64  
 [Absolute figures are annual averages and are in thousands; N.A. indicates data not available and no estimate made]

Socioeconomic category	1940	1950	1953	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Total <sup>1,2</sup>	79,019	79,593	81,942	87,476	90,313	91,512	93,790	94,352	95,682	98,274	100,051	101,048	104,000
I. Nonsgricultural branches <sup>1,3</sup>	31,020	36,778	41,032	43,708	45,447	47,323	49,499	51,893	54,724	57,819	59,866	61,788	N.A.
A. Workers and employees <sup>1</sup>	28,216	35,014	39,218	41,834	44,052	45,978	48,043	50,319	54,550	57,645	59,692	61,788	( <sup>4</sup> )
1. Industry <sup>5</sup>	10,967	14,144	16,261	17,367	18,500	19,144	19,675	20,207	22,291	23,475	24,297	25,057	N.A.
2. Construction <sup>5</sup>	1,563	2,569	2,843	3,190	3,550	4,000	4,421	4,800	5,143	5,270	5,150	5,237	N.A.
3. Transport and communications <sup>5</sup>	3,903	4,624	5,352	5,650	5,840	5,996	6,332	6,663	7,017	7,308	7,500	7,718	N.A.
4. Trade and public dining <sup>6</sup>	3,303	3,325	3,483	3,725	3,826	4,017	4,100	4,380	4,675	5,010	5,253	5,487	N.A.
5. Public health and education <sup>6</sup>	4,533	6,080	6,815	7,607	7,933	8,330	8,775	9,275	10,027	10,853	11,562	12,133	N.A.
6. Other <sup>7</sup>	3,946	4,272	4,484	4,295	4,403	4,471	4,650	4,983	5,297	5,729	5,931	6,151	N.A.
B. Members of producers' cooperatives <sup>8</sup>	2,200	1,500	1,600	1,800	1,200	1,200	1,300	1,400	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )
1. Industry <sup>10</sup> (industrial-production personnel)	1,700	1,300	1,400	1,600	1,100	1,100	1,100	1,200	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )
2. Services <sup>11</sup>	500	200	200	200	100	100	200	200	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )	( <sup>9</sup> )
C. Independent artisans <sup>12</sup>	604	284	214	164	195	145	156	174	174	174	174	( <sup>13</sup> )	( <sup>13</sup> )
II. Agriculture <sup>1,14</sup>	47,999	42,815	40,910	43,678	44,866	44,189	44,291	42,459	40,988	40,455	40,185	39,260	N.A.
A. Workers and employees <sup>1</sup>	5,015	6,424	6,312	7,631	7,672	9,147	9,716	9,608	11,375	12,640	13,139	N.A.	( <sup>9</sup> )
1. Socialized sector <sup>1</sup>	2,976	3,881	4,213	4,628	4,663	5,605	6,062	6,190	7,482	8,216	8,608	8,738	N.A.
a. State farms, etc. <sup>6</sup>	1,760	2,425	2,552	2,832	2,925	3,961	4,614	4,957	6,324	7,366	7,730	7,874	N.A.
b. Machine tractor stations and repair-technical stations <sup>15</sup>	530	678	889	1,147	1,058	980	710	460	348	3	0	0	0
c. Forestry <sup>6</sup>	279	444	416	389	390	377	367	352	359	378	389	399	N.A.
d. Agricultural activities not specifically identified <sup>6</sup> (in conventional man-year equivalents) <sup>16</sup>	407	334	356	260	290	278	362	412	451	469	489	465	N.A.
2. Private sector (in conventional man-year equivalents) <sup>16</sup>	2,039	2,543	2,599	3,003	3,009	3,542	3,654	3,418	3,893	4,424	4,531	( <sup>17</sup> )	( <sup>17</sup> )

See footnotes at end of table.

TABLE VI-2.—Civilian employment, by socioeconomic category, U.S.S.R., selected years, 1940-64.—Continued  
 [Absolute figures are annual averages and are in thousands; N.A. indicates data not available and no estimate made]

Socioeconomic category	1940	1950	1953	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
II. Agriculture <sup>1</sup> 11.—Continued													
B. Collective farmers in collective farm economy <sup>1</sup> .....	37,084	35,239	33,919	35,861	37,027	34,910	34,450	32,759	29,518	27,775	27,015	N.A.	N.A.
1. Socialized sector—total <sup>14</sup> .....	27,900	27,300	25,829	25,718	27,522	25,865	25,400	24,500	22,300	20,700	20,000	19,400	19,400
a. Nonagricultural collective farms <sup>19</sup> .....	500	500	371	520	542	585	325	399	557	377	216	202	N.A.
b. Agricultural collective farms <sup>20</sup> .....	27,400	26,800	25,458	25,198	26,980	25,280	25,075	24,101	21,733	20,323	19,784	19,198	N.A.
(1) Agricultural activities <sup>21</sup> .....	24,700	24,200	23,100	23,900	24,600	23,000	22,400	21,400	20,100	18,700	18,100	17,600	N.A.
(2) Nonagricultural activities <sup>22</sup> .....	2,700	2,600	2,400	2,300	2,400	2,300	2,700	2,700	1,600	1,600	1,700	1,600	N.A.
(a) Industry (in conventional man-year equivalents) <sup>23</sup> .....	615	600	413	617	665	659	627	638	N.A.	N.A.	N.A.	N.A.	N.A.
(b) Construction (in conventional man-year equivalents) <sup>24</sup> .....	697	967	979	1,083	1,046	1,174	1,118	1,163	N.A.	N.A.	N.A.	N.A.	N.A.
2. Private sector (in conventional man-year equivalents) <sup>15</sup> .....	9,134	7,939	8,090	9,143	9,505	9,045	9,050	8,259	7,218	7,075	7,015	(*)	(*)
C. Individual peasants <sup>16</sup> .....	5,950	1,152	1,179	186	167	132	125	82	73	40	31	0	0

1 Sum of the components.  
 2 Excludes workers and employees hired by collective farms; the additional employment of workers and employees having more than one job in state establishments and/or performing tasks for private individuals; domestic laborers, etc.; (probably) people working full time for the Communist Party, (probably) civilians working in military establishments; and unpaid labor "collected" by "social" organizations such as the Komsomol, in order to plant trees, construct barns, stock farms, collect scrap metal, etc.  
 3 Includes workers and employees, members of producers' cooperatives, and independent artisans who are engaged in economic activities other than those of agriculture and forestry. Workers and employees engaged in wholly nonagricultural activities (activities of sovkhooz, masha, tractor stations, and other state agricultural establishments (industry, construction, health and education, etc.) are included in agricultural employment. All collective farm members are included in agricultural employment.  
 4 The system of producers' cooperatives was abolished in October 1960. Employment in this sector is now included in the workers and employees category.  
 5 Reported as 2.2 percent (of total employment of 79,019,000) reported in TsSU 1960.  
 6 Table VI-4.  
 7 Table VI-4.  
 8 Includes housing communal economy, administrative organs, credit and insurance organizations, and undistributed residual.  
 9 TsSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1960 godu, statisticheskiy zhechenednik* (The National Economy of the U.S.S.R. in 1960, A Statistical Yearbook), Moscow, 1961, p. 683 (cited hereafter as *Nar. khoz. 1960*).  
 10 The system of producers' cooperatives was abolished in October 1960. Employment in this sector is now included in the workers and employees category.  
 11 By year.  
 12 Estimated as 2.2 percent (of total employment of 79,019,000) reported in TsSU 1960.  
 13 *Narodnoye khozyaystvo SSSR v 1956 godu, statisticheskiy zhechenednik* (The National Economy of the U.S.S.R. in 1956, A Statistical Yearbook), Moscow, 1960, p. 138.  
 14 Residual.  
 15 *zhechenednik* (The National Economy of the U.S.S.R. in 1956, A Statistical Yearbook), Moscow, 1957, p. 202 (cited hereafter as *Nar. khoz. v 1956*). It should be noted that the 2.2 percent covers all material production branches. Industry, however, is the largest component.  
 16 Estimated by assuming the same relationship between the total membership and that employed in industry as in 1953 (87.5 percent).  
 17 S. A. Goralko, *Statistika* (Statistics), Pt. II, (Leningrad), 1956, p. 97.  
 18 TsSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR, statisticheskiy zhechenednik* (The National Economy of the U.S.S.R., A Statistical Compilation), Moscow, 1958, p. 44.  
 19 *Nar. khoz. v 1956*, p. 50. Between 1955 and 1956 a number of enterprises employing 600,000 members in the producers' cooperatives system were transferred to the state sector. Of this number 500,000 were in industry.  
 20 Estimated. The figure of 900,000 for wage workers in industry (members of producers' cooperatives) reported in TsSU pri Sovete ministrov SSSR, *SSSR v 1957 godu, statisticheskiy zhechenednik* (The U.S.S.R. in 1957, A Statistical Compilation), Moscow, 1958, p. 59 was expanded by 17 percent (rounded) to cover the entire industrial production personnel. The expansion factor was derived on the basis of the reported 1960 relationship between wage workers and total industrial production employment in industry of producers' cooperatives (1,000,000 and 1,200,000, respectively). *Nar. khoz. v 1960*, pp. 216-217.  
 21 TsSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1956 godu, statisticheskiy zhechenednik* (The National Economy of the U.S.S.R. in 1956, A Statistical Yearbook), Moscow, 1959, p. 131.  
 22 *Narodnoye khozyaystvo SSSR v 1959 godu, statisticheskiy zhechenednik* (The National Economy of the U.S.S.R. in 1959, A Statistical Yearbook), Moscow, 1960, p. 138.  
 23 Residual.

The 1953-58 estimates of collective farmers transferred to the rolls of machine tractors stations are included in this table in the estimate of annual average employment in the socialized sector of the collective farm economy. It should be noted that these adjustments of Soviet data were not made in table VI-4.

<sup>16</sup> Estimate of the combined number of workers and employees and collective farmers in private sector in 1963 and 1964 is 11,122,000 and 11,400,000, respectively. See table VI-9, 1963, 1955, 1958-60; *Nar. khoz v 1960*, p. 521, adjusted for the years 1953-58 for the transfers described in note 15.  
<sup>17</sup> 1956-57: TSSU pri Sovete ministrov SSSR, *Ssh skoye khozyaystvo SSSR, statisticheskiy sbornik (Agriculture of the U.S.S.R., A Statistical Compilation)*, Moscow, 1960, p. 439 (cited hereafter as *Sst. khoz.*).  
<sup>18</sup> 1961-62: TSSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1962 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1962, A Statistical Yearbook)*, Moscow, 1963, p. 368 (cited hereafter as *Nar. khoz. v 1962*).  
<sup>19</sup> 1964: Assumed to be the same as in 1963.  
<sup>20</sup> Consists essentially of hunting and fishing.  
<sup>21</sup> 1949 and 1950: Weitzman and Elias, table 2, p. 57.  
<sup>22</sup> 1953-62: Difference between total employment in the socialized sector of collective farms and that in agricultural kolkhozy.  
<sup>23</sup> 1949 and 1950: Murray S. Weitzman, Murray Feshbach, and Lydia Kulcheyka, "Employment in the U.S.S.R.: Comparative U.S.S.R.-U.S. Data," in Joint Economic Committee, Congress of the United States, *Dimensions of Soviet Economic Power*, Washington, 1962, table A-8, col. (6), p. 666.  
<sup>24</sup> 1953, 1955, 1958-60: *Nar. khoz. v 1960*, p. 522.  
<sup>25</sup> 1956, 1957: *Sst. khoz.*, p. 459.  
<sup>26</sup> 1961-62: *Nar. khoz. v 1962*, p. 369.  
<sup>27</sup> 1949 and 1950: Weitzman, Feshbach, and Kulcheyka, *loc. cit.*, column (8a), adjusted for agricultural employment in nonagricultural kolkhozy.  
<sup>28</sup> 1953, 1955-59: *Sst. khoz.*, p. 450, adjusted for the transfers described in note 15 and for the agricultural employment in nonagricultural kolkhozy. The latter adjustment was made on the basis of the assumption that agriculture comprises only a small part of the economic activities on nonagricultural collective farms, arbitrarily set at 20 percent of total employment.  
<sup>29</sup> 1960: *Nar. khoz. v 1960*, p. 521. See note immediately above.  
<sup>30</sup> 1961-62: *Nar. khoz. v 1962*, pp. 365-369. See note for 1953, 1955-59, above.  
<sup>31</sup> The difference between total employment on agricultural collective farms and their agricultural employment (line II.B.1-b-II.B.1.b.(1)). Rounded.  
<sup>32</sup> Weitzman, Feshbach, and Kulcheyka, *op. cit.*, table A-9, p. 667.  
<sup>33</sup> 1949 and 1950: In estimating annual average employment of individual peasants household was approximately equivalent to their participation in peasant agriculture per collective farming per collective farm household. A second assumption involved the use of a constant peak month employment factor of 85 percent, which is taken to represent the proportion of individual peasants who participated at some time during the year in individual peasant agriculture.  
<sup>34</sup> 1959: *Nar. khoz. v 1960*, p. 26.  
<sup>35</sup> 1953, 1955-58, 1960-62: In estimating employment for years other than 1959, the 1959 census estimate of 62,000 was moved by the computed annual percent change in conventional man-year equivalent employment for individual peasants and other categories of population given in table VI-9.  
<sup>36</sup> 1963-64: Assumed to be zero. See note to table VI-9.

<sup>22</sup> 1940, 1950, 1955-58: Approximations derived as follows (in thousands):

Categories	1940	1950	1955	1956	1957	1958
Non-socialized personnel <sup>a</sup>	7,604	1,619	350	362	277	281
Individual peasants (line II.C, table VI-2)	7,000	1,355	186	167	132	125
Independent artisans (residual)	604	264	164	195	145	156

<sup>a</sup> U.S. Bureau of the Census, *The Magnitude and Distribution of Civilian Employment in the U.S.S.R., 1928-59*, by Murray S. Weitzman and Andrew Elias. International Population Reports, series P-95, No. 98, Washington, D.C., Foreign Manpower Research Office, Bureau of the Census, April 1961, table 2A, p. 59 (cited hereafter as Weitzman and Elias).

<sup>b</sup> The unadjusted value for the individual peasants (see note 23) was subtracted from the total number of non-socialized personnel. This was done in the belief that the Soviet Union did not use an annual average measurement standard for individual peasant employment but more likely a demographic count.

1953: Census figure from TSSU pri Sovete ministrov SSSR, "On the Distribution of the U.S.S.R. Population by Social Group, Branch of the National Economy, and Occupation and On the Educational Level of Persons Performing Physical and Mental Labor," *Vestnik statistiki (Statistical Herald)*, No. 12, December 1960, pp. 4-5.

<sup>12</sup> According to a decree of the R.S.F.S.R. Council of Ministers dated Feb. 6, 1962, most occupations open to independent artisans were prohibited as of Apr. 1, 1962. Employment in this category, therefore, probably has become negligible since that time. See B. M. Piskov (compiler), *Sotsialnoye obozrecheniye i strukturnyye izmeneniya v SSSR, sbornik ofitsialnykh dokumentov (Social Security and Insurance in the U.S.S.R., A Collection of Official Documents)*, Moscow, 1964, pp. 316-317.

<sup>13</sup> Agricultural employment differs slightly in concept from nonagricultural employment in that agricultural employment, in addition to the annual average employment of persons by branch of agricultural economy, also includes a synthetic employment figure for kolkhoz industry, construction, and the work performed on the private agricultural plots of collective farmers and of workers and employees and their families. The figure for employment relating to private agricultural plots is derived, mainly, on the basis of labor input requirements for the care and the cultivation of private agricultural holdings, and represents a man-year equivalent employment concept based on 280 man-days per man-year.

<sup>14</sup> Table VI-4. In 1953, machine tractor stations were reorganized into repair-technical stations and many of the tractors and other agricultural machines were sold to collective farms.

For purposes of consistency with pre-1953 and post-1953 data, the figures for 1953-58 were adjusted to remove collective farmers transferred to the employment rolls of machine tractor stations from collective farms following the October 1953 resolutions of the Communist Party and U.S.S.R. Government. These employment adjustments totaled 29,000 for 1953, 1,918,000 for 1955, 1,822,000 for 1956, 1,565,000 for 1957, and 600,000 for 1958. The values for 1955 and 1956 are believed to be somewhat overstated but the lack of additional information does not permit further refinement. See Weitzman and Elias, p. 134.

TABLE VI-3.—Workers and employees, by branch of the national economy, U.S.S.R., selected years, 1928-64

[Employment figures are annual averages and are in thousands; NA indicates data not available and no estimate made]

Year	Total	Nonagri- cultural branches	Agri- cultural branches <sup>1</sup>	Year	Total	Nonagri- cultural branches	Agri- cultural branches <sup>1</sup>
1928 .....	10,790	9,055	1,735	1955 .....	48,380	41,834	6,546
1932 .....	22,601	19,553	3,048	1956 .....	50,537	44,052	6,485
1937 .....	26,744	23,887	2,857	1957 .....	53,148	45,978	7,170
1940 .....	31,192	28,216	2,976	1958 .....	54,605	48,043	6,562
1945 .....	27,263	NA	NA	1959 .....	56,509	50,319	6,190
1950 .....	38,895	35,014	3,881	1960 .....	62,032	54,550	7,482
1952 .....	42,204	38,049	4,155	1961 .....	65,861	57,645	8,216
1953 .....	43,660	39,218	4,442	1962 .....	68,300	59,692	8,608
1954 .....	47,300	NA	NA	1963 .....	70,526	61,788	8,738
				1964 .....	73,200	64,290	8,910

<sup>1</sup> No adjustment has been made for transfers of some of the collective farmers to the rolls of machine tractor stations between 1953-58, as was done in table 2. Includes forestry.

Source: Unless otherwise indicated, tables 3 and 4 are based principally on the following:

1928-58: U.S. Bureau of the Census, *The Magnitude and Distribution of Civilian Employment in the U.S.S.R., 1928-59*, by Murray S. Weitzman and Andrew Elias. International Population Reports, series P-95, No. 58, Washington, D.C., Foreign Manpower Research Office, Bureau of the Census, April 1961, pp. 55-68.

1955, 59: TsSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1960 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1960, A Statistical Yearbook)*, Moscow, 1961, pp. 216-217, 312, 626, 636-637, 708.

1960-61: ———, *Narodnoye khozyaystvo SSSR v 1961 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1961, A Statistical Yearbook)*, Moscow, 1962, pp. 181-182, 560, 567-568, 650.

1962, 1962: ———, *Narodnoye khozyaystvo SSSR v 1963 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1962, A Statistical Yearbook)*, Moscow, 1963, pp. 130, 446, 453-454, 530.

1963: ———, *Narodnoye khozyaystvo SSSR v 1963 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1963, A Statistical Yearbook)*, Moscow, 1965, pp. 475-476, 537.

1964: ———, "On the Results of the Fulfillment of the State Plan for the Development of the U.S.S.R. National Economy in 1964," *Pravda*, January 30, 1965, p. 2, and ———, *SSSR v tsifrakh v 1964 godu, Kraikiy statisticheskiy sbornik (The U.S.S.R. in Figures in 1964, A Short Statistical Compilation)*, Moscow, 1965, pp. 119-120.

TABLE VI-4.—Workers and employees, by branch of the national economy, U.S.S.R., selected years, 1928-64

(Employment figures are annual averages and are in thousands; figures in parentheses are estimated; NA indicates data not available and no estimate made; and leaders indicate inapplicable)

	1928	1932	1937	1940	1945	1950	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Total.....	10,790	22,601	26,744	31,192	27,263	38,895	42,204	43,660	47,300	48,380	50,537	53,148	54,605	56,508	62,082	65,861	68,300	70,526	73,200
Industry (industrial-production personnel).....	3,773	8,000	10,112	10,967	9,508	14,144	15,556	16,261	17,016	17,367	18,500	19,144	19,675	20,207	22,291	23,475	24,297	25,057	
Construction (construction-installation personnel).....	723	2,289	1,876	1,563	1,515	2,569	2,788	2,843	3,179	3,190	3,550	4,000	4,421	4,800	5,143	5,270	5,150	5,237	
Agriculture.....	1,735	3,048	2,857	2,976	NA	3,881	4,155	4,442	NA	6,546	6,485	7,170	6,562	6,190	7,482	8,216	8,608	8,738	
Sovkhozy and other state agricultural establishments.....	345	2,250	1,748	1,760	2,147	2,425	2,533	2,552	2,639	2,832	2,925	3,961	4,014	4,957	6,324	7,366	7,730	7,874	
MTS/RTS.....	144	566	580	580	385	678	794	1,118	(2,966)	3,065	2,880	2,554	1,219	469	348	3	0	0	
Unspecified agricultural establishments <sup>2</sup> .....	1,315	545	295	407	NA	334	366	356	NA	260	290	278	362	412	451	469	489	465	
Forestry.....	73	100	248	276	NA	444	462	416	NA	389	390	377	367	352	359	378	389	399	
Transport and communications.....	1,365	2,241	3,026	3,903	3,537	4,624	5,160	5,352	NA	5,650	5,840	5,986	6,332	6,663	7,017	7,308	7,500	7,718	48,300
Transport.....	1,270	2,017	2,651	3,425	3,111	4,082	4,595	4,770	NA	5,039	5,216	5,355	5,668	5,972	6,279	6,518	6,677	6,841	
Railroad transport.....	971	1,297	1,512	1,752	1,841	2,068	2,232	2,275	2,321	2,302	2,307	2,323	2,330	2,338	2,348	2,311	2,295	2,301	
Water transport.....	104	146	180	203	190	222	244	260	NA	285	300	317	320	317	322	327	327	327	
Motor vehicle, urban electrical and other transport; freight handling; and road economy.....	195	574	959	1,470	1,080	1,792	2,119	2,235	NA	2,452	2,609	2,715	3,018	3,317	3,609	3,880	4,055	4,213	
Communications.....	95	224	375	478	426	542	565	582	(595)	611	624	641	664	691	738	790	832	877	
Trade, procurement, material-technical supply and sales, and public dining.....	(568)	(2,184)	(2,509)	3,303	2,462	3,325	3,495	3,463	(3,098)	3,725	3,826	4,017	4,190	4,389	4,675	5,010	5,253	5,487	
Trade, procurement, and material-technical supply and sales.....	3 (628)	3 (1,551)	3 (2,088)	2,510	1,747	2,666	2,775	2,698	2,848	2,869	2,935	3,089	3,231	3,398	3,606	3,832	4,015	4,181	
Retail trade.....	NA	555	1,294	1,382	NA	1,308	1,455	1,404	1,519	1,634	1,666	1,739	1,883	2,050	2,226	2,403	2,582	2,685	
Wholesale trade.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6 (221)	6 (249)	6 (287)	6 (280)	NA	
Material-technical supply and sales.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6 (561)	6 (588)	6 (612)	6 (617)	NA	
Procurement.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6 (541)	6 (496)	6 (494)	6 (517)	NA	
Public dining.....	55	633	471	784	715	650	720	765	820	856	861	928	959	991	1,069	1,138	1,238	1,306	48,100

See footnotes at end of table, p. 73.

TABLE VI-4.—Workers and employees, by branch of the national economy, U.S.S.R., selected years, 1928-64—Continued

Employment figures are annual averages and are in thousands; figures in parentheses are estimated; NA indicates data not available and no estimate made; and leaders indicate inapplicable

	1928	1932	1937	1940	1945	1950	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Public health and education.....	1,206	2,106	3,495	4,531	NA	6,080	6,815	NA	7,607	7,933	8,350	8,775	9,275	10,027	10,853	11,552	12,138	
Public health.....	389	1,127	1,507	1,419	NA	2,226	2,308	NA	2,627	2,736	2,892	3,059	3,245	3,461	3,677	3,818	3,933	
Education.....	807	1,437	2,368	3,024	NA	4,029	4,507	NA	4,980	5,197	5,458	5,716	6,030	6,566	7,176	7,734	8,205	
Educational institutions.....	725	1,292	2,089	2,663	NA	3,315	3,647	NA	3,988	4,103	4,250	4,373	4,566	4,803	5,165	5,521	5,836	
Science.....	82	145	279	361	2,551	714	829	NA	992	1,094	1,208	1,333	1,474	1,763	2,011	2,213	2,370	12,800
Of which—																		
Geological prospecting.....	10	23	30	70	NA	245	320	NA	356	379	382	398	NA	NA	NA	NA	NA	NA
Hydro-meteorological services.....	8	12	15	24	NA	32	39	NA	42	42	45	47	NA	NA	NA	NA	NA	NA
"Other branches".....	1,405	2,733	3,169	3,949	NA	4,272	4,454	NA	4,295	4,403	4,471	4,650	4,985	5,397	5,729	5,931	6,151	NA
Housing-communal economy.....	147	661	1,023	1,221	NA	1,315	1,345	NA	1,400	1,503	1,579	1,632	1,713	1,920	2,030	2,096	2,182	
Administrative organs.....	1,010	1,650	1,488	1,825	NA	1,831	1,736	NA	1,361	1,342	1,294	1,294	1,273	1,245	1,265	1,316	1,308	
State and economic administrative organs.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Administrative organs of cooperative and social organizations.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Credit and insurance organizations.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Other residual.....	95	128	163	262	NA	262	263	NA	265	266	267	269	260	265	277	283	289	
Capital repair of buildings and structures.....	163	294	465	641	NA	967	1,079	NA	1,269	1,292	1,337	1,464	1,739	1,967	2,027	2,236	2,372	
Drilling.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Project-survey organizations.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Literature and publishing.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Art.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Other unidentified.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	



<sup>8</sup> In the handbook, TSSU pri Sovete ministroy RSPSR, *Narodnoye khozyaystvo RSFSR v 1967 godu, statisticheskiy zheknepodnik* (*The National Economy of the R.S.F.S.R. in 1967, A Statistical Yearbook*), Moscow, 1962, p. 442 for the first time in the postwar period is reported the employment in "Administrative organs" for the years 1955 and 1958-61, in 2 parts—i.e., "State and economic administrative organs" and "Administrative organs of cooperative and social organizations." The sum of these 2 subbranches equals that shown for the R.S.F.S.R. in the republic breakdown of the national employment figures in TSSU pri Sovete ministroy SSSR, *Narodnoye khozyaystvo SSSR v 1967 godu, statisticheskiy zheknepodnik* (*The National Economy of the U.S.S.R. in 1967, A Statistical Yearbook*), p. 570, and in other handbooks for 1962 (pp. 417-418). For all of the years shown in the R.S.F.S.R. handbooks, the proportion of the first subbranch to the total of the 2 subbranches varies no more than 5/10 of a percentage point from 90 percent.

<sup>9</sup> Estimates of subbranch employment can be derived for the first time in the postwar period for the "Residual" category of "Other employees" by the following procedure: The R.S.F.S.R. handbooks (*ibid.*) report employment in "Other branches" to be 1,347,000 workers and employees in 1961, and in the U.S.S.R. handbook (*ibid.*) reports 2,127,000 workers and employees in the same year for the country as a whole. The ratio of these 2 figures (U.S.S.R./R.S.F.S.R. of 1.58) is then applied to each of the reported R.S.F.S.R. subbranches to obtain approximations of the U.S.S.R. 1961 employment in these subbranches. A similar procedure was used for 1962.

Source: See source note to table VI-3.

<sup>1</sup> No adjustment has been made for transfers of some of the collective farmers to the rolls of machine tractor stations between 1953 and 1955, as was done in table VI-2. This includes veterinary services, artificial insemination stations, research stations, etc.

<sup>2</sup> Adjusted for reclassification of the personnel engaged in collection of secondary raw materials. The adjustment involved transferring the following number of persons from the "Trade, procurement, and material-technical supply" category to the "Other" category: 1928, 4,000; 1932, 13,000; and 1937, 16,000 (0.8 percent of total, based on the 1940 relationship: 2,519 + 2,539 = 99.2 percent).

<sup>3</sup> Including "Housing-communal economy."

<sup>4</sup> TSSU pri Sovete ministroy SSSR, *Sovetskaya torgovlya, statisticheskiy sbornik* (*Soviet Trade, A Statistical Compilation*), Moscow, 1964, p. 131.

<sup>5</sup> Estimated from data reported on employment in the R.S.F.S.R. in wholesale trade, material-technical supply and sales, and procurement. These reported data were extended to an All-Union total by use of the ratio of employment in all trade, procurement, material-technical supply, and public dining in the U.S.S.R. to employment in these categories in the R.S.F.S.R., computed separately for each year. The deviation between the derived estimates for retail trade and those reported is less than 1/10 of 1 percent for each year 1953-62. See TSSU pri Sovete ministroy R.S.F.S.R., *Narodnoye khozyaystvo R.S.F.S.R. v 1962 godu, statisticheskiy zheknepodnik* (*The National Economy of the R.S.F.S.R. in 1962, A Statistical Yearbook*), Moscow, 1963, pp. 417-418, and 443. Due to rounding the figures for wholesale trade, material-technical supply and sales, and procurement when combined with the reported data for retail trade and public dining do not add to reported totals.

<sup>6</sup> Included with "Trade."

TABLE VI-5.—Industrial-production personnel and wage workers, by branch of industry, U.S.S.R., selected years, 1940-63

[Employment figures are annual averages and are in thousands; leaders (.....) indicate data not available and no estimate made; figures in parentheses are estimated]

Branch of industry	1940	1950	1952	1953	1955	1956	1957	1958	1959	1960	1961	1962	1963
<b>Total:</b>													
Industrial-production personnel.....	2 10,967	2 14,144.0	2 15,555	2 16,261.0	2 17,367.0	2 18,500.0	2 19,144.0	2 19,675.0	2 20,207.0	2 22,291.0	2 23,475.0	2 24,297.0	25,057
Wage workers.....	2 8,230	2 11,208.0	2 12,474	2 13,179.0	2 14,281.0	2 15,226.0	2 15,760.0	2 16,279.0	2 16,793.0	2 18,574.0	2 19,548.0	2 20,176.0	20,760
Machine-building and metal-working, including repair enterprises:													8,742
Industrial-production personnel.....	2 2,365	2 3,216.0	2 3,531	2 3,837.0	2 4,256.0	2 4,539.0	2 4,736.0	2 4,932.0	2 5,149.0	2 5,665.0	2 6,207.0	2 6,586.0	26,938
Wage workers.....													
Machine-building and metal-working: Industrial-production personnel.....													
Wage workers.....													
Repair enterprises:													
Industrial-production personnel.....													
Wage workers.....													
Fuel:													
Industrial-production personnel.....													
Wage workers.....													
Coal:													
Industrial-production personnel.....	2 436	2 732.0	2 763	2 793.0	2 897.0	2 968.0	2 1,021.0	2 1,071.0	2 1,245.4	2 1,496.3	2 1,661.0	2 1,818	1,158
Wage workers.....													1,986
Oil extraction and refining:													
Industrial-production personnel.....	2 45	2 90.0	2 102	2 107.0	2 122.0	2 125.0	2 128.0	2 138.0	2 140.0	2 148.0	2 154.0	2 156.0	185
Wage workers.....													130
Oil extraction:													
Industrial-production personnel.....	2 28	2 53.0	2 58.0	2 63.0	2 68.0	2 73.0	2 78.0	2 83.0	2 88.0	2 93.0	2 98.0	2 103.0	118
Wage workers.....													88.5
Oil refining:													
Industrial-production personnel.....	2 17	2 37.0	2 44.0	2 54.0	2 64.0	2 75.0	2 86.0	2 97.0	2 108.0	2 119.0	2 130.0	2 141.0	167
Wage workers.....													118.7
Gas extraction and refining:													
Industrial-production personnel.....													
Wage workers.....													
Gas extraction:													
Industrial-production personnel.....													
Wage workers.....													
Gas refining:													
Industrial-production personnel.....													
Wage workers.....													
Peat:													
Industrial-production personnel.....													
Wage workers.....													
Other:													
Industrial-production personnel.....													
Wage workers.....													

Wage workers																									
Of which, shale extraction:																									
Industrial-production personnel					4 (13.6)	4 (13.6)																			1,161
Wage workers					4 (13.9)	4 (13.9)																			979
Ferrous metallurgy:																									
Industrial-production personnel																									
Wage workers																									
Ferrous metallurgy in metallurgical plants:																									
Industrial-production personnel																									
Wage workers																									
Pig iron, steel, and rolled products:																									
Industrial-production personnel																									
Wage workers																									
Other products of metallurgical plants:																									
Industrial-production personnel																									
Wage workers																									
Ferrous metallurgy in nonmetallurgical plants:																									
Industrial-production personnel																									
Wage workers																									
Nonferrous metallurgy:																									
Industrial-production personnel																									
Wage workers																									
Logging, woodworking, and paper:																									
Industrial-production personnel																									
Wage workers																									
Logging:																									
Industrial-production personnel																									
Wage workers																									
Woodworking:																									
Industrial-production personnel																									
Wage workers																									
Sawmilling:																									
Industrial-production personnel																									
Wage workers																									
Furniture:																									
Industrial-production personnel																									
Wage workers																									
Paper:																									
Industrial-production personnel																									
Wage workers																									
Wood chemicals and wood hydrolysis:																									
Industrial production personnel																									
Wage workers																									

See footnotes at end of table, p. 79.

TABLE VI-5.—Industrial-production personnel and wage workers, by branch of industry, U.S.S.R., selected years, 1940-63—Continued  
[Employment figures are annual averages and are in thousands; leaders (.....) indicate data not available and no estimate made; figures in parentheses are estimated]

Branch of industry	1940	1950	1952	1953	1955	1956	1957	1958	1959	1960	1961	1962	1963 <sup>1</sup>
<b>Food:</b>													
Industrial-production personnel	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wage workers	2 1,049	2 1,232.0	4 1,323	2 1,398.0	2 1,478.0	4 1,579.0	4 1,645.0	12 2,068.1	12 2,089.8	12 2,146.0	12 2,241.3	12 2,307.5	2,349
Sugar:													
Industrial-production personnel		13 122.0				13 141.0		13 164.7	13 163.6	12 170.4	12 197.5	12 185.2	
Wage workers								14 (145.0)					
Meat:													
Industrial-production personnel		13 117.0				13 148.0		12 199.4	12 218.0	12 238.3	12 244.1	12 257.4	
Wage workers		14 76.3				13 117.9						12 207.0	
Fishing:													
Industrial-production personnel								12 251.1	12 250.7	12 251.1	12 257.8	12 265.4	
Wage workers													
Milk and milk products:													
Industrial-production personnel								12 249.1	12 246.9	12 245.4	12 252.3	12 261.1	
Wage workers													
Vegetable oils:													
Industrial-production personnel								12 64.3	12 69.8	12 66.6	12 69.5	12 72.4	
Wage workers													
Flour milling and grain craking:													
Industrial-production personnel								12 131.8	12 127.7	12 126.3	12 126.8	12 127.1	
Wage workers													
Baking:													
Industrial-production personnel								12 395.4	12 406.7	12 419.9	12 440.3	12 463.9	
Wage workers													
Candy and confectionery products:													
Industrial-production personnel		13 82.0				13 98.0		12 113.8	12 115.9	12 126.1	12 131.2	12 135.0	
Wage workers													
Macaroni:													
Industrial-production personnel								12 23.2	12 22.2	12 24.1	12 22.9	12 23.2	
Wage workers													
Fruits and vegetables:													
Industrial-production personnel								12 141.4	12 140.6	12 142.4	12 153.9	12 162.8	
Wage workers													
Starch and flour:													
Industrial-production personnel								12 16.4	12 15.6	12 16.5	12 17.5	12 16.6	
Wage workers													
Tobacco, fish works:													
Industrial-production personnel								12 36.8	12 36.0	12 35.9	12 32.9	12 31.7	
Wage workers													
Other (alcohol, tanning, wines, beer, alcoholic drink, tea, other food products, perfumes and cosmetics, salt)								7 (280.7)	7 (276.1)	7 (285.0)	7 (294.6)	7 (305.7)	
Industrial-production personnel													
Wage workers													

Chemical and rubber-asbestos: Industrial-production personnel.....	2 273	2 326.0	2 404.0	2 452.0					2 584.0			2 705.0	986
Wage workers.....													800
Light: Industrial-production personnel.....	3 1,489	2 1,678.0	2 1,975.0	2 2,158.0	4 2,885.0	4 2,467.0			16 2,943.7	16 2,969.6	16 3,990.2	16 4,063.7	4,070
Wage workers.....									2 2,515.0	4 2,573.0	4 3,472.0	2 3,544.0	3,550
Textiles: Industrial-production personnel.....									16 1,602.8	16 1,610.1	16 1,849.8	16 1,864.8	
Wage workers.....													
Cotton spinning: Industrial-production personnel.....									16 29.6	16 28.8	16 29.1	16 26.7	
Wage workers.....													
Cotton textiles: Industrial-production personnel.....									16 727.2	16 722.3	16 776.0	16 787.6	
Wage workers.....									17 705.0				
Wool: Industrial-production personnel.....									16 191.5	16 197.4	16 234.3	16 255.9	
Wage workers.....													
Flax (linen): Industrial-production personnel.....									16 131.4	16 133.2	16 137.7	16 137.5	
Wage workers.....													
Silk (including silk reeling): Industrial-production personnel.....									16 110.2	16 114.1	16 122.9	16 129.3	
Wage workers.....													
Hemp and jute: Industrial-production personnel.....									16 43.1	16 37.4	16 41.0	16 36.8	
Wage workers.....													
Knitted wear: Industrial-production personnel.....									16 200.7	16 207.4	16 254.0	16 260.2	
Wage workers.....													
Felt: Industrial-production personnel.....									16 46.8	16 47.6	16 65.6	16 64.5	
Wage workers.....													
Other: Industrial-production personnel.....									7 (122.3)	7 (121.9)	7 (153.4)	7 (166.3)	
Wage workers.....													
Sewn goods: Industrial-production personnel.....									16 841.7	16 869.7	16 1,372.3	16 1,454.4	
Wage workers.....													
Leather, fur, and shoe: Industrial-production personnel.....									16 49.0	16 512.0	16 687.8	16 727.9	
Wage workers.....													
Leather: Industrial-production personnel.....									16 53.4	16 54.7	16 63.7	16 67.2	
Wage workers.....													
Leather substitutes: Industrial-production personnel.....									16 13.7	16 23.2	16 27.2	16 30.7	
Wage workers.....													

See footnotes at end of table, p. 79.

TABLE VI-5.—*Industrial-production personnel and wage workers, by branch of industry, U.S.S.R., selected years, 1940-63*—Continued  
[Employment figures are annual averages and are in thousands; leaders (.....) indicate data not available and no estimate made; figures in parentheses are estimated]

Branch of industry	1940	1950	1952	1953	1955	1956	1957	1958	1959	1960	1961	1962	1963 <sup>1</sup>
Light—Continued													
Leather, fur, and shoes—Continued													
Leather luggage and haberdashery goods:													
Industrial-production personnel								18 29.7	18 30.7	18 48.9	18 51.3	18 53.4	
Wage workers								18 39.4	18 39.2	18 47.1	18 50.1	18 51.6	
Fur:								18 333.9	18 351.8	482.2	494.2	503.4	
Industrial-production personnel								7 (14.9)	7 (12.4)	7 (18.7)	7 (19.5)	7 (21.6)	
Wage workers								7 (9.2)	7 (7.8)	7 (19.4)	7 (14.0)	7 (16.6)	
Other (including tanning?):								18 1 217.5	18 1 316.3	18 1 493.4	18 1 575.3	18 1 597.8	1 583
Industrial-production personnel								2 1 072.0	2 1 162.0	2 1 310.0	2 1 373.0	2 1 383.0	1 394
Wage workers								18 69.5	18 77.3	18 83.1	18 86.5	18 94.7	
Construction materials:								18 51.2	4 (57.0)	18 89.4	18 61.5	18 65.2	
Cement:													
Industrial-production personnel	2 252	2 547.0	4 649	2 720.0	2 830.0								
Wage workers	4 (26)	18 35.3			4 (42.0)	4 (44.0)	4 (48.0)						
Lime, gypsum (alabaster), and other local binding materials:													
Industrial-production personnel								18 66.1	18 67.7	18 76.2	18 71.1	18 66.9	
Wage workers								18 429.2	18 456.6	18 515.5	18 517.6	18 492.2	
Wall materials (including bricks) and tiles:													
Industrial-production personnel													
Wage workers													
Prefabricated reinforced concrete, concrete structures, and parts:													
Industrial-production personnel								18 327.3	18 401.2	18 484.1	18 544.5	18 592.7	
Wage workers								18 14.0	18 14.4	18 15.6	18 17.7	18 18.6	
Asbestos-cement foods:													
Industrial-production personnel													
Wage workers													
Soft roofing materials:													
Industrial-production personnel								18 8.7	18 8.4	18 11.0	18 11.2	18 12.1	
Wage workers													

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Extraction and processing of non-metallic construction materials and light aggregates:									
Industrial-production personnel:									
Wage workers:	18 173.1	18 187.4	18 181.2	18 189.8	18 184.6				
Other:									
Industrial-production personnel:	7 (129.6)	7 (123.3)	7 (116.7)	7 (126.9)	7 (136.0)				
Wage workers:	18 208.6	18 215.4	18 226.3	18 234.8	18 241.0				249
Glass and chinaware:	4 181.0								210
Industrial-production personnel:									
Wage workers:	18 103.2	18 108.6	18 176.8	18 183.9	18 189.1				
Glass:									
Industrial-production personnel:									
Wage workers:	18 45.4	18 46.8	18 49.5	18 50.9	18 51.9				
China ware and glazed pottery:									
Industrial-production personnel:									
Wage workers:									
Electric power:									
Industrial-production personnel:	4 222.0		4 (247.0)						
Printing:									
Industrial-production personnel:									
Wage workers:	20 186.0								
Industrial-production personnel:	20 128.0								
Wage workers:	21 141.3								
Industrial-production personnel:									
Wage workers:	21 163.5								

\* (Includes employment in the basic production activity of all personnel categories: wage workers, engineering-technical personnel, salaried employees, apprentices, minor service personnel and guard. This does not include employment in nonindustrial activities in industrial enterprises, such as housing, education, personal services, and public health.)

1 "Statistical Materials," *Vestnik statistiki* (Statistical Herald), No. 8, August 1964, p. 87.

2 T'sSU pri Sovetskomu ministroy SSSR, *Promyshlennost' SSSR, statisticheskiy sbornik* (Industry of the U.S.S.R., A Statistical Compilation), Moscow, 1964, pp. 84-85. (Cited hereafter as *Prom. SSSR*.)

3 *Narodnoye khozyaystvo SSSR v 1965 godu, statisticheskiy yezhegodnik* (The National Economy of the U.S.S.R. in 1965, A Statistical Yearbook), Moscow, 1965, p. 122.

4 Joint Economic Committee, Congress of the United States, *Annual Economic Indicators for the U.S.S.R.*, Washington, 1964, table V-A-7, pp. 56-57.

5 *Ibid.*, table V-A-6, p. 53.

6 *Prom. SSSR*, p. 186.

7 Sum of the components.

8 Residual.

9 *Prom. SSSR*, p. 158.

10 *Ibid.*, p. 291.

11 S. A. Kheyman, "On the Scale and Factors of Labor Productivity Growth," in *Akademiya nauk SSSR, Institut ekonomiki, Problemy politicheskoy ekonomii i sotsializma, Vypusk 1968 6*, (Problems in the Political Economy of Socialism, 1968 Issue), edited by Ya. A. Kronrod, Moscow, 1968, p. 158.

12 A. N. Yefimov et al. (editors), *Ekonomicheskaya ensiklopediya, Promyshlennost' i stroitel'stvo* (Economic Encyclopedia, Industry and Construction), vol. 1, Moscow, 1962, col. 384.

13 Ye. V. Vasil'yeva, *Rozvitkiye pishchevyy promyshlennosti i ekonomiya obshchestvennogo truda v SSSR* (Development of the Food Industry and Economizing of Socialized Labor in the U.S.S.R.), Moscow, 1962, p. 86.

14 Estimated from a reported ratio (88.4 percent) of wage workers to industrial-production personnel, given in A. N. Yefimov et al. (editors), *Ekonomicheskaya ensiklopediya, Promyshlennost' i Stroitel'stvo* (Economic Encyclopedia, Industry and Construction), vol. 2, Moscow, 1964, col. 921.

15 S. S. Shaitser, *Rezervy rosta proizvoditel'nosti truda v myasnoy promyshlennosti* (Reserves for Labor Productivity Growth in the Meat Industry), Moscow, 1968, pp. 37 and 42.

16 S. A. Kheyman, *Ekonomicheskiye problemy organizatsii promyshlennogo proizvodstva* (Economic Problems in the Organization of Industrial Production), Moscow, 1961, p. 42.

17 *Prom. SSSR*, p. 314.

18 I. I. Kholm (editor), *Spravochnik po proizvodstvu tsementa* (Handbook on Cement Production), issued by the Gosstatstvennyy komitet po promyshlennomu stroitel'nykh materialov pri Gosstroye SSSR, Moscow, 1963, p. 387.

19 Average numbers in 1948. As of Mar. 1, 1949, there are reported to have been 180,970 industrial-production personnel, including 130,370 wage workers, in this industry. See N. L. Buldyakov, *U.S.S.R., Ekonomika, planirovaniye, pechat' v SSSR* (Questions of Planning in the U.S.S.R.), Moscow, 1947, p. 178.

20 *Ekon. enstik.*, \* \* \* vol. 2, op. cit., col. 651.

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TABLE VI-6.—Average number of days and hours worked in industry by wage workers, U.S.S.R., selected years, 1928-63

[Figures in parentheses are estimated; N.A. indicates data not available and no estimate made]

	1928	1932	1937	1940	1950	1952	1955	1956	1957	1958	1959	1960	1961	1962	1963
1. Number of calendar days.....	366.0	366.0	365.0	366.0	365.0	366.0	365.0	366.0	365.0	365.0	365.0	366.0	365.0	365.0	365.0
Less: days off and holidays.....	62.3	67.1	66.8	64.0	55.5	55.8	55.5	56.9	N.A.	57.7	58.2	59.3	60.8	61.0	61.3
2. Number of calendar days, less days off and holidays.....	303.7	298.9	298.2	302.0	309.5	310.2	309.5	309.1	N.A.	307.3	306.8	306.7	304.2	304.0	303.7
Less: paid regular leave.....	34.2	13.1	13.7	13.0	14.9	15.4	16.0	16.0	N.A.	16.9	17.2	17.4	17.3	17.6	17.6
3. Mean number of workdays.....	269.5	285.8	284.5	289.0	294.6	294.8	293.5	293.1	291.0	290.4	289.6	289.3	286.9	286.4	286.1
Less: sick, maternity, and ad- ministrative leave.....	18.9	19.4	21.8	17.5	17.4	18.9	19.3	20.0	22.7	21.5	22.4	21.7	22.0	22.3	20.9
Of which: Sick and maternity leave, paid out of social insur- ance account.....	15.3	14.2	17.6	13.9	13.4	14.4	13.7	14.6	N.A.	16.1	17.5	16.6	16.9	17.0	15.8
Administrative leave (au- thorized) by law and by plant administration.....	3.6	5.2	4.2	3.6	4.0	4.5	5.6	5.4	N.A.	5.4	4.9	5.1	5.1	5.3	5.1
Less: other absences (absences without reason and whole- day plant work stoppage) 4. Actual average number of days worked (including intrashift work stoppages).....	7.6	7.2	2.4	1.7	.9	1.1	.9	1.0	.9	.9	.7	.7	.7	.7	.7
(1950-100).....	263.0	257.2	290.3	299.8	276.3	274.8	273.3	272.1	267.4	268.0	266.5	268.9	264.2	263.4	264.5
5. Annual average number of wage workers (thousands).....	95.2	93.1	94.2	97.0	100.0	99.5	98.9	98.5	96.8	97.0	96.5	96.6	95.6	95.3	95.7
(1950=100).....	3,124.0	6,007.0	7,924.0	8,290.0	11,308.0	12,474.0	14,281.0	15,236.0	15,760.0	16,279.0	16,793.0	18,574.0	19,548.0	20,176.0	20,680.0
6. Estimated annual number of man-days worked in indus- try by wage workers (mil- lions) (line 4 × line 5).....	27.6	53.1	70.1	73.3	100.0	110.3	126.3	134.6	139.4	144.0	148.5	164.3	172.9	178.4	182.9
(1950=100).....	(821.6)	(1,545.0)	(2,062.6)	(2,236.6)	(3,124.4)	(3,427.9)	(3,993.0)	(4,143.0)	(4,214.2)	(4,362.8)	(4,475.3)	(4,957.4)	(5,164.6)	(5,314.4)	(5,469.9)
7. Reported average scheduled number of man-hours worked per day per wage worker in industry (exclud- ing overtime).....	26.3	49.4	66.0	71.6	100.0	109.7	124.9	132.6	134.9	139.6	143.2	158.7	165.3	167.1	175.1
(1950=100).....	7.81	6.99	7.0	8.0	8.0	8.0	8.0	7.96	7.90	7.70	7.56	6.94	6.93	6.93	6.93
8. Estimated annual number of man-hours worked in indus- try by wage workers (bil- lions) (line 6 × line 7).....	97.6	87.4	87.5	100.0	100.0	100.0	100.0	99.5	98.8	96.2	94.5	86.8	86.6	86.6	86.6
(1950=100).....	(6.4)	(10.8)	(14.4)	(17.9)	(25.0)	(27.4)	(31.2)	(33.0)	(33.3)	(33.6)	(33.8)	(34.4)	(35.8)	(36.8)	(37.9)
	25.7	43.2	57.8	71.6	100.0	109.7	124.9	131.9	133.2	134.4	135.3	137.6	143.2	147.3	151.6



godu, kratkiy statisticheskiy sbornik (The U.S.S.R. in Figures in 1963, A Short Statistical Compilation), Moscow, 1964, p. 179.  
 1957: ———, SSSR v tsifrakh, statisticheskiy sbornik (The U.S.S.R. in Figures, A Statistical Compilation), Moscow, 1958, p. 420.  
 1963: ———, Narodnoye khozyaystvo SSSR v 1958 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1958, A Statistical Yearbook), Moscow, 1959, p. 665. End of 1968.  
 1959: ———, Narodnoye khozyaystvo SSSR v 1959 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1959, A Statistical Yearbook), Moscow, 1960, p. 586. End of 1959.  
 1960: ———, Narodnoye khozyaystvo SSSR v 1960 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1960, A Statistical Yearbook), Moscow, 1961, p. 645. End of 1960.  
 1961: ———, Narodnoye khozyaystvo SSSR v 1961 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1961, A Statistical Yearbook), Moscow, 1962, p. 602. As of Mar. 31.  
 1962: Nar. khoz. v 1962, p. 458.  
 Employment: Joint Economic Committee, Annual Economic Indicators for the U.S.S.R., Washington, 1964, table V-A-6, p. 53; U.S. Bureau of the Census, The Magnitude and Distribution of Civilian Employment in the U.S.S.R.: 1928-59, by Murray S. Weitzman and Andrew Elias, International Population Reports, series P-96, No. 58, Washington, April 1961, p. 61; and Tssu pri Sovete ministroy SSSR, Promyshlennost' SSSR, statisticheskiy sbornik (Industry of the U.S.S.R., A Statistical Compilation), Moscow, 1964, pp. 84-85.

Source: Worktime data:  
 A. Man-days:  
 1928-50, 1955-56: Vestnik statistiki (Statistical Herald), No. 2, February 1957, p. 91.  
 1957: Nauchno-issledovatel'skiy institut truda Gosudarstvennogo komiteta Soveta ministroy SSSR po voprosam truda i zarabotnoy platy (Trudovyye resursy SSSR (Problemy raspredeleniya i ispol'zovaniya) (Labor Resources of the U.S.S.R. (Problems of Distribution and Utilization)), edited by N. I. Shishkin, Moscow, 1961, p. 69.  
 1952, 1963-62: Tssu pri Sovete ministroy SSSR, Narodnoye khozyaystvo SSSR v 1962 godu, statisticheskiy yezhegodnik (The National Economy of the U.S.S.R. in 1962, A Statistical Yearbook), Moscow, 1963, p. 131. (Cited below as Nar. khoz. v 1962.)  
 1963: ———, Promyshlennost' SSSR statisticheskiy sbornik (Industry of the U.S.S.R., A Statistical Compilation), Moscow, 1964, p. 87.  
 B. Man-hours:  
 1928 and 1932: TsUNKHU Gosplana SSSR, Soisiaticheskoye stroitel'stvo SSSR, statisticheskiy yezhegodnik (Socialist Construction of the U.S.S.R., A Statistical Yearbook), Moscow, 1934, p. 337. For March 1928 and Sept. 1, 1933. Large-scale industry.  
 1937, 1940, 1950, 1952, 1955: A. I. Prosserskiy, Rabocheye vrenya i rabochiy den' po sovet'skoyu trudonomu pravu (Worktime and Workday According to Soviet Labor Law), Moscow, 1963, p. 59.  
 1956, 1963: Tssu pri Sovete ministroy SSSR. SSSR v tsifrakh v 1953

TABLE VI-7.—Soviet comparisons of physical output per production worker in selected industries, United States and U.S.S.R., selected years, 1939-59

[U.S. level=100; NA indicates data not available]

Industry (products)	(1)	(2)	(3)	(4)	(5)		(6)
	U.S.S.S.R. 1940; U.S. 1939	U.S.S.S.R. 1950; U.S. 1947	U.S.S.S.R. 1955; U.S. 1954	U.S.S.S.R. 1956; U.S. 1954	U.S.S.S.R. 1957; U.S. 1956		U.S.S.S.R. 1959; U.S. 1958
					(a)	(b)	
Ferrous metallurgy:							
Pig iron, steel, and rolled products.....	48.3	41.8	54.6	49.1	53.0	51.5	59.7
Steel and rolled products.....	44.4	41.0	52.9	47.3	51.1	49.7	59.9
Steel.....	46.3	43.2	54.7	48.7	53.2	51.0	62.4
Rolled products.....	41.7	38.2	49.7	45.5	48.4	46.9	56.7
Iron ore.....	38.6	25.9	41.6	43.9	37.3	36.4	35.1
Coke.....	33.7	30.0	46.1	49.1	42.4	41.4	48.6
Coal.....	51.3	31.8	35.9	38.3	28.2	28.8	32.0
Of which:							
Underground mining.....	53.7	34.7	36.7	40.3	28.6	28.6	32.1
Open-pit mining.....	41.7	47.4	79.5	98.0	78.2	78.2	94.8
Petroleum refining (benzine, kerosene, ligroine, and diesel fuel).....	48.2	41.0	37.0	43.4	42.1	42.1	46.2
Metal-cutting machine tools.....	NA	47.3	74.9	74.4	69.5	69.5	62.0
Synthetic rubber.....	NA	18.6	17.5	17.6	15.6	15.6	12.1
Artificial fiber.....	23.4	11.9	17.4	18.5	19.8	19.8	20.6
Logging.....	29.1	26.3	32.2	28.9	30.7	34.1	36.9
Lumber.....	55.9	66.5	67.6	63.1	73.8	73.8	75.4
Paper and paperboard.....	39.8	33.3	39.7	42.1	39.6	39.6	44.4
Cement.....	22.8	28.1	34.3	35.5	32.9	32.9	34.8
Construction brick.....	45.5	35.7	42.7	43.5	46.2	46.2	57.9
Lime and gypsum.....	27.1	17.4	21.6	22.6	22.0	22.0	24.8
Cotton fabrics.....	39.7	39.7	41.3	37.7	33.5	38.2	42.0
Woolen fabrics.....	50.3	45.2	45.6	45.1	41.5	42.5	41.0
Silk and synthetic fabrics.....	16.5	14.4	27.7	38.0	42.3	41.9	37.4
Footwear (excluding rubber).....	33.1	37.5	41.4	44.8	44.0	44.0	51.1
Rubber footwear.....	67.4	126.1	81.0	79.9	78.9	78.9	72.6
Meat (including 1st category sub- products).....	45.7	41.1	48.2	53.2	46.5	46.5	57.2
Dairy products.....	29.8	29.8	43.4	53.0	53.1	52.2	50.6
Vegetable oil.....	57.1	39.8	34.9	30.3	27.5	27.5	30.2
Flour.....	40.1	39.0	60.4	60.7	60.8	60.8	57.6
Macaroni.....	52.6	66.3	57.2	51.9	55.3	55.3	61.8
Bread and bakery products.....	195.1	153.3	151.5	147.4	143.5	143.5	135.1
Confectionery products.....	57.9	52.7	51.8	52.1	56.5	46.5	48.9
Beer.....	25.8	38.0	33.2	35.7	37.8	37.8	41.0
Margarine.....	NA	NA	NA	17.1	NA	NA	NA

Source, by columns, follows:

Cols. 1, 2, 3, 5(b), 6: A. I. Kats, *Proizvoditel'nost' truda v SSSR i glavnykh kapitalisticheskikh stran (Labor Productivity in the U.S.S.R. and in the Main Capitalist Countries)*, Moscow, 1964, p. 149.  
Col. 4: "A Comparison of the Level of Labor Productivity in U.S.S.R. Industry and in the Main Capitalist Countries," *Sotsialisticheskii trud (Socialist labor)*, No. 1, January 1959, pp. 46-47.  
Col. 5a: "A Comparison of the Level of Labor Productivity in U.S.S.R. Industry and in the Main Capitalist Countries," in V. A. Zhanin (Ed.), *Ekonomicheskoye srovnaniye sotsializma s kapitalizmom (Economic Competition of Socialism With Capitalism)*, Moscow, 1962, pp. 200-201. For a non-Soviet analysis of these data, see Gertrude Schroeder, "Soviet Industrial Labor Productivity," in U.S. Congress, Joint Economic Committee, *Dimensions of Soviet Economic Power*, Washington, 1962, pp. 137-162.

TABLE VI-8.—Measures of collective farm employment, U.S.S.R., selected years, 1937-63  
 [Figures in parentheses are estimated; NA indicates data not available and no estimate made]

Year	Number of collective farmers who participated in the socialized economy during the year (thousands)		Number of able-bodied collective farmers who did not earn 1 labor-day <sup>2</sup> nor work 1 man-day <sup>3</sup> (thousands)		Annual average number of collective farmers who participated in the socialized economy (thousands)		Annual average number of labor-days earned or man-days worked by—			Total number of labor-days earned (millions)	Con- version factor (num- ber of labor- days per 1 man- day)	Total number of man- days (mil- lions)	Number of able- bodied equi- val- ent farm- ers who worked (thou- sands)
	Total	Of which able- bodied	Total	Of which able- bodied	Total activity	Of which, in agri- culture	All ages	Of which, able-bodied					
								Lea- bor- days	Man- days				
1937	5 40,716	6 (35,900)	NA	NA	NA	NA	8 194	9 (149)	9 218	5 7,893	10 1.30	11 (6,072)	12 (36,296)
1940	13 42,673	13 31,922	14 517.4	7 10.4	15 29,000	NA	8 272	9 (171)	9 254	5 6,319	10 1.30	11 (7,168)	12 (36,688)
1950	5 60,837	18 28,603	NA	NA	19 24,800	15 28,100	8 (208)	9 (178)	20 251	5 8,286	11 1.18	11 (7,143)	12 32,000
1951	5 67,487	NA	NA	NA	NA	NA	8 (230)	9 (170)	NA	5 (8,480)	11 1.24	11 (6,839)	NA
1952	12 34,897	18 26,763	NA	NA	NA	NA	8 (241)	9 (169)	24 205	5 8,847	11 1.39	11 (6,365)	NA
1954	5 67,609	18 26,763	NA	22 2.6	15 25,600	15 23,300	8 (282)	9 (168)	25 229	5 9,695	11 1.45	11 (6,210)	12 (30,326)
1955	5 60,044	18 27,419	NA	NA	15 24,800	15 22,600	8 (271)	9 (168)	24 235	5 9,852	11 1.65	11 (6,313)	12 (31,079)
1956	20 38,450	27 (28,882)	NA	NA	19 25,700	19 22,500	8 (268)	9 (169)	24 231	5 11,106	11 1.69	11 (6,683)	12 (32,894)
1957	NA	NA	NA	NA	NA	NA	NA	NA	24 234	NA	11 1.74	NA	NA
1958	28 36,482.1	28 27,069	NA	NA	15 24,900	15 22,500	NA	33 163	24 242	33 10,300	11 1.75	33 6,849	12 (30,117)
1960	29 41,111.1	44 23,626	NA	31 7.0	15 24,500	15 22,100	NA	40 170	28 243	NA	11 1.7	42 6,145	12 30,700
1961	41 32,300	44 23,626	NA	NA	16 22,700	16 20,100	NA	41 169	28 228	NA	NA	42 5,271	12 (26,750)
1962	12 30,450	12 21,900	NA	NA	16 20,700	16 18,100	NA	41 169	NA	NA	NA	49 (5,360)	12 (27,020)
1963	42 28,359	12 21,200	NA	NA	15 19,700	15 17,000	NA	41 157	NA	NA	NA	42 4,751	12 (23,575)
1963	NA	NA	NA	NA	12 19,400	12 17,000	NA	NA	NA	NA	NA	NA	NA

Footnotes on following pages.

11 Col. 12 divided by col. 13.  
 12 Col. 12 divided by col. 10.  
 13 Ye. S. Karnaukhova, "Utilization of Labor Resources in Collective Farms," in Ye. S. Karnaukhova and M. I. Kozlov (Eds.), *Puti povysheniya proizvoditel'nosti truda v sel'skom khozyaystve SSSR (Means for Raising Labor Productivity in U.S.S.R. Agriculture)*, Moscow, 1964, p. 56.  
 14 Yu. V. Arutyunyan and V. P. Daulov, "Official Collection of Collective Farm Reports in the Country During the Period of the Fatherland War," *Istoriicheskiy arkhiv (Historical Archive)*, No. 6, November-December 1962, p. 30. Excluding Yakut A.S.S.R.  
 15 *Ibid.*, p. 37. Excluding Yakut and Komi A.S.S.R.s.  
 16 TSSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1960 godu, statisticheskiy yezhigodnik (The National Economy of the U.S.S.R. in 1960, A Statistical Yearbook)*, Moscow, 1961, p. 521 (cited hereafter as *Nar. khoz. v 1960*). The employment data for 1955 through 1958 including fishing collective farms are lower than that reported as excluding this type of collective farm because of the shift of collective farmers to MTS tractor brigades.  
 17 Arutyunyan and Daulov, *op. cit.*, pp. 19-20.  
 18 A. A. Ivanchenko and P. S. Minakov, *Voprosy metodiki planirovaniya proizvoditel'nosti truda v sel'skom khozyaystve (Questions of the Method of Planning Labor Productivity in Agriculture)*, Moscow, 1960, p. 28.  
 19 Yu. V. Arutyunyan, *Mekhanizatsiya sel'skogo khozyaystva SSSR v 1929-1957 gg. (Formirovaniye kadrov massovykh kvalifikatsiy) (Mechanized Personnel of U.S.S.R. Agriculture in 1929-1957 [Formation of Cadres with Mass Qualifications])*, Moscow, 1960, p. 271. Figure for 1954 relates to May; the figures for 1950, 1953, and 1957 exclude able-bodied farmers working in industry, transport, etc.  
 20 TSSU pri Sovete ministrov SSSR, *Sel'skoye khozyaystvo SSSR, statisticheskiy sbornik (Agriculture of the U.S.S.R., A Statistical Compilation)*, Moscow, 1960, p. 450 (cited hereafter as *Sel. khoz.*). See also footnote 15.  
 21 G. G. Badur'yan and A. K. Ilyichev (eds.), *Ekonomika sotsialisticheskogo sel'skogo khozyaystva (Economics of Socialist Agriculture)*, Moscow, 1962, p. 181.  
 22 Nauchno-issledovatel'skiy institut truda Gosudarstvennogo komiteta Soveta ministrov SSSR po voprosam truda i zarabotnoy platy, *Trudovyye resursy SSSR (Problemy raspredeleeniya i ispol'zovaniya) (Labor Resources of the U.S.S.R. [Problems of Distribution and Utilization])*, edited by N.Y. Shishkin, Moscow, 1961, p. 97 (cited hereafter as Shishkin).  
 23 *Sel. khoz.*, p. 108. See also footnote 7.  
 24 *Sel. khoz.*, p. 459. See also Shishkin, p. 109.  
 25 TSSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1958 godu, statisticheskiy yezhigodnik (The National Economy of the U.S.S.R. in 1958, A Statistical Yearbook)*, Moscow, 1959, p. 495.  
 26 A. A. Kastorin, *Nekotoryye voprosy ekonomiki i organizatsii sel'skogo khozyaystva SSSR, 1961*, p. 86.  
 27 Akademiya nauk SSSR, Institut ekonomiki, *Voprosy organizatsionno-khozyaystvennogo uvelicheniya kolichestva (Problems of Organizational and Economic Strengthening of Collective Farms)*, edited by V. P. D'yachenko et al., Moscow, 1957, p. 344. This source also reports an average of 65-70 labor-days per one overaged farmer in 1953-1954 (p. 347) and an average of 133 labor-days per one overaged farmer in 1954 (p. 348).  
 28 Estimated from the average number of able-bodied collective farmers per farm given in V. G. Venzer, *Voprosy ispol'zovaniya zakhona stoinosti v kolhoznom proizvodstve (Problems in the Utilization of the Loan of Value for Collective Farm Production)*, Moscow, 1960, p. 79, and the number of agricultural collective farms for these years (1955 and 1956).

1 The definition of "able-bodied" collective farmers has varied over time. In the pre-war period, the able-bodied category included both males and females 16 years of age and over. In the postwar period, but also including the 1940 data shown here, the age limits have been set at 16 to 59 for males and 16 to 54 for females. The data in this column do not include able-bodied farm members employed as workers and employees in state industry, transport, construction, etc., and full-time able-bodied student members who are not required to earn or work the minimum number of labor-days or man-days.  
 2 A labor-day (*trudoden'*) is not a measure of time, but an artificial measure of quantities of work, related to quality and amount of work and varying by type of activity, crop, region, and local rates based on national minimums. Beginning in 1959, all collective farms also had to report the number of man-days worked (see footnote 3 below), and many farms discontinued reporting labor-days completely. For this reason, all data related to labor-days from 1959 on are incomplete.  
 3 One man-day (*cheloveko-den'*), sometimes designated workday (*trudovoy den'*), is much closer to a measure of time input than a labor-day. It is, however, related to "appearances for work" (*vykhody na rabotu*), and the number of hours of inputs is not standardized as yet.  
 4 The concept of able-bodied equivalent farmers is used in Soviet planning and statistics to estimate the prime labor input on farms. The number is calculated by dividing the total number of labor-days earned or man-days worked (by persons of all ages who participated in the socialized economy) by the average number of labor-days earned (or man-days worked) by able-bodied farmers alone. Actual able-bodied collective farmers will, of course, convert to able-bodied equivalent farmers on a 1-to-1 basis. It should be noted, however, that in 1959 the 9,242,300 actual non-able-bodied farmers (col. 1 minus col. 2) convert to less than half the number, or 4,531,000 able-bodied equivalent farmers (col. 15 minus col. 2).  
 5 U.S. Bureau of the Census, *The Magnitude and Distribution of Civilian Employment in the U.S.S.R.: 1928-1959*, by Murray S. Weitzman and Andrew Elias, International Population Reports, series P-56, No. 58, Washington, D.C., Foreign Manpower Research Office, Bureau of the Census, April 1961, table C-1, p. 142 (cited hereafter as Weitzman and Elias).  
 6 Estimated from total money income of collective farms and average money income per one able-bodied collective farmer who worked on the collective farm. A. Arina, "Collective Farms in 1958 (From Materials of the Collective Farm Annual Reports)," *Sotsialisticheskoye sel'skoye khozyaystvo (Socialist Agriculture)*, No. 12, December 1959, p. 64.  
 7 Percentages shown relate to total number of on-hand able-bodied collective farmers at end of year, including both those who did and those who did not participate in the socialized economy. M. I. Fedorova, *Uvelicheniye obshchestvennogo khozyaystva kolhozov i izmeneniya v politike zapovedok sel'skikh khozyaystvennykh produktov v mirovyye gody tret'ey pyatiletki. Lektsiya (Strengthening the Socialized Economy of Collective Farms and Changes in the Policy of Procurement of Agricultural Products During the Peaceful Years of the Third Five-Year Plan, Lectures)*, Moscow, 1960, p. 34. See also p. 24 defining these data as pertaining to able-bodied collective farmers.  
 8 Weitzman and Elias, table C-2, p. 143. Average number of labor-days for the prewar period relate to all farmers 16 years of age and over; data for the postwar period relate to current definition of able-bodied collective farmers. See footnote 1.  
 9 Col. 8 divided by col. 13.  
 10 TSSUNKHU Gosplana SSSR, *Proizvoditel'nost' i ispol'zovaniye truda v kolhozakh vo storonnykh selskikh khozyaystvakh (Productivity and Utilization of Labor in Collective Farms in the Second Five-Year Plan)*, Moscow-Leningrad, 1959, p. 88.

given in the source, not the total shown of 748,000. Moreover, according to another source the number of nonparticipating able-bodied farmers in 1959 was 799,000. See A. Gukhlov, "Raising the Productivity of Agricultural Labor—A Most Important Condition for the Building of Communism," *Nauchnyye doklady vysshey shkoly, Ekonomicheskoye nauch. No. 1*, January-February 1962, p. 20. See also footnote 7.

<sup>30</sup> Shishkin, *loc. cit.*

<sup>31</sup> *Ibid.*, p. 98.

<sup>32</sup> S. I. Sermin, *Nedelmnyye fondy i puti sblizheniya kolhozno-koooperativnoy sobstvennosti s obshchenarodnoy (Indivisible Funds and Means for Drawing Collective Farm-Cooperative Property Closer to Public Property)*, Moscow, 1961, p. 79.

<sup>33</sup> Shishkin, p. 91. Total number of man-days worked in the private subsidiary economy in 1959 is reported to be 3,537,300,000 (*ibid.*). Additional data on the 1959 labor inputs into the socialized and private subsidiary economies by age and sex, in terms of a detailed percentage distribution of man-hours, is given in M. P. Vasilenko, *Puti proizvodstva sezonnoi truda v kolhozakh (Means for Overcoming Seasonality of Work in Collective Farms)*, Moscow, 1963, pp. 23 and 24.

<sup>34</sup> Karnaukhova, *op. cit.*, p. 76. An estimate of 32,450,000 can be obtained by the following method: Able-bodied participants (col. 2—23,626,000) divided by the reported average ratio, 1959-61, of able-bodied to total participants, in G. G. Kotov, *Proizvoditel'nost' truda i sobstvennost' produktov i sel'skom khozyaystve (Labor Productivity and Cost of Production in Agriculture)*, Moscow, 1964, p. 68.

<sup>35</sup> V. F. Mayer and P. N. Krylov (eds.), *Planirovaniye narodnogo potrebleniya v SSSR (Planning Public Consumption in the U.S.S.R.)*, Moscow, 1964, p. 54.

<sup>36</sup> TSSU pri Sovete ministrov SSSR, *Narodnoyehozyaystvo SSSR v 1962 godu, statisticheskiy gzhednik (The National Economy of the U.S.S.R. in 1962, A Statistical Yearbook)*, Moscow, 1963, p. 369 (cited hereafter as *Nar. khoz. v 1962*).

<sup>37</sup> *Narodnoye khozyaystvo SSSR v 1961 godu, statisticheskiy gzhednik (The National Economy of the U.S.S.R. in 1961, A Statistical Yearbook)*, Moscow, 1962, p. 461.

<sup>38</sup> Karnaukhova, *op. cit.*, p. 63.

<sup>39</sup> *Ibid.*, p. 60.

<sup>40</sup> Estimated from data reported in N. F. Ostroverkh, *Puti povysheniya proizvoditel'nosti sel'skhozoystvennogo truda (na materialakh kolhozov Ukrainskoy SSE) (Means for Raising the Productivity of Agricultural Labor (From Materials of the Ukrainian S.S.R. Collective Farms))*, Kiev, 1963, p. 40. This figure of 1,542,073,000 man-days worked in the Ukraine in 1961 was divided by the proportion of total man-days for the U.S.S.R. which were worked in the Ukraine in 1960—28.9 percent. *Nauchno-issledovatel'skiy finansovyy institut, Denezhnyye doklady kolhozov i differentsial'naya renta (Monetary Revenues of Collective Farms and Differential Rent)*, Moscow 1963, p. 215.

<sup>41</sup> *Nar. khoz. v 1962*, p. 393.

<sup>42</sup> TSSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1963 godu, statisticheskiy gzhednik (The National Economy of the U.S.S.R. in 1963, A Statistical Yearbook)*, Moscow, 1965, p. 383.

<sup>43</sup> *Ibid.*, p. 364.

<sup>44</sup> Yu. A. Gramakin, "On the Relationship of the Rates of Growth of Labor Productivity in Industry and Agriculture," in L. S. Blyakhan (Ed.), *Voprosy proizvoditel'nosti i oplaty truda v period sroitel'sta kommunizma (sbornik statey) (Questions of Productivity and Payment of Labor in the Period of Construction of Communism, A Collection of Articles)*, Leningrad, 1964, p. 29.

reported in TSSU pri Sovete ministrov SSSR, *Narodnoye khozyaystvo SSSR v 1958 godu, statisticheskiy gzhednik (The National Economy of the U.S.S.R. in 1958, A Statistical Yearbook)*, Moscow, 1957, p. 140, and *Narodnoye khozyaystvo SSSR v 1959 godu, statisticheskiy gzhednik (The National Economy of the U.S.S.R. in 1959, A Statistical Yearbook)*, Moscow, 1960, p. 423.

<sup>28</sup> Computed from an index of the annual average number of workdays, 1954=100, in T. Zaslavskaya, "Economic Conditions for the Introduction of Monetary Payments for Collective Farmer Labor," *Voprosy ekonomiki (Problems of Economics)*, No. 11, November 1959, p. 60.

<sup>29</sup> Shishkin, p. 90. Probably excluding persons working permanently in state industry, etc.

<sup>30</sup> A. Gof'tsov, "Problems in the Utilization of Collective Farm Labor Resources," *Byulleten' nauchnoy informatsii, Trud i zarabotnaya plata (Bulletin of Scientific Information, Labor and Wages)*, No. 6, June 1959, p. 42.

<sup>31</sup> G. I. Shmelev, *Raspredeleeniye i ispol'zovaniye truda v kolhozakh (Distribution and Utilization of Labor on Collective Farms)*, Moscow, 1964, p. 113.

<sup>32</sup> *Akademiya nauk SSSR, Institut ekonomiki, Osobennosti i faktory razmeshcheniya otvlekey narodnogo khozyaystva SSSR (Characteristics and Factors of the Location of Branches of the National Economy of the U.S.S.R.)*, edited by Ya. G. Feygin et al., Moscow, 1960, p. 404. Excluding full-time students and members working in state establishments and institutions. This source also reports the total number of participants in collective farm production for 1958 as 36,800,000. The difference between this figure and that shown in col. 1 probably represents the students and members working outside the collective farm sector. An estimate of 28,941,000 able-bodied participants also can be computed from data in Venzher, *op. cit.*, pp. 79 and 81; another estimate of 27,246,000 can be derived by dividing the collective farm indivisible fund (*Sel. khoz.*, pp. 72-73) by the ruble amount of indivisible funds per one on-hand able-bodied collective farmer, in V. P. Rozhin, *Nekotoryye voprosy pod'yema ekonomiki slablykh kolhozov (Some Problems in Raising the Economy of Weak Collective Farms)*, Moscow, 1961, p. 37. From the last two sources, estimates for other years also can be derived as follows: 1953—28,759,000; 1957—27,706,000; 1959—26,722,000.

<sup>33</sup> A. P. Teryayeva, "Progressive Forms of Payment for Work in Collective Farms," *Akademiya nauk SSSR, Institut ekonomiki, Razvitiye obshchestvennogo khozyaystva kolhozov (Development of the Socialized Economy of Collective Farms)*, edited by P. S. Buyanov et al., Moscow, 1960, p. 154.

<sup>34</sup> A. Voronin, "On the Combining of Agricultural and Industrial Production in the Village," *Voprosy ekonomiki*, No. 10, October 1961, p. 85.

<sup>35</sup> B. I. Bragin'skiy, *Proizvoditel'nost' truda v sel'skom khozyaystve, Metodika ucheta i sledeniya (Labor Productivity in Agriculture, Methods of Recording and Planning)*, Moscow, 1962, p. 94. Of this total of 10,300,000,000 labor-days, 9,200,000,000 or 89.3 percent, were earned by able-bodied collective farmers (*ibid.*).

<sup>36</sup> A. Gof'tsov, "Utilization of Labor Resources in Collective Farms," *Nauchnyye doklady vysshey shkoly, Ekonomicheskoye nauch. (Scientific Reports of Higher Schools, Economic Sciences)*, No. 1, 1961, p. 47. Total number of man-days worked in the private subsidiary economy in 1958 is reported to be 3,333,000,000 (*ibid.*).

<sup>37</sup> Shishkin, pp. 98 and 99. Estimated by multiplying the total number of participants (35,411,000) by the share of able-bodied collective farmers (73.9 percent).

<sup>38</sup> Rozhin, *op. cit.*, p. 79. The figure of 788,500 represents the sum of the republic data

TABLE VI-9.—Employment in the private agricultural economy, by subsector, U.S.S.R., selected years, 1940-64  
[Absolute figures are 280-day man-year equivalents and are in thousands; NA indicates data not available and no estimate made]

Year	1940-1964				1965-1968			
	Total	Collective farmers	Workers and employees	Individual peasants and other categories of population	Total	Collective farmers	Workers and employees	Individual peasants and other categories of population
Conventional man-year equivalents <sup>1</sup>								
1940.....	NA	9,134	2,039	NA	11,701	8,259	3,418	24
1950.....	NA	7,939	2,543	NA	11,131	7,218	3,893	20
1955.....	10,737	8,090	2,599	48	11,611	7,075	4,424	12
1965.....	12,196	9,143	3,031	50	11,555	7,015	4,531	9
1966.....	12,558	9,505	3,009	44	NA	NA	NA	NA
1967.....	12,622	9,045	3,542	35	NA	NA	NA	NA
1968.....	12,737	9,050	3,654	33	11,400	NA	NA	NA

<sup>1</sup> Estimated on the basis of the labor-input requirements to cultivate and care for the agricultural holdings in private ownership.

<sup>2</sup> Rough, preliminary estimate based on the combined livestock holdings of collective farmer and worker and employee families as reported in *Pravda*, Jan. 30, 1965, p. 1. Man-year inputs in animal husbandry in 1964 was estimated by using the same man-day inputs as used in the calculations for other years. These estimates were then expanded to total inputs by the rate of animal husbandry inputs to total inputs in 1961 and 1962 (0.63). The 1961-62 ratio was used instead of the 1963 ratio (0.62).

<sup>3</sup> Assumed to be zero based on continued decline since 1950 as well as on the statement that these categories of the population were practically nonexistent as of January 1, 1964. See, TsSU pri Sovete ministroy SSSR, *SSSR v tsifrakh v 1963 godu*, *Kratkiy statisticheskiy sbornik (The U.S.S.R. in Figures in 1963, A Short Statistical Compilation)*, Moscow, 1964, p. 95.

Source: TsSU pri Sovete ministroy SSSR, *Narodnoye khozyaystvo SSSR v 1958 godu, statisticheskiy veshchodnik (The National Economy of the U.S.S.R. in 1958, A Statistical Yearbook)*, Moscow, 1957, pp. 114-115; *Set'skoye khozyaystvo SSSR statisticheskiy sbornik (Agriculture of the U.S.S.R., A Statistical Compilation)*, Moscow, 1960, pp. 128-129, 269-267; *Narodnoye khozyaystvo SSSR v 1960 godu, statisticheskiy veshchodnik (The National Economy of the U.S.S.R. in 1960, A Statistical Yearbook)*, Moscow, 1961, pp. 389-391; *Narodnoye khozyaystvo SSSR v 1961 godu, statisticheskiy veshchodnik (The National Economy of the U.S.S.R. in 1961, A Statistical Yearbook)*, Moscow, 1962, pp. 316-317, 332-333; *Narodnoye khozyaystvo SSSR v 1962 godu, statisticheskiy veshchodnik (The National Economy of the U.S.S.R. in 1962, A Statistical Yearbook)*, Moscow, 1963, pp. 252-253, 303-304; and A. Gol'tsov, "Utilization of Labor Resources in Collective Farms," *Nauchnyye doklady vysshey shkoly, Ekonomicheskiye nauki (Scientific Reports of Higher Schools, Economic Sciences)*, No. 1, 1961, pp. 46-47.

TABLE VI-10.—Civilian employment in the United States, by major employment categories, selected years, 1940-64  
 [In thousands; figures are independently rounded and may not add to totals; figures in parentheses are estimated]

Source of information and major employment category <sup>1</sup>	1940	1950	1953	1955	1956	1957	1958	1959	1960 <sup>2</sup>	1961 <sup>2</sup>	1962 <sup>2</sup>	1963 <sup>2</sup>	1964 <sup>2</sup>
Total civilian employment, excluding private household workers <sup>2</sup>	47,433	58,995	63,426	64,324	66,101	66,323	64,377	66,481	67,294	66,856	68,022	68,860	(70,207)
BLS data based on establishment payroll records—wage and salary employment <sup>3</sup>	32,376	45,222	50,232	50,675	52,408	52,894	51,368	53,297	54,203	53,989	55,515	56,043	58,178
Mining.....	925	901	866	792	822	828	751	752	712	672	680	635	636
Contract construction.....	1,234	2,333	2,623	2,802	2,990	2,923	2,773	2,990	2,855	2,816	2,902	2,983	3,105
Manufacturing.....	10,985	15,241	17,549	16,882	17,243	17,174	15,945	16,676	16,796	16,326	16,863	17,045	17,301
Transportation, communications, and public utilities.....	3,038	4,034	4,290	4,141	4,244	4,241	3,976	4,011	4,004	3,903	3,906	3,914	3,974
Wholesale and retail trade.....	6,750	9,386	10,247	10,535	10,558	10,586	10,749	11,127	11,391	11,337	11,568	11,803	12,134
Finance, insurance, and real estate.....	1,502	1,919	2,146	2,335	2,429	2,477	2,519	2,594	2,669	2,731	2,800	2,873	2,945
Services and miscellaneous.....	3,931	5,332	5,867	6,274	6,539	6,749	6,811	7,113	7,392	7,610	7,947	8,230	8,532
Government.....	4,202	6,026	6,645	6,914	7,277	7,616	7,839	8,083	8,353	8,594	8,890	9,199	9,501
BLS-Census data based on household interviews—wage and salary, self-employed, and unpaid family employment <sup>4</sup>	10,060	7,911	6,985	7,254	7,166	6,948	6,449	6,433	6,338	6,125	5,813	5,533	5,355
Agriculture.....	9,540	7,507	6,562	6,730	6,585	6,222	5,844	5,836	5,723	5,463	5,190	4,946	4,761
Unpaid family employment (non-agricultural) <sup>5</sup>	520	404	423	524	581	626	605	597	615	662	623	587	594
NID data—self-employed (nonagricultural) <sup>6</sup>	4,997	5,862	6,209	6,395	6,527	6,581	6,560	6,751	6,733	6,742	6,694	6,674	7 (6,674)

Footnotes on following page.

Census, *Statistical Abstract of the United States, 1960*, 1960, table 263, p. 205. Unpaid family employment (nonagricultural): Unpublished estimate from U.S. Department of Labor, Bureau of Labor Statistics, 1959; U.S. Department of Commerce, Bureau of Economic Analysis, *Annual Report on the Labor Force, 1960*, series P-30, No. 3, March 1961, table 9, p. 26, 1953; *Annual Report on the Labor Force, 1954*, series P-30, No. 6, 30, April 1955, table C-9, p. 49, 1955; *Annual Report on the Labor Force, 1956*, series P-30, No. 67, March 1956, table 12, p. 28, 1956; *Annual Report on the Labor Force, 1957*, series P-30, No. 72, March 1957, table 12, p. 28, 1957; U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report, No. 14*, table C-4, p. A-21, 1961; *Special Labor Force Report, No. 28*, table C-4, p. A-20, 1962; *Special Labor Force Report, No. 43*, table C-4, p. A-18, 1963; *Special Labor Force Report, No. 43*, table C-4, p. A-18, 1964; Bureau of Labor Statistics, *Employment and Earnings*, Annual Supplement Issue, vol. 11, No. 7, January 1965, table A-13, p. 74.

<sup>6</sup> Computed from various national income publications of the U.S. Department of Commerce, Office of Business Economics. The reported number of full-time equivalent employees, by industry, less those for farms, were subtracted from the number of persons engaged in production, by industry, less those for farms. 1940: U.S. Department of Commerce, Office of Business Economics, *National Income, 1940 Edition, A Supplement to the Survey of Current Business, 1954*, table 25, pp. 196 and 197, and table 28, pp. 202 and 203, 1950, 1953, 1955; *U.S. Income and Output, A Supplement to the Survey of Current Business, 1958*, table VI-13, p. 211, and table VI-16, p. 214, 1964-1968; Office of Business Economics, *Survey of Current Business, July 1962*, tables 52 and 55, p. 29, 1959-60; *Survey of Current Business, July 1963*, tables 52 and 55, p. 29, 1961; *Survey of Current Business, July 1964*, tables 52 and 55, pp. 33-34, 1962-63; *Survey of Current Business, July 1965*, tables 52 and 55, pp. 29-30.

<sup>7</sup> Assumed to be the same as in 1963.

<sup>1</sup> BLS refers to the U.S. Department of Labor, Bureau of Labor Statistics; Census refers to the U.S. Department of Commerce, Bureau of Economic Analysis; NID refers to the U.S. Department of Commerce, Office of Business Economics, National Income Division.

<sup>2</sup> Beginning in 1960, all data include Alaska and Hawaii. For 1959, only BLS data based on establishment payroll records include Alaska and Hawaii.

<sup>3</sup> Employment excludes that for private household workers since no employment estimates are available for the U.S.S.R. for domestics, day laborers, etc. Employment estimates for private household workers are reported in the former series of *Annual Reports on the Labor Force* issued by the U.S. Department of Commerce, Bureau of Economic Analysis, and now in the *Special Labor Reports*, prepared by the U.S. Department of Labor, Bureau of Labor Statistics. A similar series for workers in private households is presented in the various National Income editions of the *Survey of Current Business*.

<sup>4</sup> 1961 employment for private household workers was 2,624,000 (U.S. Department of Labor, Bureau of Labor Statistics, *Special Labor Force Report, No. 23*, table C-4, p. A-20). In the National Income series, 1960 employment for full-time and part-time employees in private households is 2,662,000 (U.S. Department of Commerce, Office of Business Economics, *Survey of Current Business, July 1961*, table 53, p. 23). Employment also excludes that for prisoners in the United States; there are no recent employment data for prisoners. In a study of Federal and State prisons by the Bureau of Labor Statistics for fiscal year 1960, it reported 191,776 prisoners, of whom: employed, 83,515; engaged in prison duties, 68,806; attended school, 11,983; sick or otherwise unavailable, 16,519; and idle, 10,980 (U.S. Department of Labor, Bureau of Labor Statistics, *Prison Labor in the United States, 1960*, by Richard F. Tongue, Jr., Bulletin No. 698, 1961, table 5, p. 11). The reported population in Federal and State prisons at the end of 1960 was 213,142 (U.S. Department of Commerce, Bureau of Economic Analysis, *Statistical Abstract of the United States, 1962*, table 246, p. 200).

<sup>4</sup> U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, Annual Supplement Issue, vol. 11, No. 7, January 1965, table B-4, p. 13.

<sup>5</sup> 1940: Agriculture: Figure is reported in U.S. Department of Commerce, Bureau of the



TABLE VI-11.—U.S.S.R. and U.S. employment, by nonagricultural and agricultural sectors, selected years, 1940-64

[Absolute figures in thousands; figures in parentheses are estimated]

Year	U.S.S.R.			United States					
	Total, excluding domestic day laborers, etc.	Nonagricultural sector	Agricultural sector	Constructed series		Household interview series			
				Total, excluding employment in private households	Nonagricultural sector	Agricultural sector	Total, excluding employment in private households	Nonagricultural sector	Agricultural sector
1940	79,019	35,129	43,890	47,433	37,893	9,540	45,320	35,780	9,540
1950	79,598	41,100	38,493	58,996	51,488	7,507	57,902	50,455	7,507
1953	81,942	45,334	36,608	63,426	56,864	6,562	60,231	53,669	6,562
1955	87,476	48,250	39,226	64,324	57,594	6,730	60,978	54,248	6,730
1956	90,313	49,929	40,384	66,101	59,516	6,585	62,620	56,035	6,585
1957	91,512	51,757	39,755	66,323	60,101	6,222	62,683	56,461	6,222
1958	87,900	53,545	39,045	64,377	58,533	5,844	61,510	55,666	5,844
1959	94,352	56,133	38,219	66,481	60,645	5,836	63,061	57,225	5,836
1960	95,692	57,985	37,707	67,294	61,571	5,723	64,192	58,469	5,723
1961	98,274	60,702	37,572	166,856	61,393	5,463	164,202	58,739	5,463
1962	100,051	62,728	37,323	168,022	62,832	5,190	165,221	60,031	5,190
1963	101,048	64,549	36,499	168,850	63,904	4,946	166,226	61,280	4,946
1964	104,000	(N.A.)	(N.A.)	1 (70,207)	(65,446)	4,761	167,736	62,975	4,761

<sup>1</sup> Beginning in 1960, all U.S. data include Alaska and Hawaii. For 1959, only the Bureau of Labor Statistics component data, based on establishment payroll records, include Alaska and Hawaii. (See table VI-10.)

Source: U.S.S.R.: Table VI-2. Nonagricultural and agricultural employment as shown in table VI-2 was adjusted in order to achieve greater comparability for U.S.S.R.-United States comparisons. Employment in U.S.S.R. agriculture for such activities as repair of machinery and equipment, and in industrial and construction activities was transferred to the nonagricultural sector. Detailed numerical adjustments are shown in table VI-12. United States: No adjustments were made to transfer from agricultural employment such farm activities as the repair of machinery and equipment, and logging operations of farmers. A Soviet economist, Ya. Ioffe, contends that U.S. agricultural employment statistics omit women who cook for hired laborers on farms, whereas in the U.S.S.R. employment of cooks in field camps is included. (Ya. Ioffe, "The Level of Labor Productivity in the U.S.S.R. and the U.S.A.," *Plannoye khozyaystvo [Planned Economy]*, No. 8, March 1960, p. 51.) Constructed series: Table VI-10. Household interview series: For all years except 1940, the subtraction of employment in private households from total employment and the nonagricultural sector is based on data given

in the annual reports for this series. The 1940 estimate for employment in private households, 2,200,000, is based on national income data (U.S. Department of Commerce, Office of Business Economics, *National Income, 1954 Edition, A Supplement to the Survey of Current Business*, 1954, table 25, pp. 196 and 197). 1940: Bureau of the Census, *Statistical Abstract of the United States, 1960*, table 263, p. 205. 1950: *Annual Report on the Labor Force, 1950*, Series P-50, No. 31, March 1951, table 9, p. 23. 1953: *Annual Report on the Labor Force, 1953*, Series P-50, No. 39, April 1955, table C-9. 1955: *Annual Report on the Labor Force, 1955*, Series P-50, No. 67, March 1957, table 12, p. 28. 1957-60: U.S. Department of Labor, "Labor Force and Employment in 1960," by Robert L. Stein and Herman Travis, *Special Labor Force Report*, No. 14, table C-4, p. A-21. 1961: "Labor Force and Employment in 1961," by Carol Kalish, Frazier Kellogg, and Matthew Kessler, *Special Labor Force Report*, No. 23, table C-4, p. A-20. 1962: "Labor Force and Employment, 1960-1962," by Jane L. Meredith, *Special Labor Force Report*, No. 31, table C-4, p. A-18. 1963: "Labor Force and Employment in 1963," by Susan S. Holland, *Special Labor Force Report*, No. 43, table C-4, p. A-13. 1964: Bureau of Labor Statistics, *Employment and Earnings*, Annual Supplement Issue, vol. 11, No. 7, January 1965, p. 74.

TABLE VI-12.—Adjustment of U.S.S.R. civilian employment to correspond to U.S. nonagricultural and agricultural sectors, selected years 1940-63  
 [Figures are annual averages and are in thousands; leaders indicate not applicable; NA indicates data not available]

Employment category	1940	1950	1953	1955	1956	1957	1958	1959	1960	1961	1962	1963
Total civilian employment.....	79,019	79,583	81,942	87,476	90,313	91,512	93,790	94,352	95,692	98,274	100,051	101,048
Nonagricultural branches.....	35,129	41,100	45,324	48,250	49,929	51,757	53,845	56,133	57,985	60,702	62,728	64,549
Workers and employees (excluding agricultural establishments and forestry).....	28,216	35,014	39,218	41,884	44,062	45,978	48,043	50,319	54,550	57,645	59,692	61,788
Members of producers' cooperatives.....	2,200	1,500	1,400	1,900	1,200	1,200	1,300	1,400	1,400	1,700	1,700	1,600
Independent artisans.....	604	1,284	2,124	1,104	1,304	1,404	1,504	1,704	1,704	1,704	1,704	1,704
Collective farms.....	3,100	3,000	2,687	2,710	2,834	2,768	2,960	3,019	2,064	1,902	1,873	1,762
Agricultural.....	2,700	2,800	2,400	2,300	2,400	2,800	2,700	2,700	1,600	1,600	1,700	1,600
Nonagricultural i.....	400	400	287	415	434	468	260	319	454	302	173	162
State agricultural establishments.....	780	878	1,189	1,347	1,258	1,289	1,019	869	848	603	600	600
State farms and subsidiary state agricultural establishments.....	200	200	300	200	200	300	300	400	500	600	600	600
Machine tractor stations (repair-technical stations).....	530	678	889	1,147	1,058	989	719	469	348	3		
Forestry.....	279	444	416	389	390	377	367	352	359	378	369	399
Agricultural branches.....	43,800	38,493	36,608	39,226	40,384	39,755	39,945	38,219	37,707	37,572	37,323	36,499
Workers and employees.....	4,006	5,102	5,207	5,895	6,024	7,481	8,330	8,387	10,168	11,659	12,150	NA
State farms and subsidiary state agricultural establishments.....	1,560	2,225	2,262	2,632	2,725	3,661	4,314	4,557	5,824	6,766	7,130	7,274
Agricultural activities not specifically identified.....	407	334	356	260	290	278	362	412	451	469	489	465
Private subsidiary economy.....	2,039	2,543	2,599	3,003	3,009	3,542	3,654	3,418	3,893	4,424	4,531	NA
Collective farms.....	33,694	32,239	31,264	33,147	34,213	32,162	31,515	29,739	27,431	25,850	25,158	NA
Agricultural.....	24,700	24,200	23,100	23,900	24,600	23,000	22,400	21,400	20,100	18,700	18,100	17,600
Nonagricultural i.....	100	100	74	104	108	117	65	80	113	75	43	40
Private subsidiary economy.....	9,134	7,839	8,090	9,143	9,505	9,045	9,050	8,259	7,218	7,075	7,015	NA
Individual peasants.....	5,950	1,152	179	186	167	132	125	92	75	40	31	0
Correction for rounding.....	0	0	-42	-2	-20	-20	-25	+1	+33	+23	-16	-2

<sup>1</sup> 80 percent of all employment in nonagricultural collective farms was allocated to the nonagricultural branches and 20 percent to agricultural branches. Source: Table VI-2.

## CHAPTER VII FEMALE EMPLOYMENT

### INTRODUCTION

One of the most distinctive features of the Soviet economy is the prominent role of women. Women make up not only a majority of the unskilled fieldworkers on collective and state farms, where they perform much the same work as their grandmothers a century ago, but also a majority of the semiprofessionals and professionals who pursue careers in the offices, hospitals, schools, and research laboratories of the country. Women are an integral and essential part of all sectors of the Soviet labor force and can be expected to continue to be major contributors to Soviet economic growth and development in future decades. A number of factors account for this phenomenon.

### CHANGES IN THE SEX RATIO OF THE SOVIET POPULATION

Demographic factors have played, and will continue to play, an important part in determining the role of women in the Soviet economy. War, revolution, and political repression over the past five decades drastically altered the sex ratio in the Soviet Union in favor of women. (See table VII-1). In 1897, when there were 99 males for every 100 females, the ratio was normal. But, by 1926, as a result of World War I and the civil war, there were 5 million fewer males than females, and the ratio was 94. By the census of 1939, the shortage of males had increased to 7 million, and the sex ratio had declined to 92, reflecting the greater adverse impact of collectivization and the political purges on the male population. The most drastic change came with the Second World War which increased the male deficit to an estimated 26 million and reduced the sex ratio to only 74. Improvement in the sex ratio since the end of the war has been gradual, and the 1939 level of 92 is not likely to be regained until 1980.

These imbalances in the sex ratio of the population as a whole are sharply reflected in the 16- to 59-year or "working age" group. (See table VII-2.) In 1946, for example, the female population in the 16 to 59 age group exceeded the male by 20 million or 50 percent. At the time of the 1959 census the excess was still more than 15 million. As a result, demographic pressures compelling the extensive utilization of women in the labor force have continued to be insistent. Thus, the participation of women has remained high, although normally, as a country industrializes and becomes more urban, participation rates would decline.

## HIGH RATES OF FEMALE PARTICIPATION IN THE LABOR FORCE

The relationship between population and employment by 5-year age groups is shown in figure VII-1, which is based upon 1959 census tables. What is most striking is the continuing high rate of participation of Soviet women in the major child-bearing and child-rearing years of 20 to 39. Altogether, 78.8 percent of the able-bodied women (aged 16 to 54) were in the labor force. Even among the overaged women (over 55), 45.8 percent were in the labor force. (See table VII-3.) This high rate for older women is a result of many shifting to the private subsidiary sector of agriculture after withdrawing from employment in the socialized sector of the economy.

What accounts for these high rates of participation? We have already discussed the sex imbalance. Unquestionably economic pressures compelling women to work to make ends meet also play a major role. Their effect is intensified by the shortage of males which has left a large number of women unmarried or widowed, and these women cannot avoid working to support themselves and their dependents. Furthermore, the party and Government have succeeded in altering social custom and public attitudes toward the employment of women. At the present time, few jobs are inaccessible to women, and a woman is likely to feel defensive if she does not work. Also, the Government has provided maternity leaves and benefits and child-care facilities such as nurseries, kindergartens, and summer camps, all of which make it easier for a woman to combine work with family responsibilities. Approximately 12 percent of the children of nursery age and 20 percent of the children of kindergarten age can be accommodated in permanent child-care facilities at the present time. Most of the permanent facilities are to be found in urban centers while seasonal facilities are largely in rural areas. In a major city, such as Moscow, more than two-fifths of the children of nursery and kindergarten age are cared for in permanent child-care facilities, but in most communities there are long lists of children waiting for admittance. For many Russians, a grandmother continues to provide the only available child care.

## FAMILY VERSUS WORK

Although child-care facilities, or grandmothers, lighten the burden of housework for some mothers, the Government has become increasingly concerned about the heavy burden of housework borne by working wives and mothers. The small supply, not only of household aids such as vacuum cleaners and washing machines, which are taken for granted here in the United States, but also of more fundamental services such as hot or even running water, make cleaning, laundering, food preparation, and dishwashing exceedingly onerous and time consuming tasks. Also, shopping under difficult Soviet conditions and in the absence of refrigeration in most households is extremely time consuming. Heavy household burdens, combined with the demands of a career, cause many professional women to have only one or, at most, two children. There seems little doubt that one of the unintended effects of the high proportion of married women working in the Soviet Union is a reduced birth rate.<sup>1</sup> Furthermore, the

<sup>1</sup> Data recently published in *Vestnik statistiki*, No. 1, 1965, p. 96, shows that among the worker and employee socioeconomic group, the birth rate of women working in the 20- to 39-year age group was about a third less than that of women who did not work.

distraction of caring for a husband and children is undoubtedly one of the major factors explaining the lower average level of professional achievement of Soviet women compared to Soviet men.

#### WOMEN'S SHARE IN THE LABOR FORCE

The contribution of women to the Soviet labor force is so extensive because of the combined effect of women substantially outnumbering men in the older age groups of the population and an unusually high rate of participation of women in the labor force in all age groups, including the older. (See fig. VII-2.) The contribution of women is particularly large in the age groups over 35 where, in most 5-year age groups, women account for 55 percent or more of the labor force. These are, of course, the age groups upon which the heaviest responsibilities of economic leadership would normally fall.

An overall view of the share of women in different sectors of the Soviet economy is provided by the 1959 census. Among those in the labor force as a whole (including the armed forces and the private subsidiary economy), women made up 51.9 percent of the total, 50.2 percent of the able-bodied age group, and 67.5 percent of the overaged group. (See table VII-3.) In the civilian labor force the percentages were 53.7, 52.1, and 67.5. Women made up 46.7 percent of the workers and employees and 56.1 percent of the collective farmers, while in private subsidiary agriculture more than 90 percent of the persons employed were women.

Although the number of women collective farmers has declined several million since the 1930's, the 17.4 million women collective farmers remained the largest single group of women employed in the Soviet economy. (See table VII-4.) The bulk of these women were employed in unskilled, nonspecialized agricultural work where they made up two-thirds of the labor force. The number of women workers and employees increased eleven fold from 3.1 to 34.6 million during the 35-year period since 1929 (see table VII-5), and the proportion of women increased from 27 to 49 percent. The largest group among these is women industrial workers, who numbered 11.3 million in 1963, a tenfold increase since 1929. A more detailed breakdown for women employed in all industry is given in table VII-6. The highest percentages of women are to be found in the food, textile, and clothing industries, traditional strongholds of women. Even in the ferrous metallurgical, machine-building, and metalworking industries, however, 30 to 40 percent of the workers and employees are women.

#### RISING QUALITY OF THE FEMALE LABOR FORCE

Although the bulk of Russian women are employed in unskilled or semiskilled jobs, since the Revolution there has been a substantial improvement in the quality of the female labor force. In the 1920's the educational level of working women of all types lagged substantially behind that of men. By 1959 the census showed that illiteracy had been virtually eliminated in the working ages and that the gap between the educational attainment of men and women had been substantially closed. (See table VII-7.) However, female collective farmers continued to lag far behind the males in educational

attainment. The gap also remains substantial between male and female workers with a secondary specialized or higher education. In addition, among those with less than 4 years of schooling, a group still large in Russia, there are almost three times as many women as men.

Of particular interest in the light of its importance to Soviet science and technology is the proportion of "candidate" and "doctoral" degrees which have been earned by women. In 1961 women earned 29 percent of the former and 11 percent of the latter. (See table VII-8.) Over the past decade the increase in the percentage of doctoral degrees is particularly impressive.

#### TRAINING OF WOMEN PROFESSIONALS

The improvement in the educational level of women has been achieved through the expansion in the enrollment of women at all levels of education. In secondary specialized educational institutions, enrollment increased more than sixfold, from 72,000 in 1927 to 448,000 in 1940. (See table VII-9.) Since 1940 the enrollment has more than doubled, reaching 985,000 in 1963. The growth in enrollment in higher education has been equally impressive, rising almost sevenfold from 48,000 in 1927 to 330,000 in 1940. (See table VII-10.) Between 1940 and 1963, enrollment increased almost two and a half times, reaching 784,000 in 1963. The proportion of women in secondary educational institutions rose from 37.6 percent in 1927 to 54.6 percent in 1940. However, after reaching a wartime peak of almost 70 percent in 1945, the percentage of women has declined to a level between 46 and 49 percent in recent years. In higher education the proportion of women increased from 28.5 percent in 1927 to 58 percent in 1940. From a wartime peak of 77 percent in 1945 the proportion of women enrolled has declined to a level between 42 and 43 percent in recent years. The present level of female enrollment is, therefore, some 10 percentage points below the level which would be expected from the proportion of males and females in the college-age population. A careful reading of the admissions regulations of recent years shows that they favor applicants with military service or work experience and, as a result, intentionally or unintentionally, tend to discriminate against women.

From the start of the industrialization drive in the late 1920's, the proportion of women enrolled in secondary specialized and higher educational institutions has increased substantially. The highest proportions by far are in the fields of health and education, fields which have been popular with women for years. The biggest increases in the proportion enrolled were made in the industrial (engineering) field where women now make up approximately one-third of the enrollment in secondary specialized institutions, and in agricultural sciences where they make up almost two-thirds of the enrollment. In higher educational institutions the rate of increase was rapid in the latter two fields and also in the socioeconomic field. Comprehensive data have not been published on the proportion of women in higher education enrolled in the various science fields, but such information as is available suggests that, among the sciences, women make up substantially more than half of the students enrolled in biology and chemistry, the most popular science fields for women.

At the graduate level, the proportion of women students is smaller, and they now make up about one-fourth of the enrollment. (See table VII-11.) A sampling of advanced degrees awarded in the 1962-64 period shows a heavy concentration in the fields of science and technology. Approximately 77 percent of both candidate and doctoral degrees were awarded in these two areas. The sample (over 9,000 candidate degrees) indicated that women received 28 percent of the candidate degrees granted in all fields. The highest percentages among the sciences were in the fields of biology (53 percent), medicine (47 percent), and chemistry (38 percent). The lowest percentages were in physics and mathematics (17 percent) and the technical sciences (12 percent). Of the doctoral degrees sampled (almost 900) during the same period, women received 21 percent. The distribution among science fields followed roughly the same pattern as that for candidate degrees.

#### A MAJORITY OF PROFESSIONALS ARE WOMEN

Perhaps the most distinctive and certainly the most appealing feature of the utilization of women in the Soviet labor force is their heavy representation in white-collar occupations and in the professions. Today women comprise more than half the labor force employed in what the Soviets classify as "mental" work. About half of the 11 million women in this category have a secondary specialized or higher education. The proportion of women among specialists with a secondary specialized education is large, amounting to 62 percent in 1963. (See table VII-12.) Among professionals with a higher education, the proportion is 52 percent. (See table VII-13.) Thus, women form a clear majority of the professional and semi-professional labor force in the Soviet Union. Among specialists with a secondary specialized education, women dominate the fields of medicine, schoolteaching and the category "statisticians, planners, and commodity specialists." Among women professionals with a higher education, women form a majority of physicians, teachers at higher levels, and the category "economists, economist-statisticians, and commodity specialists." The smallest proportion of women is in engineering, but even here women make up 31 percent of the total.

#### IMPORTANCE OF WOMEN SCIENTIFIC WORKERS

The number of women scientific workers of all types has increased rapidly and has grown fourfold since 1947 to a total of 219,000 in 1964. (See table VII-14.) Those of a sufficient rank to possess academic titles have increased in number at a slower pace and now comprise a fifth of the total (see table VII-15.) Women are well represented in higher educational institutions (see table VII-16) and in scientific research institutions (see table VII-17.) In the former women made up approximately a third of the professional staffs in 1960 while in the latter almost two-fifths. The proportion of women professionals employed in higher educational institutions was nearly the same in 1947, the only time that data showing the proportion of women in the various academic fields were published. The pattern shown by these figures is probably much the same today. In 1947 women made up two-thirds of the teachers of literature; almost half

those in the fields of medicine, biology, and chemistry, and two-fifths of those in education. Again, the strikingly high proportion of women in medicine and certain science fields is evident. The proportions in history, geography, geology, and agriculture were between 20 and 30 percent. In the combined field of physics and mathematics approximately a fifth of the staff were women. The proportions in economics and law were still lower. The smallest proportion was in the technical sciences where women made up only a tenth of the staff.

#### ADVANCEMENT OF WOMEN

Although women are well represented in all the major professions in the Soviet Union, including the fields of science and technology, the prospects for a woman's professional advancement are less favorable than those of a man. The smaller proportion of women in the higher professional ranks is clearly shown in tables VII-15, 16, and 17. For example, table VII-15 shows the diminishing proportion of women as one ascends the ranks in higher educational institutions. Women make up 41 percent of assistant professors and instructors of lower rank, 24 percent of associate professors, and 11 percent of full professors. In academic administration, women make up 12 percent of the department heads, 9 percent of the deans, and 5 percent of the directors of higher educational institutions and their deputies. Even in fields which women dominate, such as elementary and secondary school teaching, the proportion of women declines as the level of grade and administrative responsibility increases. (See table VII-18.) It is clear that in all fields women are not so well represented in the more responsible positions as they should be. Far too many become lodged at intermediate levels of achievement.

The reasons why more women are not found in the higher ranks are complex. Unquestionably women are more distracted from their professional activities than men by family responsibilities. Despite smaller families and increased child-care facilities, the conflict between career and family is a real problem for many professional women. Furthermore, the competition for higher level positions is intense, and men are better able and seem more inclined to persist in the struggle for advancement. Discrimination against women, perforce covert, does not appear to be so important a factor.

For complex reasons "set forth" at length in the monograph from which this discussion is drawn, the Soviets have not utilized their women as effectively as they might in the more responsible positions. Nevertheless, it is evident from this brief survey that the potential of the younger generation of women has been realized to a remarkable degree in the Soviet Union. In the fields of science and technology in particular, talents which are wasted in the United States and other Western nations, are developed and put to use, contributing not only to women's own development but to the development of the economy as well.



The tables which follow have been selected from a monograph, *Women in the Soviet Economy; Their Role in Economic, Scientific, and Technical Development*, prepared for the Office of Economic and Manpower Studies of the National Science Foundation. Much fuller treatment of all aspects of the role of women in the Soviet economy, particularly in science and technology, may be found in this monograph, which will soon be published by the National Science Foundation as a book.

TABLE VII-1.—Males per 100 females in the population of Russia and the Soviet Union, selected years, 1897-1980

Age	1897	1926	1939	1946	1950	1959	1970	1980
All ages.....	98.9	93.5	91.9	74.3	76.2	81.9	87.3	91.7
Under 16 years.....	100.1	101.2	101.3	99.5	100.8	103.6	105.1	105.6
16 to 34 years.....	96.9	89.8	96.1	72.0	79.5	93.8	101.0	103.7
35 to 59 years.....	100.7	90.4	80.1	59.1	59.1	60.6	75.1	87.7
60 years and over.....	95.5	78.8	66.1	51.9	49.7	50.8	49.0	49.5

Source: 1897—Tsentral'nyi statisticheskii komitet, *Obshchii svod po Imperii rezul'tatov razrabotki dannykh pervoi vseobshchei perepisi naseleniia*, vol. 1, St. Petersburg, 1905, pp. 56-8; 1926—Tsentral'noe Statisticheskoe upravlenie, *Vsesoiuznaia perepisi naseleniia 1926 goda*, vol. XVII, Moscow, 1929, pp. 46-8; 1939—Michael K. Roof, unpublished working paper, Library of Congress, 1964; 1946—Estimate obtained by "reviving" the 1950 population to 1946; 1950—James W. Brackett, "Demographic trends and population policy in the Soviet Union," *Dimensions of Soviet Economic Power*, Joint Economic Committee of the U.S. Congress, Washington, 1962, pp. 564-5; 1959—Based on distribution appearing in Tsentral'noe Statisticheskoe upravlenie pri Sovete ministrov SSSR, *Itogi vsesoiuznoi perepisi naseleniia 1959 goda*: SSSR, Moscow, 1961, p. 52 and other official sources; 1970 and 1980—U.S. Department of Commerce, Bureau of the Census, Foreign Demographic Analysis Division, *Estimates and Projections of the Population of the U.S.S.R. and of the Communist Countries of Eastern Europe, by Age and Sex*, Washington, 1964.

TABLE VII-2.—Population of "working age" in Russia and the Soviet Union, selected years, 1897-1980

[In thousands]

Year	Population 16 to 59 years			Excess of female population	Percentage female
	Both sexes	Male	Female		
1897.....	66,056	32,772	33,828	1,051	51.2
1926.....	78,813	37,334	41,479	4,145	52.6
1939.....	94,265	44,482	49,783	5,301	52.8
1946.....	100,928	40,102	60,826	20,724	60.3
1950.....	106,710	43,820	62,890	19,070	58.9
1959.....	125,615	55,089	70,526	15,437	56.1
1970.....	139,496	64,979	74,517	9,538	53.4
1980.....	164,023	80,104	83,919	3,815	51.2

Source: See sources for Table VII-1 above.

TABLE VII-3.—Percentage of females in the population of the U.S.S.R. by socio-economic category and age group, Jan. 15, 1959

[Leaders indicate negligible or nonexistent]

	All ages		Under-aged		Able-bodied age		Over-aged	
	Per-centage of women	Per-centage distri-bution	Per-centage of women	Per-centage distri-bution	Per-centage of women	Per-centage distri-bution	Per-centage of women	Per-centage distri-bution
Total population.....	55.0	100.0	49.1	100.0	54.0	100.0	74.0	100.0
Total labor force.....	51.9	49.3	48.0	.8	50.2	78.8	67.5	28.3
Armed forces.....	.....	.....	.....	.....	.....	.....	.....	.....
Civilian labor force.....	53.7	49.3	48.0	.8	52.1	75.8	67.5	28.3
Socialized sector.....	49.9	41.4	47.9	.8	49.7	68.3	52.6	16.2
Workers and employees.....	46.7	25.6	46.3	.2	46.7	43.9	45.5	5.0
Nonagricultural branches.....	47.3	28.2	50.8	.1	47.4	39.9	45.8	4.8
Agricultural branches.....	41.0	2.4	42.2	.1	40.9	3.9	45.6	.7
Collective farmers.....	50.1	15.8	48.4	.6	56.2	24.4	56.5	11.3
Nonagricultural branches.....	21.5	.1	.....	.....	21.5	.2	.....	.....
Agricultural branches.....	56.7	15.7	48.4	.6	56.9	24.2	56.5	11.3
Private independent sector.....	38.0	.....	71.4	.....	32.4	.....	58.9	.2
Independent artisans.....	24.1	.....	.....	.....	23.1	.....	33.3	.....
Individual peasants.....	66.2	.....	71.4	.....	62.0	.....	68.3	.....
Private agricultural subsidiary sector.....	90.7	7.8	.....	.....	95.8	7.4	85.5	27.9
Members of families of workers and employees.....	84.4	3.1	.....	.....	93.7	4.9	45.8	2.0
Members of families of collective farmers.....	95.4	4.7	.....	.....	100.0	2.6	93.5	19.9
Population outside the labor force.....	58.3	50.7	49.1	99.2	71.1	24.2	78.7	61.7
Dependents.....	61.4	43.9	49.1	99.2	89.2	17.7	93.1	30.9
Able-bodied students.....	.....	.....	.....	.....	66.7	3.4	.....	.....
Stipendiaries.....	45.1	.7	.....	.....	45.1	1.2	.....	.....
Pensioners.....	55.1	6.0	.....	.....	28.4	1.8	68.2	30.1
Other.....	69.9	.1	.....	.....	100.0	.1	62.1	.7

Source: Based on table V-A-1, *Annual Economic Indicators for the U.S.S.R.*, Joint Economic Committee of the U.S. Congress, Washington, 1964, pp. 44-45. Underaged comprise both males and females 12 to 15 years of age. The able-bodied group includes males 16 to 59 years of age and females 16 to 54 years of age. The overaged group relates to males 60 years of age and over and females 55 years of age and over.

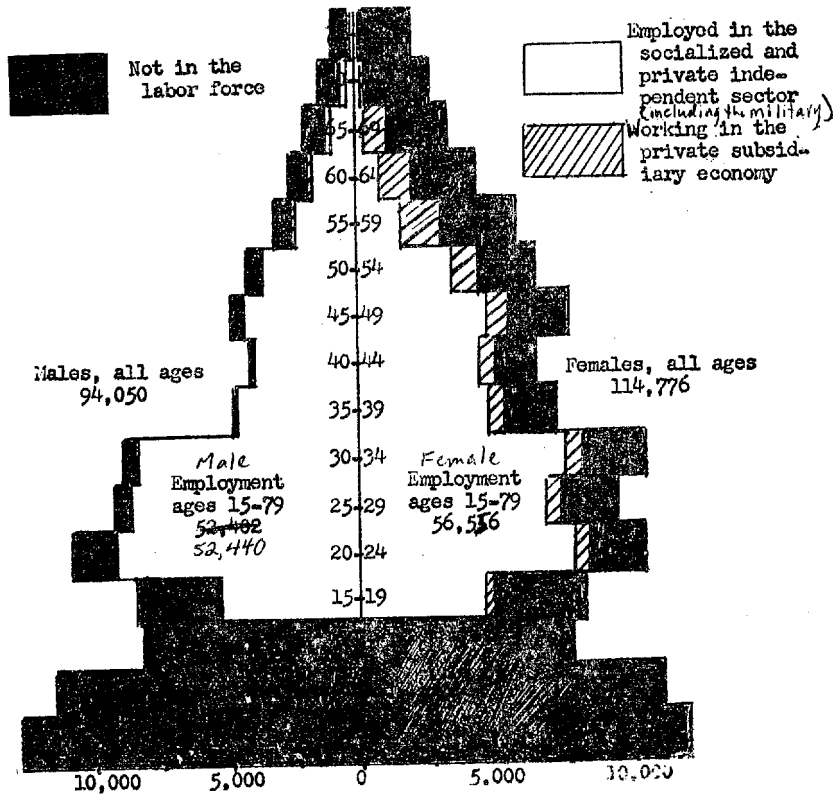
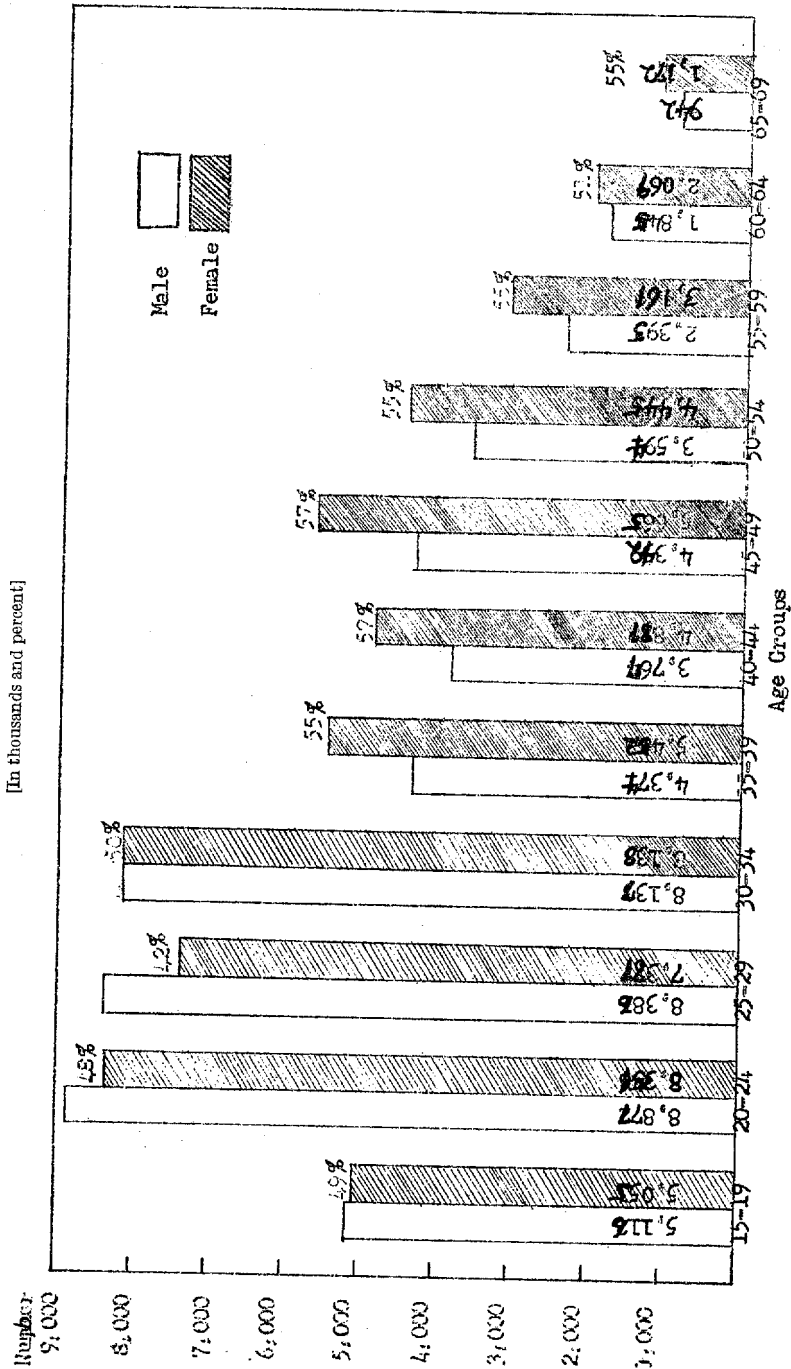


FIGURE VII-1.—U.S.S.R. population and employment pyramids in 1959  
 [In thousands by 5-year age groups]

	Age groups							
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39
Male population	12,147	11,191	7,941	8,125	10,056	8,917	8,611	4,528
Male employment				5,116	8,877	8,386	8,138	4,375
Participation rate (percent)				63	88	94	95	97
Female population	11,906	10,848	7,649	8,093	10,287	9,273	10,388	7,082
Female employment				5,055	8,351	7,881	8,138	5,452
Participation rate (percent)				63	81	80	78	77
	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79
Male population	3,998	4,708	4,010	2,905	2,348	1,751	1,226	797
Male employment	3,784	4,342	3,594	2,395	1,845	942	454	209
Participation rate (percent)	94	92	90	82	79	54	37	26
Female population	6,410	7,558	6,437	5,793	4,349	3,289	2,631	1,973
Female employment	4,881	5,865	4,445	3,161	2,069	1,172	552	234
Participation rate (percent)	76	75	69	55	48	35	21	12

Source: Population pyramid: The five-year age groups from 20 to 69 years of age come directly from *Itogi \* \* \* 1959 goda S.S.S.R., op. cit.*, p. 70. The division of each of the 0- to 9-, 10- to 19-, and 70- to 79-year age groups into two 5-year age groups was done on the basis of proportions calculated from Brackett, *op. cit.*, pp. 555-559. Employment pyramid: This was estimated from census data, *Itogi \* \* \* 1959: S.S.S.R., op. cit.*, pp. 132-145 and 161-170, giving the age distribution by sex of the population employed in the socialized and private independent sector, including those in the military, and pp. 96-99, giving data on employment in the private subsidiary sector by sex and broad age groups. A detailed explanation of how the estimates were made may be found in Norton T. Dodge, *Women in the Soviet Economy: Their Role in Economic, Scientific and Technical Development*, app. III, an unpublished monograph prepared for the National Science Foundation.

FIGURE VII-2.—Age distribution of the male and female labor force aged 15 to 59 in 1959  
[In thousands and percent]



Sourced: Figure 2 above.

TABLE VII-4.—*Distribution and percentage of women collective farmers employed primarily in physical labor in agriculture, by occupation, Jan. 15, 1959*

Occupation	Number		Percentage female
	Total	Female	
Total employed in physical labor.....	28,728,425	17,420,143	60.1
Administrative and supervisory personnel:			
Heads of livestock and poultry sub-farms.....	134,983	20,227	15.0
Brigadiers of field brigades.....	232,772	19,295	8.3
Brigadiers of livestock brigades.....	31,697	4,043	12.8
Other brigadiers.....	195,940	10,256	5.2
Skilled workers and junior supervisory personnel:			
Bookkeepers.....	23,443	4,363	18.6
Tractor and combine drivers.....	1,259,261	9,571	.8
Implement handlers and workers on agricultural machinery.....	124,751	1,774	1.4
Field-team leaders.....	149,666	130,664	87.3
Specialized agricultural workers:			
Workers in plant breeding and feed production.....	524,606	274,167	71.3
Cattle farm workers.....	701,449	423,786	60.4
Milkling personnel.....	1,150,363	1,136,923	98.6
Stablemen and grooms.....	716,017	50,708	7.1
Swineherds.....	420,541	381,145	90.6
Herdsman, drovers, and shepherds.....	550,657	96,356	17.5
Other livestock workers.....	113,874	23,920	21.0
Poultry workers.....	116,567	103,886	89.4
Beekeepers.....	62,603	9,497	15.2
Orchard and vineyard workers.....	50,854	20,887	41.1
Vegetable and melon growers.....	56,539	45,546	80.6
Irrigators.....	7,975	861	10.8
Nonspecialized agricultural workers.....	21,991,868	14,523,173	66.0

Source: *Itogi \* \* \* 1959 goda; SSSR, op. cit.*, pp. 159-160.

TABLE VII-5.—Number and percentage of women workers and employees, by branch of the economy, selected years, 1929-62

[Absolute numbers are in thousands; leaders indicate data not available and no estimate made; figures in parentheses are estimated]

	1929		1930		1931		1932		1933		1934		1935	
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent
Total national economy.....	3, 118	27.0	3, 877	26.7	4, 197	26.9	6, 007	27.4	6, 720	30.0	7, 204	31.7	7, 964	33.4
Industry.....	1, 109	28.0	1, 236	29.0	1, 440	29.3	2, 043	32.2	2, 410	31.0	2, 274	35.6	2, 624	38.5
Large-scale industry.....	64	7.0	156	9.6	189	10.1	380	12.8	291	16.0	454	38.7	450	19.7
Construction.....	416	28.0	425	27.4	421	23.1	394	21.3	629	26.0	605	23.4	672	27.0
State farms and subsidiary agricultural enterprises.....	155	11.0	146	9.7	173	10.2	243	11.6	374	17.0	358	15.1	427	17.8
MTS and ETS.....	122	9.0	119	7.7	133	7.8	176	9.0	276	14.0	276	14.0	358	17.8
Transport and communications.....	33	28.0	33	28.0	33	28.0	33	28.0	33	28.0	33	28.0	33	28.0
Communications.....	133	19.0	279	28.0	405	34.6	675	38.9	884	41.0	766	40.0	820	39.0
Trade, public dining, procurement, material-technical supply.....	16	16.0	179	42.0	179	42.0	179	42.0	179	42.0	179	42.0	179	42.0
Trade.....	46	46.0	107	55.5	107	55.5	107	55.5	107	55.5	107	55.5	107	55.5
Public dining.....	283	65.0	320	67.1	338	69.0	426	70.2	498	71.0	466	72.2	541	71.2
Education, science, and scientific services.....	449	54.0	492	52.3	514	50.4	692	53.6	866	56.0	839	56.6	941	56.6
Education.....	255	19.0	332	22.6	373	24.1	475	25.8	470	29.0	499	29.4	522	31.1
Science and scientific services.....	255	19.0	332	22.6	373	24.1	475	25.8	470	29.0	499	29.4	522	31.1
Government and social institutions, credit and insurance.....	284	31.0	301	30.0	324	31.0	379	21.0	385	14.0	383	27.0	467	27.0
Government and social institutions, credit and insurance.....	284	31.0	301	30.0	324	31.0	379	21.0	385	14.0	383	27.0	467	27.0
Credit and insurance.....														
Other branches.....														
	8, 492	34.0	9, 357	35.4	11, 978	38.0	15, 076	55.0	18, 397	47.0	120, 300	48.0	121, 674	45.0
Total national economy.....	8, 492	34.0	9, 357	35.4	11, 978	38.0	15, 076	55.0	18, 397	47.0	120, 300	48.0	121, 674	45.0
Industry.....	2, 908	38.8	3, 298	39.8	4, 496	41.0	6, 840	51.0	6, 421	45.0	7, 156	46.0	7, 815	45.0
Large-scale industry.....	402	19.1	498	20.6	593	34.0	1, 310	31.0	1, 163	33.0	1, 068	34.0	1, 303	31.0
Construction.....	628	26.4	645	25.7	671	11.0	1, 144	38.0	1, 168	16.0	1, 089	43.0	1, 276	46.0
State farms and subsidiary agricultural enterprises.....	155	11.0	146	9.7	173	10.2	243	11.6	374	17.0	358	15.1	427	17.8
MTS and ETS.....	122	9.0	119	7.7	133	7.8	176	9.0	276	14.0	276	14.0	358	17.8
Transport and communications.....	446	17.5	477	18.3	502	21.0	526	20.0	538	29.0	538	29.0	538	29.0
Communications.....	446	17.5	477	18.3	502	21.0	526	20.0	538	29.0	538	29.0	538	29.0
Trade, public dining, procurement, material-technical supply.....	781	37.0	876	36.0	1, 463	44.0	1, 686	69.0	1, 922	58.0	2, 097	60.0	2, 409	64.0
Trade, public dining, procurement, material-technical supply.....	781	37.0	876	36.0	1, 463	44.0	1, 686	69.0	1, 922	58.0	2, 097	60.0	2, 409	64.0

	1956 <sup>1</sup>		1958 <sup>2</sup>		1960 <sup>3</sup>		1961 <sup>4</sup>		1962 <sup>5</sup>		1963 <sup>6</sup>		1964 <sup>7</sup>	
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent
Trade	530	31.8	640	34.0	(965)	\$ 88.0	1,206	85.0	1,729	\$ 52.0	(1,892)	85.0	(1,699)	53.0
Public dining	261	63.2	236	62.2	(525)	\$ 87.0	1,206	85.0	1,729	\$ 52.0	(1,892)	85.0	(1,699)	53.0
Public health	643	72.0	725	72.4	1,142	76.0	1,684	73.0	2,579	84.0	(2,909)	(64.0)	(2,263)	83.0
Education	1,076	55.9	1,252	56.6	1,748	58.0	1,684	73.0	2,579	64.0	(2,453)	(68.0)	(3,116)	68.0
Science and scientific services														
Government and social institutions, credit and insurance institutions														
Government and social institutions	540	30.5	580	31.0	728	35.0	1,079	59.0	945	45.0	(959)	(47.0)	(797)	49.0
Credit and insurance	0	0	0	0	0	0	0	0	0	0	(155)	59.0	0	0
Other branches <sup>8</sup>	(1,068)	(28.0)	(1,116)	(42.0)	(460)	(18.0)	(841)	(44.0)	(1,125)	(35.0)	(1,643)	(41.0)	(872)	(24.0)
Total national economy	122,891	45.0	25,610	\$ 47.0	29,300	47.0	31,609	48.0	(33,057)	48.0	(34,557)	49.0	(35,868)	49.0
Industry	(8,306)	45.0	8,814	45.0	10,140	45.0	10,681	45.0	(10,934)	46.0	(11,276)	45.0		45.0
Large-scale industry	(1,064)	31.0	1,335	30.0	1,590	29.0	1,544	29.0	(1,494)	29.0	(1,519)	29.0		29.0
Construction	(1,288)	43.0	1,906	41.0	2,768	43.0	3,170	43.0	(3,234)	43.0	(3,386)	43.0		43.0
State farms and subsidiary agricultural enterprises	(202)	7.0	106	\$ 9.0	34	10.0	34	10.0						
MTS and RTS	(1,940)	33.0	1,945	(31.0)	2,055	(29.0)	2,137	(29.0)	(2,301)	(31.0)	(2,271)	29.0		29.0
Transport and communications			1,525	27.0	1,580	25.0	1,630	25.0	(1,669)	25.0	(1,710)	25.0		25.0
Transport			420	63.0	475	64.0	507	64.0	(532)	64.0	(561)	64.0		64.0
Communications														
Trade, public dining, procurement, material-technical supply	(2,515)	(64.0)	2,790	67.0	3,100	69.0	3,532	70.0	(3,730)	71.0	(4,006)	73.0		73.0
Trade	(1,775)	59.0	(1,984)	61.0	2,290	61.0	2,532	61.0	(2,730)	61.0	(2,974)	61.0		61.0
Public dining	(740)	83.0	(806)	84.0	910	84.0	1,000	84.0	(1,064)	84.0	(1,132)	84.0		84.0
Public health	(2,365)	85.0	2,613	85.0	2,952	85.0	3,151	86.0	(3,283)	86.0	(3,382)	86.0		86.0
Education	(3,188)	67.0	3,607	65.0	4,082	62.0	4,438	62.0	(4,839)	67.0	(5,128)	62.0		62.0
Science and scientific services			(3,021)	69.0	3,607	65.0	4,082	62.0	(4,839)	67.0	(5,128)	62.0		62.0
Government and social institutions, credit and insurance institutions			(3,021)	69.0	3,607	65.0	4,082	62.0	(4,839)	67.0	(5,128)	62.0		62.0
Government and social institutions	(804)	50.0	803	52.0	811	54.0	854	54.0	(879)	(55.0)	(895)	56.0		56.0
Credit and insurance			(804)	49.0	(803)	49.0	(803)	49.0	(803)	49.0	(803)	49.0		49.0
Other branches <sup>11</sup>	(1,046)	(27.0)	(1,691)	(44.0)	(1,535)	(37.0)	(2,102)	(42.0)	(1,985)	69.0	(2,024)	70.0		70.0

<sup>1</sup> Zhenskikh i deti v SSSR, Moscow, 1953, pp. 100, 102-104. Annual average employment estimates.  
<sup>2</sup> Zhenskikh i deti v SSSR, Moscow, 1961, pp. 122-124. Annual average employment estimates.  
<sup>3</sup> Zhenskikh i deti v SSSR, Moscow, 1963, pp. 459 and 453-454. Annual average employment estimates. The corrected total is from *Vestnik statistiki*, No. 2, 1964, p. 91.  
<sup>4</sup> Narodnoe khozaystvo SSSR v 1963 godu, Moscow, 1965, pp. 475-476 and 1480.  
<sup>5</sup> Zhenskikh i deti v SSSR, Moscow, 1960, p. 92.  
<sup>6</sup> Zhenskikh i deti v SSSR, Moscow, 1965, p. 92.  
<sup>7</sup> Narodnoe khozaystvo SSSR v 1965 godu, Moscow, 1966, p. 594.  
<sup>8</sup> Residual (total female employment minus reported or estimated employment in the sub-branches of the national economy in each column).  
<sup>9</sup> TS UNIKU Gosplana SSSR, *Statisticheskiy spravochnik*, Moscow, 1956, pp. 25 and 360.

TABLE VII-6.—Percentage of women wage workers by branch of industry, selected years, 1913-62  
 [Leaders (.....) indicate data not available]

Branch	Jan. 1, 1929 <sup>1</sup>	1930 <sup>1</sup>	Jan. 1, 1932 <sup>2</sup>	July 1, 1932 <sup>3</sup>	Jan. 1, 1933 <sup>3</sup>	October 1934 <sup>6</sup>	July 1, 1935 <sup>1</sup>	July 1, 1936 <sup>6</sup>	July 1, 1937 <sup>1</sup>	July 1, 1938 <sup>1</sup>	Nov. 1, 1939 <sup>2</sup>	Nov. 1, 1940 <sup>1</sup>	May 5, 1950 <sup>4</sup>	Jan. 1, 1959 <sup>7</sup>	Jan. 1, 1960 <sup>8</sup>	Jan. 1, 1962 <sup>4</sup>
In all industry.....	28.8	28.8	32.9	35.1	35.5	39.5	40.1	41.6	42.1	43.4	42.9	44.2	44.0	44.0	45.6	
Iron and metallurgy.....	7.1	.....	18.7	.....	21.8	22.9	23.2	24.1	23.9	24.9	25.2	31.0	29.5	29.4	29.4	
Technical.....	.....	.....	17.7	.....	26.6	.....	.....	8.7	.....	15.4	31.5	39.4	39.4	38.1	38.1	
Oil refining.....	.....	.....	4.4	.....	9.6	.....	8.4	8.7	16.8	20.0	22.8	30.5	29.4	29.4	28.8	
Oil extraction.....	.....	.....	11.0	.....	21.9	.....	17.4	16.1	16.8	20.0	22.8	30.5	29.4	29.4	28.8	
Electric power stations.....	8.8	12.2	20.7	21.4	22.8	25.8	26.9	26.1	29.7	31.7	31.5	40.0	39.3	38.9	38.9	
Machine-building and metalworking.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Agricultural machine-building.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Locomotive and car building.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Electrotechnical.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Automator.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Production and other.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Metallic wares.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Mineral extraction and processing.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Coal.....	7.7	9.6	14.6	16.5	17.5	24.0	23.6	24.5	24.5	24.5	24.8	.....	.....	.....	.....	
Peat extraction.....	.....	.....	.....	45.1	.....	45.5	50.1	48.4	48.9	48.9	48.9	.....	.....	.....	.....	
Iron ore.....	6.3	.....	.....	20.7	.....	23.0	118.5	19.7	21.9	23.0	.....	.....	.....	.....	.....	
Chemical and fuel refining.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Chemical.....	57.4	35.5	38.2	36.7	38.9	61.3	41.6	36.3	60.2	62.4	41.3	.....	.....	.....	.....	
Rubber-asbestos.....	.....	.....	.....	63.7	.....	56.9	62.0	61.6	62.4	62.4	.....	.....	.....	.....	.....	
Rubber.....	.....	.....	.....	63.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Cement.....	.....	.....	.....	21.9	.....	.....	30.7	27.7	.....	.....	28.6	.....	37.0	36.1	36.3	
Glass.....	.....	.....	.....	34.0	.....	.....	.....	46.1	.....	.....	49.8	.....	.....	.....	.....	
China-ware.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Woodworking.....	18.3	23.4	29.6	32.5	32.0	39.0	39.0	40.9	44.2	43.9	43.9	.....	.....	.....	.....	
Sawn wood.....	54.6	.....	.....	58.7	.....	64.4	163.5	63.5	61.6	64.6	64.6	.....	.....	.....	.....	
Match.....	.....	.....	.....	28.9	.....	40.3	41.1	44.4	44.5	49.4	49.2	.....	.....	.....	.....	
Paper.....	27.5	64.3	69.1	70.1	69.9	72.2	72.2	72.2	44.6	44.5	49.4	75.5	76.2	76.2	76.6	
Textile and clothing.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Textile.....	61.5	63.7	67.3	69.0	66.9	71.2	70.0	69.8	67.4	68.5	69.2	.....	.....	.....	.....	
Cotton textile.....	50.3	52.2	58.1	58.9	59.9	63.2	63.1	64.9	63.6	63.8	63.8	.....	.....	.....	.....	
Wool.....	.....	.....	.....	.....	.....	69.5	71.3	70.1	68.5	68.5	68.5	.....	.....	.....	.....	
Flax.....	63.2	.....	.....	69.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	



Knitted wear.....	82.6	84.9	85.1	85.4	85.5	85.5	83.8	85.3	82.0
Hemp and jute.....	68.9	84.3	84.3	82.4	82.4	82.4	83.8	85.3	82.0
Clothing (sewn goods).....	80.1	82.5	1 81.9	82.4	82.4	82.4	83.8	85.3	82.0
Leather and fur.....	41.3	55.7	1 55.7	58.4	57.2	58.2	64.3	64.5	62.6
Shoe.....	51.3	56.5	1 57.1	57.9	57.4	57.4	65.2	66.1	64.1
Food.....	32.8	44.9	45.5	46.8	47.2	47.2	53.1	53.8	54.4
Breadbaking.....	28.3	48.4	47.8	48.5	55.5	55.5	68.5	69.1	70.6
Candy.....	53.8	64.0	65.9	64.1	68.6	66.7	70.5	70.2	69.8
Meat.....	23.8	40.6	40.6	41.0	47.8	47.8	53.1	53.8	54.4
Flour mill and grain cracking.....	15.8	28.1	28.2	28.7	34.1	34.1	34.1	34.1	34.1
Tobacco-makhorka.....	57.3	63.2	63.2	64.2	66.1	66.1	66.1	66.1	66.1
Canning.....	40.9	57.6	54.0	57.2	55.5	57.8	57.8	57.8	57.8
Printing.....	22.6	57.6	54.0	57.2	55.5	57.8	57.8	57.8	57.8

SOURCES

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 7 *Zhenshchina v SSSR*, Moscow, 1960, pp. 37-38.  
 8 *Zhenshchiny i deti v SSSR*, Moscow, 1961, pp. 126-127.  
 9 *Nauchno-issledovatel'skii institut truda Gosudarstvennogo Komiteta Soveta ministrov SSSR po voprosam truda i zarabotnoi platy, Prudovye resursy SSSR (Problemy raspredeleniia i spoz'ozvaniia)*, edited by N. I. Susukhin, Moscow, 1961, pp. 136-137.

TABLE VII-7.—Level of education of the employed population, by socioeconomic group and sex, in 1969

[Number per thousand]

	Higher, incomplete higher, secondary specialized education		General secondary education		Incomplete secondary education		Primary and incomplete secondary education		Less than 4-year education	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Urban and rural population:										
All social groups.....	103	116	60	68	271	247	386	272	180	267
Workers.....	23	16	56	63	314	298	459	353	148	270
Employees.....	508	476	124	161	227	284	121	60	20	10
Collective farmers.....	14	6	29	18	218	174	413	308	326	494
Urban population:										
All social groups.....	153	184	82	109	302	304	362	243	101	160
Workers.....	27	19	67	76	336	318	449	350	121	237
Employees.....	533	459	129	169	210	290	110	71	18	11
Collective farmers.....	28	10	88	23	221	160	420	292	293	515
Rural population:										
All social groups.....	56	60	40	34	241	200	408	295	255	411
Workers.....	14	9	36	34	270	253	480	361	200	343
Employees.....	450	523	113	139	265	265	146	64	26	8
Collective farmers.....	13	6	29	18	218	174	412	309	328	493

Source: *Itogi \* \* \* 1969 goda, S.S.S.R., op. cit.*, p. 115.

TABLE VII-8.—Women holding doctoral and candidate degrees in 1950 and 1959-61

Academic degree	Oct. 1—			
	1950	1959	1960	1961
Doctoral degree:				
Total number.....	8,277	10,530	11,945	11,300
Number of women.....	600	1,100	1,100	1,200
Percent women.....	7	10	9	11
Candidate degree:				
Total number.....	45,530	93,999	98,262	102,500
Number of women.....	11,400	27,200	28,800	29,700
Percent women.....	25	29	29	29

Sources: *Zhenshchiny i deti v SSSR*, Moscow, 1963, p. 126; *Vyshee obrazovanie v SSSR*, Moscow, 1961, p. 206; and *Narodnoe khoziaistvo SSSR v 1962 goda*, Moscow, 1963, p. 582.

TABLE VII-9.—Women enrolled in secondary specialized educational institutions (excluding correspondence students), by field, at the beginning of the academic year

[NA indicates data not available]

Year	Number in thousands		Percentage of total enrollment	Percent women of total enrollment by fields				
	Total	Women		Industrial <sup>1</sup>	Agricultural	Socio-economic	Health <sup>1</sup>	Education <sup>1</sup>
1927	189.4	72.0	37.6	9.5	15.4	36.3	89.3	53.5
1930	(586.8)	(227.7)	38.8	25.8	31.0	48.2	87.3	51.9
1932	723.7	(323.5)	44.7	28.5	33.5	51.9	85.6	54.1
1933	588.9	(258.5)	43.9	30.1	30.1	54.5	80.7	54.6
1934	671.5	(296.1)	44.1	29.6	31.6	54.6	79.7	55.2
1935	712.9	(306.5)	43.0	28.0	30.2	52.3	76.3	54.3
1936	768.9	(359.1)	46.7	26.8	29.3	51.1	79.9	55.9
1937	862.5	(445.1)	51.6	25.9	28.7	50.2	83.3	57.0
1940	819.5	447.8	54.6	32.0	37.0	60.0	83.0	60.0
1945	907.0	627.2	69.1	50.0	66.0	79.0	93.0	83.0
1950	1,116.9	598.2	53.6	35.0	41.0	73.0	85.0	77.0
1955	1,673.9	916.9	54.8	42.0	43.0	82.0	89.0	80.0
1956	1,660.7	(863.7)	52.0	39.0	44.0	NA	89.0	78.0
1957	1,540.2	(739.1)	48.0	37.0	38.0	NA	86.0	79.0
1958	1,427.9	(672.1)	47.0	34.0	38.0	NA	84.0	76.0
1959	1,384.7	(637.0)	46.0	33.0	36.0	NA	83.0	77.0
1960	1,461.1	(686.7)	47.0	33.0	38.0	75.0	84.0	76.0
1961	1,634.0	784.3	48.0	33.0	38.0	74.0	85.0	77.0
1962	1,799.1	(883.3)	49.0	34.0	38.0	NA	86.0	79.0
1963	2,010.0	(984.9)	49.0	34.0	38.0	NA	87.0	80.0
1964	NA	NA	49.0	34.0	37.0	NA	87.0	80.0

<sup>1</sup> The industrial field is used here to signify the related fields of industry, construction, transport, and communications. Similarly, the health field includes physical culture and sport; education, the fields of art and cinematography.

Sources: Percentages for 1927, 1940, 1945, 1950, 1955, 1958-61—*Srednee spetsial'noe obrazovanie v SSSR*, Moscow, 1962, p. 92; 1930, 1932-37 and 1956-57—DeWitt, *Education and Professional Employment in the U.S.S.R.*, National Science Foundation, Washington, 1961, p. 613; the totals are from *Kul'turnoe stroitel'stvo* Moscow, 1956, p. 201, and *Srednee spetsial'noe obrazovanie v SSSR*, Moscow, 1962, p. 69. All 1962 data are from *Narodnoe khoziatstvo SSSR v 1962 godu*, Moscow, 1963, p. 573. Data for 1963 are derived from *Narodnoe khoziatstvo SSSR, v 1963 godu*, Moscow, 1965, pp. 566 and 578. 1964 data are from *Vestnik statistiki*, No. 2, 1965, p. 95.

TABLE VII-10.—Number and percent of women among day and evening students enrolled in Soviet higher educational institutions, by field, at the beginning of the academic year 1926-37, 1940, 1950, 1955-61

[NA indicates data not available]

End of year	Thousands		All fields	Engineering-industrial	Agricultural	Socio-economic	Medicine	Educational-cultural
	Total	Women						
1926	168.0	(51.9)	30.9	7.2	16.3	16.5	52.0	48.0
1927	168.5	(48.0)	28.5	13.4	17.4	21.1	52.0	48.7
1928	176.6	(51.4)	29.1	14.3	18.4	27.4	54.0	49.0
1929	204.2	(59.6)	29.2	15.6	20.4	19.4	56.0	46.7
1930	287.9	(81.5)	28.3	15.5	25.4	24.8	58.0	44.4
1931	405.9	(125.0)	30.8	17.7	28.1	29.8	64.7	46.9
1932	504.4	(168.0)	33.3	19.8	30.6	34.9	71.4	49.3
1933	458.3	(167.3)	36.5	22.4	32.1	36.0	75.1	50.2
1934	527.3	(200.4)	38.0	23.3	31.8	39.0	71.2	48.4
1935	563.5	(198.5)	39.5	25.6	30.2	40.1	69.0	46.8
1936	542.0	(222.2)	41.0	26.6	29.3	39.7	68.8	47.4
1937	547.2	(236.9)	43.3	28.0	30.2	41.3	67.5	48.2
1940	585.0	(330.3)	58.0	40.3	46.1	63.6	74.1	66.5
1945 <sup>1</sup>	539.2	(323.5)	77.0	60.0	79.0	77.0	90.0	84.0
1950	845.1	(448.7)	53.1	30.3	39.3	57.0	64.9	71.9
1955	1,227.9	(642.2)	52.3	35.4	39.3	67.0	69.1	72.1
1956	1,277.9	(651.7)	51.0	36.0	39.0	NA	69.0	70.0
1957	1,320.3	(646.9)	49.0	33.0	34.0	NA	65.0	66.0
1958	1,332.9	(626.5)	47.0	32.0	31.0	NA	62.0	65.0
1959	1,341.6	(603.7)	45.0	31.0	23.0	NA	59.0	63.0
1960	1,400.4	(602.2)	43.0	30.0	27.0	149.0	56.0	63.0
1961	1,511.0	(634.6)	42.0	28.0	26.0	NA	55.0	62.0
1962	1,661.0	(697.6)	42.0	28.0	25.0	NA	54.0	62.0
1963	1,822.0	(783.5)	43.0	29.0	25.0	NA	54.0	63.0
1964	NA	NA	43.0	29.0	25.0	NA	52.0	64.0

<sup>1</sup> Percentages for all fields in 1945 and for the socioeconomic field in 1960 refer to the total enrollment in higher educational institutions, including correspondence students. The percentage of women by field in 1960 is identical for regular and total enrollment. In 1940, 1950, and 1955, years in which both sets of data are available, they differ (when rounded) only in the educational-cultural field. The percentage of women in total enrollment in these years is given as 66, 71, and 71 percent, respectively, in *Vysshee obrazovanie v SSSR*, Moscow, 1961, p. 86. It is not likely, therefore, that the 1945 percentages the socioeconomic percentage for 1960 are seriously inconsistent with the rest of the table.

Sources: Through 1956, except 1945, De Witt, *op. cit.*, p. 654; 1956-58, *Narodnoe khoziaistvo SSSR v 1959 godu*, Moscow, 1960, p. 751, and 1959-61, *Narodnoe khoziaistvo SSSR v 1961 godu*, Moscow, 1962, p. 699. 1945 and the socioeconomic field in 1960, *Vysshee obrazovanie v SSSR*, Moscow, 1961, p. 86. Totals for men and women or for women alone are based on *Zhenskchina v SSSR*, Moscow, 1957, p. 121; *Kul'turnoe stroitel'stvo*, Moscow, 1956, pp. 201-202; *Vysshee obrazovanie v SSSR*, Moscow, 1961, p. 80; and *Narodnoe khoziaistvo SSSR, v 1961 godu*, Moscow, 1962, p. 698. All 1962 data are from *Narodnoe khoziaistvo SSSR v 1962 godu*, Moscow, 1963, pp. 572-573. Data for 1963 are derived from *Narodnoe khoziaistvo SSSR v 1963 godu*, Moscow, 1965, pp. 566 and 578. 1964 data are from *Vestnik statistiki*, No. 2, 1965, p. 95.

TABLE VII-11.—Number and percent of female graduate students at end of calendar year, miscellaneous years, 1929-61

[NA indicates data not available]

Year	Total enrolled in—			Males			Females			Percent enrolled in—		
	Total graduate students	Higher educational institutions	Research establishments	Total graduate enrollment	Enrolled in—		Total graduate enrollment	Enrolled in—		Percent females of the graduate students	Higher educational institutions	Research establishments
					Higher educational institutions	Research establishments		Higher educational institutions	Research establishments			
1929	3,000	2,000	1,000									
1931	7,400	7,400										
1932	14,800	8,400	6,400									
1934	10,600	6,300	4,300									
1935	9,800	6,300	3,500									
1938	12,186	9,175	3,011									
1940	16,900	13,200	6,700									
1946	15,800	9,536	NA									
1947	21,900	21,400	8,000									
1950	29,400	17,800	16,348									
1955	25,500	20,406	20,494									
1960	36,764	27,066										
1961	47,560											

Sources: Total figures for 1929, 1932, 1934, 1935, 1938, and 1940 are from K. Galkin, *Vyshee obrazovanie i podgotovka nauchnykh kadrov SSSR*, Moscow, 1938, pp. 110; for 1947, 1950, 1955 and 1956—*Kul'turnoe stroitel'stvo SSSR*, Moscow, 1956, p. 255; and for 1960—*Vyshee obrazovanie i SSSR*, Moscow, 1961, pp. 222-224; 1929, 1932, 1934 and 1935—*Zhenshchina v SSSR*, Moscow, 1937, p. 110. The 1929 figure is for Apr. 1, 1929; the 1931 total percentage (23 percent) is from Galkin, *The Training of Scientists*, p. 122, which conflicts with the other 1931 percentage figures (19.0 percent and 19.9 percent) from Galkin, *Vyshee obrazovanie*, p. 115. The 1938 male and female figures are from *Kul'turnoe stroitel'stvo SSSR*, Moscow-Leningrad, 1940, p. 242. 1940 female percentage—Galkin, *Vyshee obrazovanie*, p. 115. 1946—Nov. 5, 1947, A. Ia. Simetkin, *Professorsko-prepodavatskie kadry, vishei shkol, SSSR*, Moscow, 1960, p. 183. 1950, 1955 and 1956 female enrollment and percentages—*Narodnoe khozaystvo v SSSR za 1956 goda*, p. 261. 1960 female enrollment and percentages—*Vyshee obrazovanie v SSSR*, Moscow, 1961, pp. 222-24. 1961 female enrollment and percentages are calculated from data in *Izvestia*, Sept. 17, 1963 and *Niruchna Khosizstvo 1962 goda*, Moscow, 1963, p. 187. The author is indebted to Mr. Nicholas Rokhitiatsky for pointing out the *Izvestia* figures on female enrollment which were published in response to a letter he wrote the editor.

TABLE VII-12a.—Women specialists with a secondary specialized education employed in the economy, by specialty, 1955-57, 1959-62

[In thousands]

Specialty	July 1, 1955	Dec. 1, 1956	Dec 1, 1957	Dec 1, 1959	Dec. 1, 1960	Dec 1, 1961	Dec. 1, 1962	Dec. 1, 1963
Total number of female specialists.....	1,960	2,381	2,623	3,086	3,324	3,532	3,723	3,865
Technicians.....	309	414	499	660	701	816	873	922
Agronomists, zootechnicians, veterinary personnel, foresters.....	116	117	123	147	155	166	180	176
The same, excluding foresters.....			119					
Statisticians, planners, commodity specialists.....	144	194	217	287	329	375	394	432
Legal personnel.....	7	7	6	5	5	5	5	5
Medical personnel (including dentists).....	608	818	895	1,026	1,088	1,118	1,164	1,194
Teachers, library, and cultural enlightenment personnel.....	639	738	773	826	861	902	948	962
Residual.....	77	93	110	135	185	150	169	179

Sources: *Zhenshchina v SSSR*, Moscow, 1960, p. 59; *Zhenshchiny i deti v SSSR*, Moscow, 1961, p. 139; *Zhenshchiny i deti v SSSR*, Moscow, 1963, p. 120; *Srednee spetsial'noe obrazovanie v SSSR*, Moscow, 1962, p. 42; *Narodnoe khoziaistvo SSSR v 1963 godu*, Moscow, 1963, p. 472; *Narodnoe khoziaistvo SSSR v 1959 godu*, Moscow, 1960, p. 616; *Narodnoe khoziaistvo SSSR v 1956 godu*, Moscow, 1957, p. 211; *Narodnoe khoziaistvo S.S.S.R. v 1965 godu*, Moscow, 1965, p. 429.

TABLE VII-12b.—Distribution of women specialists with secondary specialized education employed in the economy, by specialty, 1955-57, 1959-63

Specialty	July 1, 1955	Dec. 1, 1956	Dec. 1, 1957	Dec. 1, 1959	Dec. 1, 1960	Dec. 1, 1961	Dec. 1, 1962	Dec. 1, 1963
Total female specialists.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Technicians.....	15.8	17.5	19.0	21.4	21.1	23.1	23.5	23.9
Agronomists, zootechnicians, veterinary personnel, foresters.....	5.9	5.9	4.7	4.8	4.7	4.7	4.8	4.6
Same, excluding foresters.....			(4.5)					
Statisticians, planners, commodity specialists.....	7.3	8.4	8.3	9.3	9.9	10.6	10.6	11.2
Legal personnel.....	4	4	2	1	1	1	1	1
Medical personnel (including dentists).....	34.1	34.5	34.1	33.2	32.7	31.7	31.0	30.9
Teachers, library, and cultural enlightenment personnel.....	32.8	30.2	29.5	26.8	25.9	25.5	25.5	24.9
Residual.....	3.9	4.0	4.2	4.4	5.6	4.3	4.5	4.6

Sources: See table VII-12a.

TABLE VII-12c.—Percentage of women of all specialists with secondary specialized education employed in the economy, by specialty, 1955-57, 1959-63

Specialty	July 1, 1955	Dec. 1, 1956	Dec. 1, 1957	Dec. 1, 1959	Dec. 1, 1960	Dec. 1, 1961	Dec. 1, 1962	Dec. 1, 1963
Percentage of women among all specialists with a secondary specialized education.....	67	66	65	65	63	63	63	62
Technicians.....	38	39	40	39	36	38	38	38
Agronomists, zoo technicians, veterinary personnel, foresters.....	46	40	40	41	41	43	44	43
Statisticians, planners, commodity specialists.....	77	77	74	74	74	74	74	70
Legal personnel.....	30	30	30	30	30	30	30	30
Medical personnel (including dentists).....	91	91	91	92	92	91	91	92
Teachers, library, and cultural enlightenment personnel.....	73	79	80	81	81	82	83	82

Sources: See table VII-12a.

TABLE VII-13a.—Women specialists with a higher education employed in the national economy, by specialty, 1941, 1954-57, 1959-63

[In thousands]

Specialty	Jan. 1, 1941	Apr. 1, 1954	July 1, 1955	Dec. 1, 1956	Dec. 1, 1957	Dec. 1, 1959	Dec. 1, 1960	Dec. 1, 1961	Dec. 1, 1962	Dec. 1, 1963
Total number of female specialists.....	312	1,098	1,155	1,396	1,464	1,701	1,865	2,015	2,133	2,237
Engineers (including geologists).....	44	162	168	205	233	293	329	379	409	434
Agronomists, zootechnicians, veterinarians, foresters.....	18	55	65	70	74	87	94	100	107	109
Economists, economists-statisticians, commodity specialists.....	18	56	62	76	90	111	113	129	159	171
Legal personnel.....	3	13	16	18	19	21	22	24	25	26
Physicians (excluding dentists).....	85	204	228	247	260	285	302	315	331	341
Teachers and university graduates, except geologists, legal personnel, physicians, economists, library and cultural enlightenment personnel.....	144	581	606	738	748	837	901	985	1,036	1,096
Residual.....		37	11	42	40	67	104	83	66	61

Sources: *Zhenshchina v SSSR*, Moscow, 1960, p. 58; *Zhenshchiny i deti v SSSR*, Moscow, 1961, p. 138; *Zhenshchiny i deti v SSSR*, Moscow, 1963, p. 118; *Narodnoe khoziaistvo SSSR v 1963 godu*, Moscow, 1963, p. 472; *Narodnoe khoziaistvo SSSR v 1959 godu*, Moscow, 1960, p. 615; *Narodnoe khoziaistvo SSSR v 1956 godu*, Moscow, 1957, p. 210; *Vyshee obrazovanie v SSSR*, Moscow, 1961, pp. 52 and 66; *Narodnoe khoziaistvo SSSR v 1963 godu*, Moscow, 1965, p. 492.

TABLE VII-13b.—Distribution of women specialists with a higher education employed in the economy by specialty, 1941, 1954-57, 1959-63

Specialty	Jan. 1, 1941	Apr. 1, 1954	July 1, 1955	Dec. 1, 1956	Dec. 1, 1957	Dec. 1, 1959	Dec. 1, 1960	Dec. 1, 1961	Dec. 1, 1962	Dec. 1, 1963
Total female specialists.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Engineers (including geologists).....	14.1	13.8	14.6	14.7	15.9	17.2	17.6	18.8	19.2	19.4
Agronomists, zootechnicians, veterinarians, foresters.....	5.8	5.0	5.6	5.0	5.0	5.1	5.0	5.0	5.0	4.9
Economists, economists-statisticians, commodity specialists.....	5.8	5.1	5.4	5.4	6.2	6.5	6.1	6.4	7.4	7.6
Legal personnel.....	1.0	1.2	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.1
Physicians (excluding dentists).....	27.2	18.6	19.7	17.7	17.8	16.8	16.2	15.6	15.5	15.2
Teachers and university graduates, except geologists, legal personnel, physicians, economists, library and cultural enlightenment personnel.....	46.1	52.9	52.4	52.9	51.1	49.3	48.3	48.9	48.6	49.0
Specialist in radio technology and communications, art, cinematography, physical culture and sports and other unspecified specialties.....		3.4	1.0	3.0	2.7	3.9	5.6	4.1	3.1	2.7

Source: See sources for table VII-13a. The residual is incorporated as "other unspecified specialties."

TABLE VII-13c.—*Women specialists with a higher education employed in the national economy, 1941, 1954-57, 1959-63*

[In percent]

Specialty	Jan. 1, 1941	Apr. 1, 1954	July 1, 1955	Dec. 1, 1956	Dec. 1, 1957	Dec. 1, 1959	Dec. 1, 1960	Dec. 1, 1961	Dec. 1, 1962	Dec. 1, 1963
Percent of women among all female specialists with a higher education.....	34	55	53	53	52	53	53	53	53	52
Engineers (including geologists).....	15	27	28	28	29	30	29	31	31	31
Agronomists, zootechnicians, veterinarians, foresters.....	25	41	41	39	38	39	39	41	42	41
Economists, economist-statisticians, commodity specialists.....	31	59	54	54	57	57	57	59	61	61
Legal personnel.....	15	32	32	32	32	32	32	32	32	32
Physicians (excluding dentists).....	60	76	76	75	75	75	7	74	75	74
Teachers and university graduates (except geologists, legal personnel, doctors, economists), library and cultural enlightenment personnel.....	49	67	67	66	65	65	65	67	67	67

Sources: See sources for table VII-13a.



TABLE VII-14.—Number of women scientific workers (including teachers and other workers in higher educational institutions)

[In thousands of persons]

	Oct. 1—										Nov. 1—		
	1947	1950	1952	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Total number of women scientific workers.....	51.3	59.0	65.7	81.6	87.0	93.7	101.4	111.1	128.7	150.0	177.7	204.8	219.1
Of which:	18.7	16.6	17.5	18.7	19.7	22.3	23.7	25.4	26.3	28.0	33.0	41.4	42.9
Those having academic titles.....	5.5	5.5	5.5	6.6	6.6	6.6	7.7	7.7	7.7	8.8	9.9	9.9	1.0
Academicians, corresponding members, professors.....	6.0	6.7	7.4	9.2	9.8	10.4	10.5	11.2	12.0	12.7	14.4	15.6	16.8
Doctors and senior research workers.....	2.9	3.2	3.7	4.8	5.1	5.4	5.5	5.8	6.2	6.7	7.3	8.0	8.8
Doctors.....	3.1	3.5	3.7	4.4	4.7	5.0	5.0	5.4	5.8	6.0	7.1	7.6	8.0
Senior research workers.....	12.2	9.4	9.6	8.9	9.3	11.3	12.5	13.5	13.6	14.5	22.7	24.9	28.2
Junior research workers and assistants.....	32.6	42.4	47.2	62.9	69.3	71.4	77.7	85.7	102.4	122.0	138.7	153.4	176.2
Those having no academic titles.....													

Sources: *Zhetskichiny i dati v SSSR*, Moscow, 1963, p. 129; *Vyshee obrazovanie v SSSR*, Moscow, 1961, p. 212; *Kadrovoe stroenie i razvitiye SSSR*, Moscow, 1956, p. 251; *Narodnoe khozaystvo SSSR v 1958 godu*, Moscow, 1959, p. 844; *Narodnoe khozaystvo SSSR v 1963 godu*, Moscow, 1963, p. 383; *Narodnoe khozaystvo SSSR v 1968 godu*, Moscow, 1965, p. 590; and *Vestnik statistiki*, No. 2, 1965, p. 96. It should be noted that the term "scientific worker" includes in Soviet usage any person engaged in scholarly activity whether in the natural sciences, social sciences, or humanities.

TABLE VII-15.—Women scientific workers having academic titles in higher educational institutions and research institutions in 1950, 1955, and 1960

Position	Oct. 1, 1950		Oct. 1, 1955		Oct. 1, 1960	
	Number of women	Percentage distribution	Number of women	Percentage distribution	Number of women	Percentage distribution
Academicians, corresponding members, and professors.....	474	2.9	555	3.0	725	2.8
Doctors.....	3,226	19.5	4,807	26.7	6,171	23.5
Senior research workers.....	3,450	20.8	4,494	25.7	5,761	21.9
Junior research workers and assistants.....	9,419	56.8	8,915	47.6	13,614	51.8
Total.....	16,569	100.0	18,711	100.0	26,271	100.0
				27.0		
						28.2

Source: *Vyshee obrazovanie v SSSR*, Moscow, 1961, p. 212. The percentage of women among the totals is derived from the number and percentage of women of each rank.

TABLE VII-16.—Women scientific workers in higher educational institutions in 1950, 1955, and 1960

Position	Oct. 1, 1950			Oct. 1, 1955			Oct. 1, 1960		
	Number of women	Percentage distribution	Percent women	Number of women	Percentage distribution	Percent women	Number of women	Percentage distribution	Percent women
Directors, deputy directors, for training and scientific work	95	0.3	4.8	96	0.2	5.1	109	0.2	5.3
Deans	142	.5	6.6	133	.5	8.5	256	.5	8.9
Heads of departments	1,690	5.5	11.3	1,983	4.0	12.9	2,063	4.2	12.3
Professors	110	.4	8.5	125	.3	8.7	164	.3	10.6
Associate professors	2,464	8.7	21.3	4,367	11.1	22.9	6,342	12.8	24.4
Other positions	23,312	14.6	42.9	32,632	82.8	41.3	40,449	81.9	41.4
Total	28,312	100.0	32.7	39,396	100.0	33.1	49,402	100.0	33.6

Sources: Vysheee obrazovaniie v SSSR, Moscow, 1961, pp. 208 and 212.

TABLE VII-17.—Women scientific workers in scientific research institutions, enterprises, and other organizations, 1950, 1955, and 1960

Place and position	Oct. 1, 1950			Oct. 1, 1955			Oct. 1, 1960		
	Number of women	Percentage distribution	Percentage women	Number of women	Percentage distribution	Percentage women	Number of women	Percentage distribution	Percentage women
In scientific research institutions:									
Scientific-administrative personnel.....	4,768	16.0	23.6	5,120	12.7	23.2	7,442	9.6	18.2
Senior scientific workers.....	6,047	20.3	37.2	7,955	19.7	36.1	13,516	17.4	35.3
Other positions.....	19,039	63.8	55.9	27,254	67.6	52.1	56,796	73.0	47.0
Total.....	29,854	100.0	42.4	40,329	100.0	41.8	77,754	100.0	38.9
In enterprises and other organizations: Total.....	(833)	100.0	15.1	(2,865)	100.0	34.4	(1,574)	100.0	21.9

Source: *Vysshee obrazovanie v SSSR*, Moscow, 1961, pp. 208 and 212.

TABLE VII-18.—Percentage of women administrators and teachers in elementary and secondary schools of the Ministry of Education and Ministry of Railways, 1940-41, 1950-51, 1955-56, and 1958-64

[At beginning of school year]

	1940-41	1950-51	1955-56	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64
Percentage of women-teachers (including school directors).....	60	70	70	70	70	70	70	69	69
Of which:									
Primary school directors... 7-year and 8-year school directors.....	47	61	69	69	69	69	71	71	72
Secondary school directors.....	12	20	22	22	23	23	24	24	24
Heads of 7-year and 8-year school training units.....	13	21	21	20	20	20	20	20	20
Heads of secondary school training units.....	32	47	50	53	54	54	56	57	56
Teachers (excluding school directors).....	30	51	52	52	53	53	49	46	44
Of which:	66	75	-----	74	-----	73	73	-----	-----
Grades 1 to 4.....	-----	84	86	87	88	87	87	87	87
Grades 5 to 7.....	-----	74	74	75	76	76	76	76	75
Grades 8 to 11.....	-----	67	70	68	67	67	68	67	67
Music, singing, physical culture, and work teachers.....	17	19	30	26	27	26	27	27	28

Source: *Zhenshchiny i deti v SSSR*, Moscow, 1963, p. 127; *Narodnoe khoziaistvo SSSR v 1962 godu*, Moscow, 1963, p. 567; *Narodnoe khoziaistvo SSSR v 1966 godu*, Moscow, 1967, p. 247; *Narodnoe khoziaistvo SSSR v 1959 godu*, Moscow, 1960, p. 736; *Narodnoe khoziaistvo SSSR v 1965 godu*, Moscow, 1965, p. 561.

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TABLE VII-19.—Number of women physicians and their percentage of the total for selected years (excluding dentists and physicians in the military service)

Year	Thousands	Percent of total	Year	Thousands	Percent of total
1913 current boundaries.....	2.3	10	1955.....	234.3	76
1913 post revolution boundaries (until Sept. 17, 1939).....	1.9	10	1956.....	246.7	75
1928.....	28.4	45	1957.....	260.2	75
1930.....	30.5	45	1958.....	272.3	75
1934.....	42.0	49	1959.....	286.1	76
1935.....	42.4	47	1960.....	302.1	75
1937.....	52.8	51	1961.....	315.9	74
1940.....	85.4	60	1962.....	333.1	75
1950.....	189.0	76	1963.....	348.6	75

Sources: *Zhenshchiny i deti v SSSR*, Moscow, 1963, p. 125; *Narodnoe khoztaistvo SSSR v 1963 godu*, Moscow, 1963, p. 617; *Zhenshchina v SSSR*, Moscow, 1936, p. 98; *Zhenshchina v SSSR, statisticheskiy sbornik*, Moscow, 1937, p. 110; and *Vestnik Statistiki*, No. 2, 1964, p. 93.

## CHAPTER VIII

### COMPARISONS OF CONSUMPTION

1. A fundamental criterion for appraising the performance of an economic system is its success in providing for the material welfare of its citizens. Soviet regimes have accepted this criterion, and in fact have put forward communism's superiority in this respect as a *raison d'etre* for the continuing dictatorship of the party. Tables VIII-1 through VIII-7 provide some measures of performance of the Soviet economy since 1950. In addition, to provide standards for the measurement of Soviet performance, comparable measures of per capita consumption are presented for several substantially differing market economies, those of France, the German Federal Republic, the United Kingdom, and the United States. The basic measures employed are value aggregations of goods and services consumed directly by households.

2. Consumption per capita in the U.S.S.R. increased from about 20 percent of that in the United States during 1950 to about 30 percent of the level attained in the United States during 1963. Most of the gain relative to the United States had been attained by 1958. Since that year consumption per capita has grown at about the same rate in both countries. Compared with the West European countries, moreover, there was significant advance only with respect to the United Kingdom. Consumption per capita in the U.S.S.R. failed to progress significantly relative to that in France or Italy during the entire period 1950-62, and it actually declined substantially relative to that in the G.F.R.

3. In contrast with its failure to move dramatically with respect to the capitalistic economies, per capita consumption in the U.S.S.R. increased rapidly relative to its own past. By 1963 it had reached a level almost 70 percent above that in 1950, an average annual increase of about 4 percent per year. The increase was achieved with no substantial increase in civilian employment relative to population of working age and in spite of a 20-percent decline in annual hours worked per man in industry.

4. Per capita consumption in the U.S.S.R. did not fail to advance each year since 1955, but the rate of growth has fallen off drastically. After growing at an average annual rate of 5.7 percent between 1950 and 1955, consumption per capita rose only 4.9 percent in 1956 and the rate declined steadily to 2.3 percent in 1961. After recovering somewhat in 1962 the rate of growth plummeted to less than 1 percent in 1963. To some extent the declining rate of growth stemmed from and was compensated for by the declining number of hours worked per year.

5. Differences in the pattern of consumption in the U.S.S.R. compared with the United States result in part from the relative levels of income and in part from imposition of the party's preferences on the

populace. Thus consumption of food per capita in the U.S.S.R. is relatively high because in a country with low incomes a larger share is required merely for sustenance. The relatively high level of consumption of health and education services in the U.S.S.R. reflect the fact that they are regarded in large part as investment by the Soviet government rather than as consumption. Nonfood products and services excluding health and education have lower priorities, and per capita consumption of these items amounted to little more than 15 percent of that in the United States even in 1963.

6. Some further insight into the nature of consumption in the United States and the U.S.S.R. is possible by making comparisons in physical units. Thus data in table VIII-4 show that in spite of substantial improvement in Soviet diets during the past 12 years, the share of starchy grain products and potatoes remained substantially larger in the Soviet diet of 1962 than in the American diet of more than half a century ago.

7. Although there has been a rapid rise in stocks of consumers' durables in the U.S.S.R. during 1955-63, with notable exceptions they were quite small compared with similar stocks in the United States. (See table VIII-5.) This is true in spite of the fact that estimation procedures probably result in substantial overstatement of Soviet stocks relative to those of the United States. Furthermore, relatively large stocks of a particular durable good in the U.S.S.R. may reflect substitution of a more desirable product in the United States; for example, readymade clothes for sewing machines, and automobiles for motorcycles, scooters, or bicycles.

8. Finally, data in table VIII-6 provide some notion about the provision of medical, dental, and housing services in the United States and U.S.S.R. There were as many physicians per capita in the U.S.S.R. in 1950 as there were in the United States by 1962 and by the latter year their number had attained a level approximately half again that in the United States. During the period 1950-63 the U.S.S.R. also achieved parity in the number of hospital beds per capita. In spite of a rapid rise in the number of dentists, however, there were still fewer than one-third as many per capita in the U.S.S.R. as in the United States.

## PREFACE TO TABLES ON CONSUMPTION

GENERAL NOTE: The international comparisons shown in the following tables are subject to both statistical and conceptual limitations. Nevertheless, it is believed that the results are quantitatively fairly reliable. With respect to nonquantitative factors, however, the comparisons undoubtedly are biased in favor of the U.S.S.R. Although every effort has been made to match goods of identical quality in the two countries, precise matching has not always been possible. In housing and health services, in particular, the allowances for differences in quality probably are inadequate. Furthermore, there are two additional deficiencies in the Soviet pattern of consumption that could not be measured but that are unquestionably significant: first, the notorious lack of balance between supplies of particular goods and the consumer demand for them and, second, the lack of variety and diversity and the resulting lack of choice on the part of consumers.

TABLE VIII-1.—United States and U.S.S.R.: Total consumption per capita, 1950 and 1955-63

	1950	1955	1956	1957	1958	1959	1960	1961	1962	1963
United States <sup>1</sup> (1955=100).....	93	100	102	102	102	106	108	108	111	114
U.S.S.R. <sup>2</sup> (1955=100).....	76	100	105	109	113	116	120	122	127	128
U.S.S.R. consumption per capita as a percent of United States <sup>3</sup> .....	21	26	27	28	29	29	29	30	30	29

<sup>1</sup> Based on data of the Department of Commerce. In addition estimates of public current expenditures on health and education are included.

<sup>2</sup> Indexes of per capita total consumption are derived from estimates of consumption of food products, nonfood products, and services (table VIII-2) weighted 61.4, 23.3, and 15.3 percent, respectively.

<sup>3</sup> The datum for 1955 is from CIA, *A Comparison of Consumption in the U.S.S.R. and the United States*, January 1964, p. 15. Data for the remaining years are obtained by moving the datum for 1955 with the indexes of per capita consumption presented in this table.

TABLE VIII-2.—United States and U.S.S.R.: Consumption per capita by major product and service group, 1950 and 1955-63<sup>1</sup>

	1950	1955	1956	1957	1958	1959	1960	1961	1962	1963
Food products:										
United States (1955=100).....	97	100	102	102	99	100	100	99	101	101
U.S.S.R. (1955=100).....	81	100	105	109	111	112	113	115	118	118
U.S.S.R. as a percent of United States <sup>2</sup> .....	39	46	47	50	52	52	52	54	54	54
Nonfood products:										
United States (1955=100).....	91	100	99	99	96	103	104	103	107	111
U.S.S.R. <sup>2</sup> (1955=100).....	60	100	107	110	118	125	132	136	140	141
U.S.S.R. as a percent of United States <sup>2</sup> .....	7	11	12	12	14	14	14	15	14	14
Services, excluding health and education:										
United States (1955=100).....	91	100	103	105	108	110	114	116	120	123
U.S.S.R. (1955=100).....	75	100	105	112	119	128	135	141	151	160
U.S.S.R. as a percent of United States <sup>2</sup> .....	11	13	13	14	15	15	16	16	17	17
Health and education services:										
United States (1955=100).....	99	100	105	108	114	119	123	125	129	133
U.S.S.R. (1955=100).....	84	100	101	106	110	115	120	126	131	136
U.S.S.R. as a percent of United States <sup>2</sup> .....	44	52	50	51	50	50	51	52	52	53

<sup>1</sup> Unless otherwise noted indexes for the U.S.S.R. were obtained using the basic procedures presented in *Dimensions of Soviet Economic Power*, p. 360. Indexes for the United States are based on data from the Department of Commerce.

<sup>2</sup> Indexes for consumption of soft and durable goods based on procedures presented in *Dimensions of Soviet Economic Power*, p. 360 were combined with 1955 retail sales as base year weights.

<sup>3</sup> See note <sup>2</sup> in table VIII-1 above.

TABLE VIII-3.—United States and U.S.S.R.: Consumption per capita, by product or service group, 1955<sup>1</sup>

[U.S.S.R. as a percent of United States]

<i>Product or service group</i>	<i>Soviet per capita consumption as a percent of United States</i>
Livestock products and canned goods.....	25.2
Meat and poultry.....	25.5
Fish.....	59.6
Canned goods.....	5.3
Fats and oils.....	28.5
Milk and milk products.....	35.3
Eggs.....	20.8
Sugar and confectionery products.....	49.5
Sugar.....	43.8
Confectionery products.....	52.7
Cereal products and potatoes.....	161.9
Bread and bakery products.....	119.5
Flour, groats, and macaroni products.....	178.8
Potatoes.....	234.4
Vegetables and fruits.....	29.2
Vegetables.....	55.3
Fruits.....	13.4
Nonalcoholic beverages.....	7.4
Alcoholic beverages.....	294.9
Textiles, apparel, and footwear.....	17.2
Textiles.....	41.2
Apparel.....	10.7
Footwear.....	26.5
Tobacco.....	11.9
Household goods (excluding appliances).....	16.5
Household soap and toilet articles.....	19.3
Stationery.....	7.8
Reading materials.....	35.4
Furniture.....	8.3
Dishware.....	21.1
Household appliances.....	8.8
Radio, television, and sporting goods.....	10.4
Appliances and timepieces.....	7.3
Automobiles and gasoline.....	.3
Automobiles.....	.3
Gasoline.....	.1
Rent, utilities, and communications.....	16.5
Rent.....	21.7
Utilities.....	11.8
Household fuel.....	4.0
Communications.....	24.1
Public transportation.....	108.2
Recreation and personal and miscellaneous services.....	4.2
Recreation.....	17.6
Personal care and repair services.....	6.7
Miscellaneous services.....	.8
Health and education services.....	51.9
<b>Total consumption.....</b>	<b>26.2</b>
<b>Total consumption excluding health and education services.....</b>	<b>23.2</b>

<sup>1</sup>CIA, *A Comparison of Consumption in the U.S.S.R. and the United States*, January 1964, pp. 16-18.



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TABLE VIII-4.—United States and U.S.S.R.: Availability of food products for human consumption, by major food group, selected years

[In calories per capita per day]

	U.S.S.R. <sup>1</sup>				United States		U.S.S.R. as percent of United States in 1909-13		
	1953	1955	1959	1962	1909-13 <sup>2</sup>	1962 <sup>3</sup>	1953	1959	1962
Grain products, potatoes, and pulses	2,169	2,082	1,959	1,930	1,557	874	139	126	124
Fats and oils, including butter	209	227	288	288	565	646	38	52	52
Sugar	188	183	253	292	405	509	41	62	72
Meat and fish	139	156	184	187	405	471	34	45	46
Milk and milk products, excluding butter	220	250	316	305	335	407	66	94	91
Vegetables, fruits, eggs, and other foods	195	192	200	198	233	273	84	86	85
Total <sup>4</sup>	3,100	3,100	3,200	3,200	3,490	3,180	89	92	92

<sup>1</sup> Unless otherwise noted consumption of food items in the U.S.S.R. was estimated as described in "Dimensions of Soviet Economic Power," p. 360, and was converted to calorific values with factors from U.N., Food and Agriculture Organization, *Food Composition Tables for International Use, 1954*.

<sup>2</sup> Based on data in *Consumption of Food in the United States, 1909-52*, pp. 162 and 170.

<sup>3</sup> Based on data in *Agricultural Statistics, 1963*, p. 584, and *Statistical Abstract of the United States, 1964*, p. 87.

<sup>4</sup> A average daily caloric intake during calendar year.

TABLE VIII-5.—United States and U.S.S.R.: Estimated stocks<sup>1</sup> of consumers' durables at the end of selected years, 1955-63[Units per thousand persons<sup>2</sup>]

	U.S.S.R. <sup>3</sup>				United States, <sup>4</sup> 1963	U.S.S.R. as a percent of United States in 1963
	1955	1958	1960	1963		
Sewing machines	31	64	92	132	<sup>5</sup> 135	98
Radios	58	106	140	190	<sup>6</sup> 974	20
Television sets	5	15	27	53	<sup>6</sup> 318	17
Motoreycles and scooters	4	8	13	20	<sup>7</sup> 4	500
Automobiles	NA	NA	<sup>8</sup> 4	NA	<sup>6</sup> 272	1
Refrigerators	5	8	13	23	288	8
Washing machines	1	6	13	36	216	17
Electric vacuum cleaners	2	5	8	15	211	7
Pianos	6	14	21	31	NA	NA

<sup>1</sup> Comparisons in this table overstate both levels and growth of stocks in the U.S.S.R. compared with the United States. Data for the U.S.S.R. generally are computed from shipments to retail sales outlets cumulated annually since 1950 with no allowance for scrappage, and therefore they usually represent maximum possible stocks. Soviet data in secondary sources permitting an independent estimate for 1960 suggest the following overstatement of stocks in the U.S.S.R. in percent: radios, 10 to 20; television sets, 10 to 20; refrigerators, 50; sewing machines, 10; washing machines, 10; and 2-wheeled vehicles, 20. Data for the United States, on the other hand, based on numbers of households owning the specified item, normally fail to reflect multiple holdings, and therefore understate actual stocks. Furthermore, the list does not show the great margin of superiority of the United States with respect to such durables as air conditioners, clothes dryers, home freezers, dishwashers, food disposers, electric blankets, blenders, hair dryers, mixers, toasters, and so on. Finally, mere numbers also fail to provide any indication of the superior quality of American appliances.

<sup>2</sup> Based on total population at midyear for the U.S.S.R. from CIA, *Labor Supply and Employment in the U.S.S.R., 1950-70, August 1964*, p. 10, and on total resident population (excluding Armed Forces abroad) at midyear for the United States from *Statistical Abstract of the United States, 1964*, p. 5.

<sup>3</sup> Data on stocks of durables in the U.S.S.R. are based on information in the following publications of the TsSU U.S.S.R.: *Sovetskaya torgovlya, 1956*, p. 87; *Sovetskaya torgovlya, 1964*, pp. 76-77; *Narodnoye khozyaystvo SSSR v 1953 godu*, p. 720; *Narodnoye khozyaystvo SSSR v 1960 godu*, p. 683; *Narodnoye khozyaystvo SSSR v 1962 godu*, pp. 490 and 500; *Promyshlennost', 1964*, p. 408; *SSSR v tsifrakh v 1963 godu*, p. 197.

<sup>4</sup> Unless otherwise noted based on a sample of households interviewed Apr. 16 to May 10, 1963. *Statistical Abstract of the United States, 1964*, p. 757.

<sup>5</sup> The datum for the United States includes only electric sewing machines.

<sup>6</sup> Data for the United States refer to 1961 for radios and to 1962 for television sets and are from *Statistical Abstract of the United States, 1964*, p. 932.

<sup>7</sup> The datum for the United States excludes motor scooters but includes motoreycles owned by governmental agencies other than military services.

<sup>8</sup> Estimated stock at end of 1961 based on production and trade data. Includes all publicly owned automobiles.

<sup>9</sup> Estimated stock as of early 1962. It excludes publicly owned vehicles, vehicles privately owned for business use, and third vehicles of individual spending units. Data are from *Statistical Abstract of the United States, 1964*, p. 564.

NOTE.—NA indicates data not available.

TABLE VIII-6.—United States and U.S.S.R.: Health services at the end of selected years, 1950-63

	U.S.S.R. <sup>1</sup>				United States, <sup>2</sup> 1962	U.S.S.R. as a percent of United States levels in 1962	
	1950	1955	1958	1963		1950	1963
Doctors (number per 10,000 persons).....	14	16	17	21	14	100	150
Dentists (number per 10,000 persons).....	1.0	1.2	1.3	<sup>3</sup> 1.6	5.6	18	29
Hospital beds (number per 10,000 persons)....	56	65	73	90	91	62	99

<sup>1</sup> Unless otherwise noted data are from the following publications of the TsSU U.S.S.R.: *Narodnoye khozyaystvo S.S.S.R. v 1953 godu*, pp. 879 and 881; *Narodnoye khozyaystvo S.S.S.R. v 1962 godu*, pp. 8 and 615; *S.S.S.R. v tsifrakh v 1963 godu*, p. 191.

<sup>2</sup> Unless otherwise noted data are from *Statistical Abstract of the United States 1964*, pp. 69 and 75.

<sup>3</sup> Datum is for 1962.

TABLE VIII-7.—U.S.S.R. and selected Western European countries: Consumption per capita, by major product and service group,<sup>1</sup> 1950, 1955, and 1962

[U.S.S.R. as a percent of given country]

	France			German Federal Republic			Italy			United Kingdom		
	1950	1955	1962	1950	1955	1962	1950	1955	1962	1950	1955	1962
Food.....	62	63	64	NA	61	54	90	90	80	55	61	67
Clothing.....	32	42	44	NA	45	47	51	76	78	24	37	44
Housing <sup>2</sup> .....	50	46	42	NA	46	34	114	103	103	31	30	32
Durables <sup>2</sup> .....	31	43	49	NA	63	58	133	250	211	15	26	37
Other <sup>3</sup> .....	49	57	59	NA			93	101	98	40	52	62
Total.....	52	57	56	63	59	53	88	96	89	42	50	56

<sup>1</sup> Household consumption in both countries valued in U.S. dollars. 1955 U.S. prices are expressed as factor costs which are equal to market prices plus subsidies minus indirect taxes. Data for Western European countries were obtained from Milton Gilbert & Associates, *Comparative National Products and Price Levels*, OEEC, Paris, pp. 86 and 168. Comparable data for the U.S.S.R. were obtained by making adjustments in Soviet consumption at 1955 U.S. market prices from CIA, *A Comparison of Consumption in the U.S.S.R. and the United States*, January 1964, pp. 16-18. Data for Western European countries for 1950 and 1962 were obtained by moving the 1955 data with indexes of consumption per capita based on population data from the Bureau of Census and computed from data in OECD, *National Accounts, Supplement to the General Statistics Bulletin*, March 1964, pp. 23-24, 28, and 38 and OECD *Statistics of National Accounts, 1950-51*, Paris, 1964, pp. 90, 98, 130, and 186. The items included in the major product and service category indexes are not identical to those included by Gilbert & Associates, the major discrepancy being the failure of the former to include public expenditures on health and education. If the rates of growth in public expenditures per capita did not differ greatly from growth in per capita consumption as a whole, the data as presented should provide a close approximation to the results which would be obtained if the categories could be made strictly comparable. Data for the U.S.S.R. for 1950 and 1962 were obtained by moving the data for 1955 by indexes shown in table VIII-2 with adjustment to achieve comparability with Gilbert's categories.

<sup>2</sup> Both basic studies providing data for the housing comparisons in 1955 attempt to take account of differences in quality. The authors of the Soviet-American comparison feel, however, that their quality adjustments are inadequate, and that their data for the U.S.S.R. considerably overstate availability of housing there relative to the United States. To the extent that this is true, the comparisons in this table, though more accurate than mere physical measures of floor space, probably also overstate the availability of housing in the U.S.S.R. relative to France, the German Federal Republic, Italy, and the United Kingdom.

<sup>3</sup> "Other" includes expenditures on such items as alcoholic beverages, tobacco, household goods other than durables, household and personal services, public transport, communication, recreation and entertainment, health, and education.

NOTE.—NA indicates data not available.

CHAPTER IX  
SOVIET BUDGET

1. The state budget of the U.S.S.R. is the chief vehicle for mobilizing the economic surplus of the economy over and above household consumption and for apportioning it among various competing ends (the general activities of investment, national defense, welfare, and government administration). The Soviet budget is far broader than Western national budgets—for example, the Soviet budget includes funds for investment and operational expenditures of productive enterprises that, in capitalist economies, are by and large privately financed.

2. Although the budget is the principal channel for allocating funds to economic enterprises and organizations, these enterprises and organizations also are financed from retained profits and bank loans. In addition, the collective farms, which are not financed from the budget, finance their activities out of retained income and bank loans.

3. The Soviet state budget is a consolidated budget, combining the all-union budget, the budgets of the union republics, and the social security budget. Its announcement in December of the preceding year might be expected to provide an early indication of Soviet policies for the coming year and of fulfillment in the past year. In recent years, however, the possibility of discerning Soviet policy on allocation of resources through an examination of budget material has been impaired by the paucity of detail on planned budgets and the absence of information on actual budget revenues and expenditures in each preceding year. Furthermore, unannounced accounting changes and substantial divergence of actual from planned budgets limit the value of announced budget plans and make analyses of trends in financial categories a risky business.

TABLE IX-1.—U.S.S.R.: Revenues of the state budget, by budget category, 1955 and 1959-63,<sup>1</sup> actual receipts

[In billions of current rubles]

	1955	1959	1960	1961	1962	1963
Social sector.....	47.62	66.61	70.14	71.0	76.7	81.4
Turnover tax.....	24.24	31.07	31.34	30.9	32.9	34.5
Deductions from profits.....	10.28	15.96	18.63	20.7	23.9	25.7
Revenue from MTS-RTS's.....	.62	.18	<sup>2</sup> (0)	(0)	(0)	(0)
Other taxes on organizations.....	1.24	1.80	1.84	1.2	1.3	1.4
Social insurance receipts.....	2.61	3.58	3.74	4.2	4.5	4.7
Revenue residual.....	8.63	13.91	14.58	14.0	14.1	15.1
Private sector.....	8.82	7.41	6.94	7.0	7.6	8.1
State taxes on the population.....	4.83	5.52	5.60	5.8	6.0	6.3
State loans from savings deposits.....	.53	1.33	.85	.76	1.1	1.2
Other state loans.....	3.15	.16	.06	.03	.1	.1
Local taxes on state lottery revenue.....	.31	.40	.43	.4	.4	.5
Total revenues.....	56.43	74.01	77.08	78.05	84.3	89.5

<sup>1</sup> Due to rounding, components may not add to the totals shown. Rubles are expressed in terms of new rubles.

<sup>2</sup> Figures in parentheses are estimates.

NOTE.—NA indicates data not available.

Sources: Dundukov, G. F. (ed.), *Gosudarstvennyy byudzhel SSSR i byudzhety soyuznykh respublik: statisticheskiy sbornik*, Moscow, 1962, pp. 7-9. U.S.S.R., TsSU. *Narodnoye khozyaystvo SSSR v 1962*, Moscow, 1963, p. 635. U.S.S.R., TsSU. *Narodnoye khozyaystvo SSSR v 1963*, Moscow, 1965, p. 654.

TABLE IX-2.—U.S.S.R.: Expenditures of the state budget, by budget category, 1955 and 1959-63,<sup>1</sup> actual outlays

[In billions of current rubles]

	1955	1959	1960	1961	1962	1963
Financing the national economy.....	23.31	32.37	34.12	32.6	36.2	38.8
Industry and construction.....	10.95	14.88	15.59	NA	NA	NA
State agriculture.....	5.09	3.52	4.42	NA	NA	NA
Agricultural procurement.....	.78	<sup>2</sup> (.5)	(.5)	NA	NA	NA
Trade (domestic and foreign).....	1.07	3.21	3.59	NA	NA	NA
Transportation and communications.....	1.95	2.69	2.81	NA	NA	NA
Municipal economy and housing.....	.90	2.75	3.21	NA	NA	NA
Residual.....	2.60	(4.83)	(4.00)	NA	NA	NA
Social-cultural measures.....	14.72	23.12	24.94	27.2	28.9	31.0
Education and science.....	6.89	9.41	10.32	11.3	12.4	13.7
Health and physical culture.....	3.11	4.46	4.82	5.0	4.9	5.3
Social welfare.....	4.71	9.24	9.79	10.9	11.6	12.0
Defense.....	10.74	9.37	9.30	11.6	12.6	13.9
Administration.....	1.25	1.12	1.09	1.1	1.1	1.1
Loan service.....	1.43	.69	.7	.8	.8	.1
Budgetary expenditure residual.....	2.51	3.73	2.97	3.0	2.6	2.1
Total expenditures.....	53.95	70.40	73.13	76.3	82.2	87.0

<sup>1</sup> Due to rounding, components may not add to the totals shown. Rubles are expressed in terms of new rubles.

<sup>2</sup> Figures in parentheses are estimates.

NOTE.—NA indicates data not available.

Sources: Dundukov, G. F. (ed.), *Gosudarstvennyy byudzhel SSSR i byudzhety soyuznykh respublik: statisticheskiy sbornik*, Moscow, 1962, pp. 18-19. U.S.S.R., TsSU. *Narodnoye khozyaystvo SSSR v 1958*, Moscow, 1959, p. 900. U.S.S.R., TsSU. *Narodnoye khozyaystvo SSSR v 1959*, Moscow, 1960, p. 801. U.S.S.R., TsSU. *Narodnoye khozyaystvo SSSR v 1962*, Moscow, 1963, p. 635. U.S.S.R., TsSU. *Narodnoye khozyaystvo SSSR v 1963*, Moscow, 1965, p. 654.

## CHAPTER X EDUCATION<sup>1</sup>

Total Soviet education enrollments (excluding factory training programs) increased from 49.5 million in the 1962-63 school year to 52.4 million in 1963-64. With a larger school age population in the U.S.S.R. than in the United States, the total numbers in school were roughly comparable in the two countries. In the fall of 1962, total elementary, secondary, and higher education enrollments in the United States were 49.8 million and, in the fall of 1963, 51.7 million. (The U.S. figures include kindergarten enrollments, the Soviet figures do not.)

Enrollments in upper secondary general education, grades 9 to 11, in the U.S.S.R. increased from 4.6 million in 1962-63 to 5.7 million in 1963-64. During the same period, U.S. school enrollments in grades 9 to 12 increased from 11.5 to 12.3 million. Despite the increase, the Soviet Government decided to return to a 10-year school system, upper secondary education to consist of grades 9 and 10, in 1964.

Soviet higher education enrollments increased from 2.9 million in 1962-63 to 3.3 million in 1963-64. U.S. higher education enrollments were 4.2 million in the fall of 1962 and 4.5 million in the fall of 1963. Enrollments in regular day programs of higher education have increased very slightly in the past decade in the U.S.S.R. from 1.1 million in 1954-55 to 1.4 million in 1963-64. The bulk of the increase has been in higher education by correspondence-extension courses, enrollments in such courses increasing about 2½ times in the same decade to the 1963-64 total of about 1 million.

Soviet total education expenditures (in all categories listed in Soviet tables except press, art, and radiobroadcasting) increased from 15.5 billion rubles in 1962 to 16.9 billion rubles in 1963. At the official rate of exchange of 1.10 dollars to 1 ruble, the amounts were about 17.1 billion dollars in 1962 and 18.6 billion dollars in 1963. U.S. education expenditures, not directly comparable to Soviet expenditures, were approximately 32 billion dollars during the 1962-63 school year.

<sup>1</sup> U.S. statistics cited here are from *Progress of Public Education in the United States of America 1963-64*. U.S. Department of Health, Education, and Welfare, Office of Education Report OE-10005-64-A. Washington: U.S. Government Printing Office, 1964. 73 pages.

SOURCE: Data in the tables on education are primarily from the following source: *Narodnoe khoziaistvo SSSR v. 1963 g., statisticheskii ezhegodnik (National Economy of the U.S.S.R. in 1963, statistical yearbook)*, published by the Central Statistical Administration attached to the U.S.S.R. Council of Ministers, Moscow, 1965. Data from other official Soviet statistical handbooks have also been included.

TABLE X-1.—Enrollment in schools and training programs of various types at all levels, U.S.S.R., selected years, 1914-15 to 1963-64

[Thousands of students at beginning of school year]

Schools and training programs	1914-15	1940-41	1952-53	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64
Total enrollment.....	10,588	47,547	47,717	46,057	48,741	52,600	56,340	61,265	65,100
General education schools of all types.....	9,656	35,552	32,643	31,483	33,364	36,187	39,087	42,445	44,682
Primary, 7-year, 8-year, and complete secondary schools.....	9,656	34,784	30,953	29,567	31,046	33,417	35,813	38,482	40,478
Schools for workers and rural youth and schools for adults (including correspondence study).....		768	1,690	1,916	2,318	2,770	3,274	3,960	4,204
Trade-technical and factory schools.....	106	717	774	904	996	1,113	1,266	1,397	1,491
Secondary specialized educational institutions <sup>1</sup> .....	54	975	1,477	1,876	1,908	2,060	2,370	2,668	2,983
Higher educational institutions.....	127	812	1,441	2,179	2,267	2,396	2,640	2,944	3,261
Training programs for new trades and raising qualifications in factory and other courses (excluding political education).....	645	9,491	11,382	9,615	10,206	10,844	10,977	11,814	12,683

<sup>1</sup> These are industrial technicums and other secondary specialized schools, providing vocational-technical training.

TABLE X-2.—Schools of general education of all types, number of schools, enrollment, and number of teachers, U.S.S.R., 1950-51 and 1958-64

[At beginning of school year]

	1950-51	1958-59	1960-61	1962-63	1963-64
Schools of general education of all types.....	222	215	224	227	221
Total enrollment (thousands).....	34,752	31,483	36,187	42,442	44,682
Of which:					
Grades 1 to 4.....	20,023	17,779	18,659	19,426	19,706
Grades 5 to 8 <sup>1</sup> .....	13,706	10,571	14,798	18,233	19,105
8th grade students.....	929	1,633	2,527	3,947	4,502
Grades 9 to 11.....	907	3,022	2,594	4,596	5,654
9th grade students.....	495	1,397	1,385	2,488	2,620
10th grade students.....	382	1,589	1,152	1,681	2,089
11th grade students.....	80	36	67	427	945
Students in schools for mentally and physically handicapped children.....	117	111	136	187	217
Total number of teachers (thousands).....	1,475	1,900	2,043	2,235	2,339

<sup>1</sup> The significant increase in the number of students in grades 5 to 8 for recent years is attributable to the transition from the compulsory 7-year general school to the compulsory 8-year general school.

NOTE.—Boarding schools, and schools and groups with a prolonged day underwent expansion. At the beginning of the 1963-64 school year the enrollment in boarding schools and in schools and groups with a prolonged day was 2,400,000.

TABLE X-3.—Primary, 7-year, 8-year, and complete secondary schools, number of schools, enrollment, and number of teachers, U.S.S.R., 1952-53 and 1958-59 to 1963-64  
 [At beginning of school year]

	1952-53	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64
Total number of schools (thousands) <sup>1</sup> .....	198.3	199.7	199.3	199.2	198.8	197.6	195.5
Primary.....	115.8	112.4	111.6	110.1	108.0	105.4	101.8
7-year.....	62.0	55.7	54.4	36.4	21.1	62.8	63.7
8-year.....			2.1	22.5	40.5	28.1	28.5
Complete secondary.....	19.7	30.7	30.2	29.2	28.0	28.1	28.5
Special schools for mentally and physically handicapped children.....	.8	.9	1.0	1.0	1.2	1.3	1.5
Total enrollment (millions).....	30.9	29.6	31.0	33.4	35.8	38.5	40.5
Primary.....	4.5	4.5	4.5	4.4	4.4	4.3	4.2
7-year.....	13.6	8.9	9.3	6.1	3.1	16.0	17.1
8-year.....			.8	5.9	11.2	18.0	19.0
Complete secondary.....	12.7	16.1	16.3	16.9	17.0	18.0	19.0
Special schools.....	.1	.1	.1	.1	.1	.2	.2
Total number of teachers (thousands).....	1,531.0	1,813.0	1,855.0	1,933.0	2,024.0	2,120.0	2,218.0

<sup>1</sup> Excluding schools for working and rural youth and schools for adults.

TABLE X-4.—Higher and secondary specialized educational institutions, number of schools, and enrollment by type of instruction, U.S.S.R., 1952-53, 1958-59 to 1963-64

	1952-53	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64
Higher schools:							
Total number.....	827	766	753	739	731	738	742
Total enrollments (thousands).....	1,441	2,179	2,267	2,396	2,640	2,944	3,261
Day division.....	933	1,180	1,146	1,156	1,204	1,287	1,383
Evening division.....	38	163	196	245	307	374	439
Correspondence instruction.....	470	846	925	995	1,129	1,283	1,439
Secondary specialized schools:							
Total number.....	3,604	3,346	3,330	3,328	3,416	3,521	3,626
Total enrollments (thousands).....	1,477	1,876	1,908	2,060	2,370	2,665	2,983
Day division.....	1,219	1,125	1,067	1,091	1,203	1,310	1,474
Evening division.....	82	303	318	370	431	489	536
Correspondence instruction.....	176	448	523	599	736	869	973

TABLE X-5.—Enrollment in secondary specialized educational institutions, by groups of specialties, U.S.S.R., 1952-53, 1958-59 to 1963-64  
 [Thousands of students]

Groups of specialties	1952-53	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64
All specialties, total.....	1,477.4	1,875.9	1,907.8	2,059.5	2,369.7	2,667.7	2,982.8
Geology and prospecting for mineral resources.....	19.9	11.1	10.8	11.8	12.5	13.8	16.0
Mining of mineral resources.....	49.0	54.3	47.8	42.6	38.5	35.1	35.5
Power engineering.....	57.6	77.5	84.3	98.4	115.1	130.7	147.4
Metallurgy.....	19.9	24.0	24.3	27.3	30.2	33.1	36.0
Machine building and instrument making.....	155.3	339.7	330.2	348.2	387.8	428.1	473.3
Electromachine building and electro instrument making.....	20.8	27.7	33.2	45.5	60.4	78.8	101.5
Radiotechnics and communication.....	40.4	59.3	61.4	71.1	79.5	93.6	109.4
Chemical technology and technology of timber engineering and technology of wood, cellulose, and paper.....	27.2	31.6	34.6	43.5	51.9	58.8	64.9
Technology of food products.....	17.8	29.7	27.3	28.7	30.7	32.8	35.4
Technology of consumer goods.....	23.7	51.6	59.3	66.6	75.6	86.1	98.4
Construction.....	27.7	42.1	51.8	59.7	63.9	71.7	83.0
Geodesy and cartography.....	108.6	161.4	145.6	152.0	165.9	183.8	204.8
Hydrology and meteorology.....	5.4	7.3	6.3	6.4	6.2	6.3	6.6
Agriculture.....	4.1	6.2	5.9	6.3	6.6	6.9	7.0
Transport.....	219.7	293.5	301.3	292.4	314.8	340.9	389.1
Economics.....	52.8	98.8	101.0	112.3	120.8	147.1	166.9
Health and physical culture.....	130.8	220.2	236.2	261.5	317.4	371.2	401.8
Education.....	153.2	164.6	159.5	176.3	232.9	257.6	279.5
Art.....	303.2	136.5	142.2	154.3	183.6	212.8	237.4
	25.2	37.3	44.8	54.6	69.4	78.5	85.8

TABLE X-6.—Enrollment of primary, 7-year, 8-year, and complete secondary schools, by class grouping, U.S.S.R., 1950-51 and 1958-64  
 [At beginning of school year; in millions]

	1950-51	1958-59	1960-61	1962-63	1963-64
Total enrollment <sup>1</sup> .....	33.3	29.6	33.4	38.5	40.5
In cities and urban areas.....	11.8	13.7	16.1	18.9	20.1
In rural areas.....	21.5	15.9	17.3	19.6	20.4
Classes 1 to 4, total.....	19.7	17.7	18.6	19.4	19.6
In cities and urban areas.....	6.2	7.6	8.4	9.0	9.2
In rural areas.....	13.5	10.1	10.2	10.4	10.4
Classes 5 to 8, total.....	12.8	9.6	13.2	16.2	17.3
In cities and urban areas.....	5.1	4.8	6.7	8.0	8.6
In rural areas.....	7.7	4.8	6.5	8.2	8.7
Classes 9 to 11, total.....	.7	2.2	1.5	2.7	3.4
In cities and urban areas.....	.4	1.2	.9	1.7	2.2
In rural areas.....	.3	1.0	.6	1.0	1.2

<sup>1</sup> Excluding enrollment figures for the mentally defective and physically handicapped.

TABLE X-7.—Schools for workers, peasant youth, and adults, U.S.S.R., 1950-51 and 1958-64  
 [At the beginning of the school year]

	1950-51	1958-59	1960-61	1962-63	1963-64
Total number of schools <sup>1</sup> .....	20,465	15,493	25,229	29,096	25,647
Independent institutions.....	12,204	9,947	12,331	12,778	13,064
Total enrollment (including correspondence course students (in thousands)).....	1,437.8	1,916.3	2,769.9	3,960.3	4,203.5
Classes 1 to 4.....	352.2	50.9	54.2	81.9	84.7
Classes 5 to 8.....	894.1	1,048.5	1,654.6	2,002.2	1,832.8
Classes 9 to 11.....	191.5	816.9	1,061.1	1,876.2	2,236.0

<sup>1</sup> Including elementary, 7-year, 8-year, and complete secondary schools which offer organized classes for the instruction of working and peasant youth, as well as independent correspondence schools.

TABLE X-8.—Nursery schools—Number of schools, enrollment, and number of teachers and principals, U.S.S.R., 1927-63  
 [At the end of the year]

Year	Total (thousands)		
	The number of nursery schools	The number of children	Principals and teachers
1927.....	Thousands 2.1	Thousand 107.5	Thousands 6.1
1932.....	19.6	1,061.7	52.0
1937.....	24.5	1,045.3	71.5
1940.....	24.0	1,171.5	75.2
1958.....	25.6	1,168.8	92.6
1960.....	86.8	2,354.1	191.9
1962.....	43.6	3,115.1	243.4
1963.....	52.7	4,171.7	311.8
.....	57.6	4,818.0	350.4



TABLE X-9.—Distribution of elementary 7-year, 8-year, and secondary school teachers according to educational rank and length of service in pedagogical work, U.S.S.R., selected years 1950-51 and 1963-64 (for schools of the Ministries of Education and the Ministry of Transportation)

	Total number of teachers (without other positions)	Of those (in percentages of the total)						Those with service in pedagogical work	
		Those with education				Without complete secondary education	Up to 5 years	25 years and more	
		Higher	In teachers' institutes and comparable educational institutions	Secondary	Of that number pedagogical				
All teachers (including school directors): <sup>1</sup>	Thousands	14.2	20.4	58.9	46.9	6.5	34.3	7.9	
1950-51	1,425	38.3	14.9	44.7	35.6	2.1	23.8	10.1	
1963-64	2,119								
Principals of elementary schools	101	2.2	5.3	91.8	83.0	.7	12.2	19.7	
Directors of 8-year schools	64	71.5	24.2	4.3	3.3	.04	7.6	17.8	
Directors of secondary schools	58	98.1	3.2	4.2	2.2	0	4.4	28.6	
Directors of studies of 8-year schools	48	68.1	24.6	7.3	5.9	.04	13.0	9.9	
Directors of studies of secondary schools	55	83.3	8.9	7.5	3.9	.2	14.8	12.8	
Teachers (except for teachers-directors of the schools):	647	4.0	6.1	88.4	79.9	.6	19.9	12.0	
Classes 1 to 4	728	56.3	27.7	15.7	3.9	.2	25.3	7.8	
Classes 5 to 8	206	87.1	9.2	3.6	2.0	.1	22.5	9.7	
Classes 9 to 11									
Teachers of music, singing, drawing (art), drafting, physical education, and mechanical drawing	242	15.2	7.2	61.8	28.2	15.8	46.5	3.9	

<sup>1</sup> Directors of schools generally perform teaching duties.

TABLE X-10.—*Distribution of teachers in classes 5 to 8 and 9 to 11, including directors, directors of studies, and persons in charge of instruction according to specialties and level of education at the beginning of the 1963-64 school year, U.S.S.R.*  
 [According to schools of the Ministries of Education and the Ministry of Transportation]

	Teachers, classes 5 to 8			Teachers, classes 9 to 11			
	Of those with education (in percentages)			Of those with education (in percentages)			
	Total of teachers (without other positions—in thousands)	Higher	In teachers' institutes and comparable educational institutions	Total number of teachers (without other professions—in thousands)	Higher	In teachers' institutes and comparable educational institutions	Secondary and incomplete secondary
Russian language and literature:	139	60.8	28.4	30	90.7	7.2	2.1
In schools with instruction in the Russian language.....	55	52.4	28.6	15	83.7	12.3	4.0
In schools with instruction in non-Russian languages.....	72	60.7	29.1	19	88.4	9.6	2.0
Maternal language (except for Russian) and literature.....	93	66.1	25.2	37	92.1	6.5	1.4
History.....	34	63.7	23.1	26	90.8	7.3	1.9
Physics.....	131	52.7	31.2	41	89.8	8.5	1.7
Mathematics.....	58	44.6	38.8	13	82.7	13.4	2.9
Physics and mathematics.....	28	70.1	19.8	23	93.7	5.0	1.3
Chemistry.....	56	68.7	20.3	14	89.4	7.9	2.7
Natural science.....	68	56.2	27.7	15	85.4	10.1	4.5
Geography and natural science.....	26	41.3	40.5	4	76.5	17.3	6.2
Foreign languages.....	88	64.8	15.4	25	86.4	8.4	5.2

TABLE X-11.—The number of women teachers in elementary, 7-year, 8-year, and secondary schools, U.S.S.R., selected years, 1950-51 and 1963-64 (of the Ministries of Education and the Ministry of Transportation)

[At the beginning of the school year]

	The number of teachers without other positions (in thousands)	The number that are women	Percentage of women of the total number of teachers and directors of schools
All teachers (including directors of schools):			
1950-51.....	1,425	999	70
1963-64.....	2,119	1,459	69
Of which:			
Directors of elementary schools.....	101	73	72
Directors of 8-year schools.....	64	15	24
Directors of secondary schools.....	28	6	20
Directors of studies of 8-year schools.....	48	27	56
Directors of studies of secondary schools.....	55	24	44
Teachers (except for teachers-directors of schools):			
Classes 1 to 4.....	647	561	87
Classes 5 to 8.....	728	548	75
Classes 9 to 11.....	206	138	67
Teachers of music, singing, drawing (art), drafting, physical education and manual training.....	242	69	28

TABLE X-12.—Admissions to secondary specialized educational instructions by type of instruction, and admissions and graduations by branch group of educational institution, U.S.S.R., 1952 and 1953-63

[Thousands of students]

	1952	1953	1959	1960	1961	1962	1963
Admissions:							
Type of instruction:							
Day division.....	412.0	363.7	378.4	415.0	451.3	466.3	500.8
Evening division.....	28.1	75.2	98.7	130.0	139.1	141.4	146.1
Correspondence instruction.....	59.9	145.2	179.1	224.3	280.7	297.9	308.1
Branch groups of educational institutions, total.....	590.0	584.1	656.2	769.3	871.1	905.6	955.0
Industry and construction.....	193.8	221.5	271.2	322.2	347.6	390.0	385.1
Transport and communications.....	35.5	46.6	51.6	60.8	68.4	73.0	77.6
Agriculture.....	85.0	108.4	111.3	120.3	134.7	146.3	151.0
Economics and law.....	35.7	70.3	77.0	92.7	117.2	122.0	124.3
Health, physical culture, and sports.....	58.0	67.5	70.5	85.5	92.3	91.3	102.1
Education.....	84.2	58.5	61.9	72.1	91.4	92.9	94.4
Art and cinematography.....	7.8	11.3	12.7	15.7	19.5	20.1	20.5
Graduations:							
Branch groups of educational institutions, total.....	280.6	551.2	527.9	483.5	429.5	452.2	510.7
Industry and construction.....	79.3	219.7	224.3	189.9	170.9	163.6	202.9
Transport and communications.....	14.7	42.2	40.5	36.6	37.1	34.6	35.3
Agriculture.....	47.0	96.3	89.5	80.2	77.7	74.8	64.6
Economics and law.....	23.7	45.2	50.3	56.5	56.2	59.8	67.9
Health, physical culture, and sports.....	41.0	77.2	71.0	64.2	31.3	58.6	71.8
Education.....	70.2	63.4	45.1	48.9	48.6	51.9	58.0
Art and cinematography.....	4.7	7.2	7.2	7.2	7.7	8.9	10.2

TABLE X-13.—Graduations of specialists from higher and secondary specialized institutions, according to type of instruction, U.S.S.R., selected years, 1940, 1950, 1958, and 1960-63

[In thousands]

	1940	1950	1958	1960	1962	1963
Graduations from higher educational institutions.....	126.1	176.9	290.8	343.3	316.6	331.7
Type of instruction:						
Daytime divisions.....	97.8	145.9	205.4	228.7	195.1	200.7
Evening divisions.....	4.4	2.0	8.7	15.4	22.5	25.9
Correspondence instruction.....	23.9	29.0	76.7	99.2	99.0	105.1
Graduations from middle specialized educational institutions.....	236.8	313.7	551.2	483.5	452.2	510.7
Type of instruction:						
Daytime divisions.....	205.3	279.0	463.2	348.1	290.3	288.8
Evening divisions.....	2.5	4.7	37.5	57.9	56.8	91.0
Correspondence instruction.....	29.0	30.0	50.5	77.5	105.1	130.9

TABLE X-14.—The number of graduations of specialists from higher and secondary specialized educational institutions, U.S.S.R., 1918-63

[In thousands]

	Graduations of specialists from higher educational institutions		Graduations of specialists from secondary specialized educational institutions	
	Total	Average annual number	Total	Average annual number
1918-28.....	340	30.9	198	18.0
1929-32.....	170	42.5	291	72.8
1933-37.....	370	74.0	623	124.6
1938-40.....	328	109.3	678	226.0
1941-45.....	302	60.4	540	108.0
1946-50.....	652	130.4	1,278	255.7
1951-55.....	1,121	224.3	1,560	311.9
1956-58.....	817	272.4	1,565	521.8
1959-63.....	1,655	331.0	2,404	480.8
Total.....	6,755	-----	9,137	-----

TABLE X-15.—Graduations of specialists from secondary specialized educational institutions, by groups of specialties, U.S.S.R., selected years, 1950, 1958, and 1960-63

[In thousands]

	1950	1958	1960	1962	1963
Total.....	313.7	551.0	483.5	462.2	510.7
GROUPS OF SPECIALTIES					
Geology and prospecting for mineral resources.....	1.8	5.2	2.5	2.2	2.1
Mining of mineral resources.....	6.0	15.8	14.1	8.3	7.0
Power engineering.....	7.7	21.0	15.4	16.0	21.7
Metallurgy.....	4.9	6.8	5.6	4.1	5.9
Machine building and instrument making.....	26.6	70.8	74.9	59.9	70.8
Electro-machine building and electro-instrument making.....	2.4	7.8	6.8	7.2	12.2
Radiotechnics and communication.....	5.2	13.9	12.5	13.0	16.6
Chemical technology.....	4.4	10.6	7.0	7.6	11.6
Timber engineering, and technology of wood, cellulose and paper.....	2.4	8.7	6.7	4.9	5.5
Technology of food products.....	4.9	10.3	12.0	12.9	13.9
Technology of consumer goods.....	5.0	8.9	9.0	9.1	15.8
Construction.....	14.6	53.3	34.2	27.0	28.6
Geodesy and cartography.....	.8	2.5	1.5	1.2	.9
Hydrology and meteorology.....	.6	1.4	1.4	1.4	1.4
Agriculture.....	46.6	79.8	67.2	61.6	48.0
Transportation.....	11.1	23.7	21.3	20.0	20.3
Economics.....	26.3	64.0	71.6	76.0	87.2
Health and physical culture.....	54.2	80.6	64.4	58.9	72.1
Education.....	76.7	58.9	47.9	50.3	56.8
Art.....	5.0	6.3	7.5	10.6	12.3

TABLE X-16.—Total state budget expenditures and expenditures budgeted for enlightenment, U.S.S.R., 1955 and 1958-63

[Data for 1955-60 are from *Narodnoe khoziaistvo v 1960 godu (National Economy in 1960)*, statistical yearbook published by the Central Statistical Administration attached to the U.S.S.R. Council of Ministers, Moscow, 1961. Pp. 846-847. The 1961-62 data, from the yearbooks published in 1962 and 1963 and data for 1963 are from the yearbook published in 1965, pp. 654-657]

Budget category	Millions of rubles						
	1955	1958	1959	1960	1961	1962	1963
Total State budget expenditures.....	54,000	64,300	70,400	73,100	76,300	82,200	87,000
Percent.....	100	100	100	100	100	100	100
Total social-cultural expenditures.....	14,717	21,418	23,118	24,937	27,187	28,967	30,967
Percent.....	27	33	33	34	36	36	36
Enlightenment <sup>1</sup> total (included in preceding line).....	6,894	8,603	9,412	10,323	11,349	12,435	13,707
Percent.....	13	13	13	14	15	15	15
1. General education and education of children and youth, and general adult education, total.....	3,354	3,979	4,435	5,002	5,606	6,208	<sup>2</sup> 6,730
(a) Kindergartens.....	361	525	600	697	824	1,001	1,194
(b) Children's homes and boarding schools for deaf and blind children.....	286	306	315	305	290	291	304
(c) General education schools of all types <sup>3</sup> .....	2,520	2,779	2,998	3,262	3,599	3,913	4,224
2. Cultural-educational work.....	253	318	328	333	336	327	305
3. Training cadres, total.....	2,326	2,352	2,389	2,420	2,532	2,723	2,888
(a) Higher educational institutions.....	1,021	1,141	1,152	1,167	1,208	1,286	1,365
(b) Technicums and schools for training of cadres of secondary qualification.....	592	541	523	527	552	585	634
(c) Trade and railroad schools.....	166	187	220	262	312	337	369
(d) Factory schools.....	90	68	33	24			
(e) Technical schools.....	40	69	73	83		90	91
(f) [Other] factory, trade, and mechanical schools, schools for mechanization of agriculture.....	305	230	277	236	252	325	350
4. Science.....	825	1,696	2,004	2,339	2,679	3,006	<sup>4</sup> 3,477
5. Press.....	62	88	88	74	75	68	65
6. Art and radio.....	74	129	122	105	90	92	242

<sup>1</sup> The Russian word "prosveshchenie" is translated here as "enlightenment." Soviet sources translate it as "education," leading to a conceptual error and overstatement of the total education budget.

<sup>2</sup> Individual components do not add up to subtotal.

<sup>3</sup> Data given in 1963 yearbook (p. 567) for years 1958, 1960, and 1962, respectively, are 2,890, 3,674, and 4,530.

<sup>4</sup> Estimated residual figure.

TABLE X-17.—Number of higher educational institutions and enrollment, U.S.S.R., 1914-15 and 1922-23 to 1963-64

School year	Number of educational institutions	Thousands of students	School year	Number of educational institutions	Thousands of students
1914-15 (current boundaries)	105	127.4	1945-46	789	730.2
1922-23	248	216.7	1946-47	805	871.7
1923-24	187	208.3	1947-48	807	963.6
1924-25	189	189.5	1948-49	823	1,032.1
1925-26	145	187.0	1949-50	864	1,132.1
1926-27	148	168.0	1950-51	880	1,247.4
1927-28	148	168.5	1951-52	887	1,356.1
1928-29	152	176.6	1952-53	827	1,441.5
1929-30	190	204.2	1953-54	818	1,562.0
1930-31	579	287.9	1954-55	798	1,730.5
1931-32	701	405.9	1955-56	765	1,867.0
1932-33	832	504.4	1956-57	767	2,001.0
1933-34	714	458.3	1957-58	763	2,099.1
1934-35	688	527.3	1958-59	766	2,178.9
1935-36	718	563.5	1959-60	753	2,267.0
1936-37	700	542.0	1960-61	739	2,395.5
1937-38	683	547.2	1961-62	731	2,640.0
1938-39	708	602.9	1962-63	738	2,944.0
1939-40	750	619.9	1963-64	742	3,261.0
1940-41	817	811.7			

TABLE X-18.—Enrollment in higher education, by type of instruction, U.S.S.R., 1940-64

School year	Thousands of students			
	Total	In day divisions	In evening divisions	In correspondence
1940-41	811.7	558.1	26.9	226.7
1945-46	730.2	525.2	14.0	191.0
1946-47	871.7	636.2	13.3	222.2
1947-48	963.6	690.4	15.2	258.0
1948-49	1,032.1	716.0	18.4	297.7
1949-50	1,132.1	755.9	22.3	353.9
1950-51	1,247.4	817.9	27.2	402.3
1951-52	1,356.1	836.1	32.1	487.9
1952-53	1,441.5	933.6	37.9	470.0
1953-54	1,562.0	994.4	48.3	519.3
1954-55	1,739.5	1,084.1	62.4	584.0
1955-56	1,867.0	1,147.0	80.9	639.1
1956-57	2,001.0	1,177.1	100.8	723.1
1957-58	2,099.1	1,193.1	127.2	778.8
1958-59	2,178.9	1,179.6	153.3	846.0
1959-60	2,267.0	1,145.8	196.8	925.4
1960-61	2,395.5	1,155.5	244.9	995.1
1961-62	2,640.0	1,204.0	307.0	1,129.0
1962-63	2,944.0	1,267.0	374.0	1,283.0
1963-64	3,261.0	1,353.0	439.0	1,430.0

TABLE X-19.—Enrollment in higher education, by groups of specialties, U.S.S.R., selected years, 1950-64

Groups of specialties	Thousands of students						1960-61 as percent of—		1962-63 (rounded)	1963-64 (rounded)
	1950-51	1955-56	1959-60	1960-61	1950-51	1955-56				
	1,247,382	1,866,994	2,286,979	2,395,545	192	128				
All specialties, total.....	1,247,382	1,866,994	2,286,979	2,395,545	192	128	2,639,900	2,943,700	3,260,700	
Geology and prospecting for mineral resources.....	16,251	32,259	21,820	21,276	131	66	22,100	23,000	24,500	
Mining of mineral resources.....	23,860	36,471	30,924	30,248	145	83	52,100	31,600	33,900	
Power engineering.....	23,840	52,493	68,663	74,608	313	142	78,400	71,800	78,400	
Metalurgy.....	14,708	24,713	29,323	31,500	214	127	33,400	34,500	39,200	
Machine building and instrument making.....	86,332	172,634	270,116	302,684	351	175	344,300	376,400	414,600	
Electro-mechanics building and electro-instrument making.....	14,156	36,250	69,988	91,330	(1)	252	121,600	175,100	218,500	
Radio-technics and communication.....	15,630	39,795	65,025	78,228	(2)	197	90,000	112,700	126,400	
Chemical technology.....	23,906	37,010	47,290	56,194	235	149	60,900	68,200	78,200	
Timber engineering and technology of wood, cellulose, and paper.....	8,639	20,499	22,277	22,863	264	112	24,300	25,700	26,200	
Technology of food products.....	10,049	18,165	27,195	31,349	312	173	36,200	41,300	47,000	
Technology of consumer goods.....	9,464	20,144	26,645	28,821	305	143	32,000	35,000	38,200	
Construction.....	37,082	93,292	135,116	147,024	396	158	164,400	180,800	198,700	
Geodesy and cartography.....	2,793	3,507	5,354	5,870	210	167	6,500	6,700	7,000	
Hydrology and meteorology.....	2,848	4,123	4,583	5,158	181	125	5,500	5,900	6,200	
Agriculture and forestry.....	107,682	191,786	254,168	236,008	219	123	253,300	273,700	282,600	
Transport, (exploitation).....	23,741	36,628	58,319	65,017	276	179	73,500	81,700	90,400	
Economics.....	72,591	131,461	198,413	217,674	300	166	248,900	277,300	316,800	
Law.....	45,383	38,803	38,820	40,301	89	104	43,400	46,600	50,200	
Health and physical culture.....	113,300	159,711	186,249	189,161	167	118	197,000	206,300	215,800	
Specialties in universities.....	87,452	126,688	176,962	186,953	214	148	200,100	216,800	243,800	
Specialties in pedagogical and library institutes.....	496,283	576,278	512,515	512,803	103	89	552,000	624,600	687,700	
Art.....	14,362	13,894	17,224	19,875	138	143	23,000	27,000	28,400	

16 times.  
 35 times.



TABLE X-20.—Persons with higher and secondary (complete and incomplete) education, U.S.S.R., selected years, 1959 and 1964

[ In millions]

	1959	1964
Persons with education:		
Complete higher education.....	3.8	5.3
Uncompleted higher education.....	1.7	2.2
Complete secondary specialized education in technicums and comparable institutions.....	7.9	10.1
Complete secondary general education.....	9.9	11.5
Incomplete secondary education (those who have completed the 7-year school as well as those who have not completed secondary education, i.e. more than the 7-year school).....	35.4	43.3
Total of those with higher and secondary education (complete and incomplete).....	68.7	72.4

TABLE X-21.—Persons with higher and secondary education (complete and incomplete) per 1,000 inhabitants, U.S.S.R., selected years, 1939, 1959, and 1964

	Per 1,000 of total number of inhabitants			Per 1,000 of all working inhabitants		
	1939	1959	At the beginning of 1964	1939	1959	At the beginning of 1964
Persons with education:						
Completed higher education.....	6	18	24	13	33	43
Uncompleted higher, secondary, and incomplete secondary.....	77	263	296	110	400	458
Total with higher and secondary education (complete and incomplete).....	83	281	320	123	433	501

NOTE.—Until the revolution, according to the population census of 1897, illiteracy from the age of 9 and above was 76 percent. Presently the U.S.S.R. is essentially a completely literate country.  
 At the beginning of 1964, 32 percent of the total population possessed a higher and secondary education (complete and incomplete); 50 percent of the working population had higher and secondary (complete and incomplete) education. Of that number: about 44 percent of the workers were included; 26 percent of the collective farmers were included; and 92 percent of the specialists and salaried employees were included.

TABLE X-22.—Women students as percent of total enrollment in higher education, by main areas, U.S.S.R., selected years, 1927-64

Main area	1927-28	1940-41	1945-46	1950-51	1955-56	1960-61	1961-62	1962-63	1963-64
Number of women students (in thousands).....	47	471	562	661	971	1,042	1,109	1,236	-----
Women as percent of total enrollment.....	28	58	77	58	52	43	42	42	43
Women as percent of total students in:									
Industry, construction, transport, and communications.....	13	40	60	30	35	30	28	28	29
Agriculture.....	17	48	79	39	39	27	26	25	25
Economics and law.....	21	64	77	57	67	49	-----	-----	-----
Health, physical culture, and sport.....	52	74	90	65	60	56	55	54	53
Education, art, and cinematography.....	49	66	84	71	71	63	62	62	63

TABLE X-23.—Admissions to higher educational institutions, by type of instruction, U.S.S.R.: 1940-41, and 1945-46 to 1963-64

Year	Thousands of students			
	Total	Day division	Evening division	Correspondence instruction
1940-41	263.4	154.9	6.6	101.9
1945-46	285.7	171.6	4.9	109.2
1946-47	327.2	201.6	4.4	121.2
1947-48	281.1	189.5	4.7	86.9
1948-49	291.8	187.2	6.4	98.2
1949-50	324.3	203.3	6.9	114.1
1950-51	349.1	228.4	9.1	111.6
1951-52	374.4	245.2	10.3	118.9
1952-53	287.3	249.0	11.8	126.5
1953-54	430.8	265.1	16.6	149.1
1954-55	489.0	276.2	22.9	169.9
1955-56	461.4	257.2	28.4	175.8
1956-57	458.7	231.2	32.6	194.9
1957-58	438.3	219.7	34.7	183.0
1958-59	455.9	215.5	42.2	198.2
1959-60	511.7	227.1	63.5	221.1
1960-61	593.1	257.9	77.0	258.2
1961-62	669.9	279.4	93.1	294.4
1962-63	727.5	312.1	102.3	313.1
1963-64	772.4	339.0	108.2	352.2

TABLE X-24.—Number and percent of admissions to higher educational institutions by branch group of institutions, U.S.S.R., selected years, 1940-64

[Admissions in thousands]

Branch group	1940-41	1945-46	1950-51	1955-56	1959-60	1960-61	1961-62	1962-63	1963-64
Total admissions	263.4	285.7	349.1	461.4	511.7	593.1	666.9	727.5	772.4
Industry and construction	45.4	52.5	74.0	144.8	185.6	225.4	245.8	270.8	287.3
Transport and communications	8.3	9.5	12.0	29.8	32.2	34.1	37.6	40.0	42.5
Agriculture	11.9	17.9	28.5	51.1	57.3	62.7	71.9	81.3	86.5
Economics and law	13.6	20.3	25.5	28.5	40.1	43.9	50.7	47.3	50.2
Health, physical culture, and sport	23.0	26.7	23.7	32.3	33.2	36.8	38.9	40.8	43.3
Education	159.0	155.0	182.6	172.0	159.0	185.1	216.0	241.0	255.7
Art and cinematography	2.2	3.8	2.8	2.9	4.3	5.3	6.0	6.3	6.9

TABLE X-25.—Number and percent of graduations of specialists from higher educational institutions, by branch group, U.S.S.R., selected years, 1940-63

[Graduations in thousands]

Branch group	1940	1945	1950	1955	1959	1960	1961	1962	1963
Total graduations	126.1	54.6	176.9	245.8	338.0	343.3	325.5	316.6	331.7
Industry and construction	24.2	8.5	30.0	56.4	92.3	95.2	97.1	99.7	104.4
Transport and communications	5.9	1.6	6.1	9.5	16.3	16.1	17.0	15.9	16.7
Agriculture	10.3	2.9	12.7	24.1	34.5	34.7	31.8	30.8	31.4
Economics and law	5.7	2.4	11.4	15.6	25.0	25.0	24.7	24.1	24.8
Health, physical culture, and sport	17.4	6.6	20.0	16.9	29.5	30.7	30.6	30.3	31.5
Education	61.6	32.0	94.1	120.8	138.0	139.1	121.8	113.2	119.9
Art and cinematography	1.0	.6	2.6	2.5	2.4	2.5	2.5	2.6	3.0

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TABLE X-26.—Graduations of specialists from higher educational institutions by groups of specialties, U.S.S.R., selected years, 1950-63

Group of specialties	Number of specialties				1960 as percent of—		1961	1962	1963
	1950	1955	1959	1960	1950	1955			
Total.....	176,900	245,846	337,069	343,300	193	139	325,500	316,600	331,700
Geology and prospecting for mineral resources.....	1,700	3,976	5,351	3,900	226	98	3,500	2,900	2,400
Mining of mineral resources..	1,400	5,200	6,230	5,300	388	99	4,600	4,000	3,800
Power engineering.....	2,400	4,957	8,441	8,400	354	170	8,400	7,800	6,300
Metallurgy.....	1,400	2,656	4,005	3,900	274	146	3,900	3,800	3,800
Machine building and instrument making.....	9,100	15,736	28,349	30,600	334	193	32,400	34,100	35,800
Electro-machine building and electro-instrument making.....	1,400	2,981	6,833	8,100	(1)	273	8,500	11,000	14,300
Radiotechnics and communications.....	1,400	2,950	6,074	6,300	441	214	7,200	8,100	9,400
Chemical technology.....	2,600	4,954	5,404	5,700	220	115	6,600	6,000	6,800
Timber engineering and technology of wood, cellulose, and paper.....	700	1,885	3,497	3,700	(2)	198	3,100	2,700	2,700
Technology of food products.....	2,300	1,878	3,094	3,500	148	181	3,600	3,400	3,700
Technology of consumer goods.....	1,200	1,669	3,068	3,100	251	186	3,300	3,300	3,300
Construction.....	4,900	9,440	17,335	17,700	364	188	17,900	17,600	17,300
Geodesy and cartography....	300	540	466	600	208	113	500	700	700
Hydrology and meteorology..	400	628	657	700	176	106	700	700	700
Agriculture and forestry....	12,900	24,563	33,908	34,500	267	140	31,500	30,600	30,300
Transport (exploitation)....	3,100	4,236	6,275	6,600	216	150	6,900	6,600	7,500
Economics.....	10,100	16,138	30,718	30,700	301	188	31,700	30,300	30,500
Law.....	5,700	8,126	6,263	6,000	107	74	5,600	5,100	6,100
Health and physical culture..	20,700	16,943	29,803	30,600	144	177	30,800	30,600	31,900
Specialties in universities..	12,300	15,560	30,200	29,900	242	192	28,400	25,900	24,800
Specialties in pedagogical and library institutes....	78,500	98,249	99,656	101,000	129	103	84,800	79,100	86,600
Art.....	2,400	2,491	2,342	2,500	106	101	2,600	2,800	3,100

<sup>1</sup> 6 times.  
<sup>2</sup> 5 times.

TABLE X-27.—Enrollments of aspirants (graduate students), by type of instruction, U.S.S.R., selected years, 1940-63

Type of instruction	Number of aspirants				1960 as percent (or multiple of)—			1961	1962	1963
	1940	1950	1955	1960	1940	1950	1955			
Total.....	16,863	21,995	29,362	36,754	218	168	125	47,580	61,809	73,105
In higher educational institutions.....	13,169	12,487	16,774	20,406	155	163	122	27,066	36,334	43,297
Training with interruption from production (full time).....	11,506	11,199	13,212	13,463	177	120	102	17,367	23,130	27,583
Training without interruption from production (part time).....	1,663	1,288	3,562	6,943	(1)	(2)	195	9,699	13,204	15,714
In scientific organizations.....	3,694	9,418	12,588	16,348	(3)	174	130	20,494	25,475	29,808
Training with interruption from production (full time).....	2,919	6,944	8,145	9,515	(4)	137	117	11,308	13,584	15,312
Training without interruption from production (part time).....	775	2,474	4,443	6,833	(5)	276	154	9,186	11,891	14,496

<sup>1</sup> 4.2 times.  
<sup>2</sup> 5.4 times.  
<sup>3</sup> 4.4 times.  
<sup>4</sup> 3.3 times.  
<sup>5</sup> 8.8 times.

TABLE X-28.—Number of graduations of aspirants (graduate students), by type of instruction, U.S.S.R., selected years, 1940-63

Years	Total	Number of graduations by type of instruction			
		In higher educational institutions		In scientific organizations	
		With interruption from production	Without interruption from production	With interruption from production	Without interruption from production
1940.....	1,978	1,411	61	454	52
1945.....	1,366	1,092	108	129	37
1946-50.....	16,295	10,087	733	4,767	708
1951-55.....	31,475	18,128	1,371	9,887	2,089
1956.....	8,463	4,805	496	2,408	744
1957.....	8,250	4,288	653	2,523	786
1958.....	6,802	3,119	707	2,053	923
1959.....	6,603	2,585	745	1,504	769
1960.....	5,517	2,407	613	1,718	779
1961.....	6,921	3,145	650	2,262	864
1962.....	8,515	3,835	886	2,689	1,105
1963.....	11,660	5,035	1,819	3,210	1,596

TABLE X-29.—Enrollment of aspirants (graduate students) by branches of study; U.S.S.R., 1950, 1960-63 (at end of year)

Branch of study	1950		1960		1960 as percent (or multiple) of 1950		1961		1962		1963	
	Number of aspirants	Number in higher educational institutions	Number of aspirants	Number in higher educational institutions	Number of aspirants	Number in higher educational institutions	Number of aspirants	Number of aspirants	Number of aspirants	Number of aspirants	Number of aspirants	Percent of total
Total.....	21,905	12,487	36,754	20,406	168	163	47,500	61,809	100	73,105	100	100
Physicomathematics.....	972	618	3,433	2,736	(1)	(2)	4,887	6,345	10.3	7,548	10.3	10.3
Chemistry.....	1,319	667	2,402	1,706	182	194	3,001	3,586	5.8	4,064	5.8	5.6
Biology.....	1,247	611	1,877	1,232	151	130	2,306	3,821	6.2	4,804	6.3	6.3
Geology-minerology.....	506	233	1,313	536	261	223	1,630	2,273	3.7	2,800	3.4	3.4
Technical.....	5,809	2,854	12,306	6,720	240	223	17,033	22,433	36.3	27,009	36.3	37.6
Agriculture and veterinary.....	2,165	855	2,877	1,777	133	133	3,053	4,786	7.7	5,048	8.1	8.1
History and philosophy.....	2,607	1,745	1,726	1,194	66	168	3,090	3,090	4.9	3,623	5.0	5.0
Economics.....	1,366	1,014	2,776	1,661	203	168	2,404	4,627	7.5	5,463	7.5	7.5
Philology.....	1,980	1,457	1,471	1,067	74	73	1,820	2,453	4.0	2,739	3.5	3.5
Geography.....	328	190	402	234	123	124	400	731	1.1	742	1.0	1.0
Law.....	748	489	402	230	54	57	307	707	1.1	742	1.0	1.0
Pedagogy.....	862	568	956	691	111	122	1,241	1,892	2.0	1,816	2.5	2.5
Medicine and pharmacy.....	1,386	862	2,585	1,846	187	214	3,441	4,087	6.5	4,733	6.5	6.5
Art.....	1,439	290	448	314	98	108	596	4,785	1.3	4,891	1.3	1.3
Architecture.....	154	54	148	25	96	46	174	353	0.6	389	0.6	0.6

13.5 times.  
24.4 times.

TABLE X-30.—The number of scientific workers, U.S.S.R., selected years, 1950, 1958, and 1960-63

[At the end of the year]

	1950	1958	1960	1962	1963
Total number of scientific workers (thousands).....	162.5	284.0	354.2	524.5	566.0
In scientific institutions.....	70.5	141.0	200.1	299.0	326.8
In higher educational institutions.....	86.5	135.7	146.9	179.5	196.8

TABLE X-31.—The composition of scientific workers, according to degrees and rank (or title), U.S.S.R., selected years, 1950, 1958 and 1960-63

[At the end of the year]

	1950	1958	1960	1962	1963
Total number of scientific workers (thousands).....	162.5	284.0	354.2	524.5	566.0
Those with degrees:					
Doctors of sciences.....	8.3	10.3	10.9	11.9	12.7
Candidates of sciences.....	45.5	90.0	98.3	108.7	115.2
Those with academic rank:					
Academicians, corresponding members, professors.....	8.9	9.6	9.9	11.0	11.4
Docents.....	21.8	32.7	36.2	40.6	42.9
Senior scientific collaborators.....	11.4	17.2	20.3	23.8	25.8
Junior scientific collaborators and assistants.....	19.6	23.6	26.7	45.0	47.9

TABLE X-32.—Distribution of scientific workers by branches of specialization, U.S.S.R., 1963

[At the end of 1963]

	Number of scientific workers	The number with academic degrees	
		Doctors of Sciences	Candidates of Sciences
Total.....	565,958	12,744	115,240
Type of specialty:			
Physics-mathematics.....	54,808	1,331	9,566
Chemistry.....	28,810	771	6,202
Biology.....	23,858	1,468	9,206
Geology mineralogy.....	15,136	682	3,696
Technical sciences.....	245,441	2,618	29,815
Agriculture and veterinary science.....	27,993	940	8,467
History and philosophy.....	24,592	693	9,767
Economics.....	24,364	368	6,220
Philology.....	32,606	390	6,007
Geography.....	5,428	212	1,791
Jurisprudence.....	2,950	128	1,480
Pedagogy.....	20,003	109	2,724
Medicine and pharmacy.....	34,556	2,906	16,239
Art.....	7,922	75	752
Architecture.....	1,803	43	530
Other.....	15,598	106	2,778

TABLE X-33.—The composition of women among scientific workers, U.S.S.R., selected years, 1950, 1958, and 1960-63

[At the end of the year]

	1950	1958	1960	1962	1963
The number of women scientific workers (thousands).....	59.0	101.4	128.7	177.7	204.8
Those with academic rank.....	16.0	23.7	26.3	38.0	41.4
Academicians, corresponding members, professors.....	5	7	7	9	9
Docents.....	3.2	5.5	6.2	7.3	8.0
Senior scientific collaborators.....	3.5	5.0	5.8	7.1	7.6
Junior scientific collaborators and assistants.....	9.4	12.5	13.6	22.7	24.9

## CHAPTER XI

## URBAN FACILITIES AND HOUSING

At the beginning of 1964 per capita living space in the Soviet Union amounted to 6.18 square meters, i.e., 68.7 percent of the official "hygienic norm" of 9 square meters. At least half of all urban families continue to live in apartments in which they are required to share in the use of the kitchen as well as the other household facilities.

The basic reason for the continued condition of shortage of dwelling space is the wholly inadequate level of investment in new housing. In addition, even the modest official appropriations for apartment building of the past have been systematically underfulfilled.

On the whole, the daily needs of the Soviet city dweller for basic services are met to a limited extent. The urban transportation systems are inadequate in terms of facilities and operate rather unsatisfactorily. There are not nearly enough laundries. There is not enough electricity for home use, and a sizable proportion of the city streets remain unpaved.

Restaurants, cafeterias, and other eating places are not numerous enough and are generally known to provide unsatisfactory service. Shops and establishments providing such services as shoe repair, cleaning, and mending clothes and household articles, can be found in large cities only, and even then are scarce in number and, as a rule, poorly equipped to cope efficiently with their unusually heavy workload.

TABLE XI-1.—Population growth of 7 Soviet cities following approval of resolution to prohibit building of new enterprises

Cities	Population (in thousands)		Increase over 1931 and 1939		
	Year prohibition was announced		Jan. 1, 1963, estimate	Number (thousands)	Percent
	1931	1939			
Moscow.....	2,800	-----	6,354	3,554	119.8
Leningrad.....	2,228	-----	3,552	1,324	59.4
Kiev.....	-----	847	1,248	401	47.3
Khar'kov.....	-----	833	1,006	173	20.8
Rostov-na-Donu.....	-----	610	689	179	35.0
Gor'ky.....	-----	644	1,042	398	61.8
Sverdlovsk.....	-----	423	869	446	105.4

Sources: L. M. Kaganovich, *Za sotsialisticheskuyu rekonstruktsiyu Moskvy i gorodov SSSR* (For Socialist Reconstruction of Moscow and the Cities of the U.S.S.R.), Moscow-Leningrad, 1931, p. 69; *Narodnoye khozyaistvo SSSR v 1962 godu, Statisticheskyy Ezhegodnik* (National Economy of the U.S.S.R. in 1962, Statistical Yearbook), Moscow, 1963, p. 25.

TABLE XI-2.—Actual city population as planned for 1975 and as reported for 1963

Cities	Planned population in 1975	Actual population in the beginning of 1963
Gor'ky.....	840,000	1,042,000
Tashkent.....	800,000	1,029,000
Novosibirsk.....	850,000	990,000
Kybyyshev.....	700,000	901,000
Minsk.....	450,000	644,000

Sources: *Ekonomika Stroitel'stva (Economics of Construction)*, No. 3, 1960, p. 30; *Narodnoye Khozyaistvo SSSR v 1962 godu, Statisticheskiy Ezhegodnik (National Economy of the U.S.S.R. in 1962, Statistical Yearbook)*, Moscow, 1963, p. 25.

TABLE XI-3.—Capital investment in the national economy of the U.S.S.R. and in the public housing sector, 1918-64

[Million rubles in comparable prices. For 1961-64 in billion new rubles in current prices]

Period	Total investment in national economy	Investment in housing construction	Percentage
1918-28 (without 4th quarter of 1928).....	1,674	371	22.2
1st 5-year plan (1929-32).....	6,716	788	11.7
2d 5-year plan (1933-37).....	15,170	1,551	10.2
3 1/2 years of 3d 5-year plan.....	15,101	1,907	12.6
From July 1, 1941, to Jan. 1, 1946.....	14,548	1,128	7.8
4th 5-year plan (1946-50).....	34,875	4,409	12.6
5th 5-year plan (1951-55).....	67,187	10,448	15.6
1956-60.....	123,416	22,794	18.5
1961 (plan).....	29.5	5.8	19.7
1962 (plan).....	31.0	5.1	16.4
1963 (plan).....	33.5	5.2	15.5
1964 (plan).....	36.5	4.4	12.0

<sup>1</sup> For housing construction in 1964 and 1965 was allocated 8,800,000,000 rubles.

Sources: *Narodnoye Khozyaistvo S.S.S.R. v 1960 godu, Statisticheskiy Ezhegodnik (National Economy of the U.S.S.R. in 1960, Statistical Yearbook)*, Moscow, 1961, pp. 594-595; *O gosudarstvennom Byudzhetze SSSR na 1961 god i ob ispolnenii gosudarstvennogo Byudzhetza S.S.S.R. za 1960 god (U.S.S.R. State Budget for 1961 and the Fulfillment of the State Budget in 1960)*, Moscow, 1961, pp. 16, 26; *Pravda*, Dec. 7, 1961, pp. 4, 5, Dec. 11, 1962, p. 5-6, Dec. 17, 1963, p. 5, 6.



TABLE XI-4.—5-year plan goals for housing construction in the public sector and actual fulfillment. 1928-63

[In millions of square meters of living space <sup>1</sup>]

Period	Planned goals	Actual fulfillment	Percent of fulfillment
1st 5-year plan.....	42.4	23.5	55.4
2d 5-year plan.....	64.0	26.8	41.9
3d 5-year plan.....	24.3	20.7	85.2
4th 5-year plan.....	84.4	65.0	77.0
5th 5-year plan.....	68.3	73.4	107.9
1950-60.....	139.7	145.6	104.2
1961 <sup>2</sup> .....	47.1	36.7	77.9
1962 <sup>2</sup> .....	48.5	38.7	79.8
1963 <sup>2</sup> .....	47.4	38.6	81.4

<sup>1</sup> 1 square meter=10.75 square feet. In the Soviet Union the basic index for evaluating the housing conditions is the per capita amount of living space available. The living space (zhilaya ploshchad') of an apartment includes living room and bedrooms and comprises 65 percent of the total floorspace. Non-living space (nezhilaya ploshchad') takes in the area of kitchens, entrance halls, bathrooms, corridors, pantries, and other service areas, even if they are used for living purpose. Living space and nonliving space together form the total floorspace (obshchaya ploshchad') of a dwelling.

<sup>2</sup> Plan for private sector in 1961, 1962, and 1963 is assumed in the size of actual fulfillment, i.e., 15.4 million square meters living space in 1961, 13.6 million square meters in 1962, and 11.7 million square meters in 1963.

Sources: *The Housing Problem in the Soviet Union*, by Timothy Sosnovy, Research Program on the U.S.S.R., New York, 1954, p. 66; BSE, 2d ed., vol. 35, Moscow, 1955 p. 411; *Narodnoye khozyaistvo SSSR v 1960 godu, Statisticheskyy Ezhegodnik (National Economy of the U.S.S.R. in 1960, Statistical Yearbook)* Moscow, 1961, p. 611; *Ogosudarstvennom byudzhet SSSR na 1961 god i ob ispolnenii byudzhet SSSR za 1959 god (U.S.S.R. State Budget for 1961 and the Fulfillment of the State Budget in 1959)*, Moscow, 1964, p. 25; *Pravda*, Dec. 7, 1961, p. 3., Dec. 11, 1962, p. 3; *S.S.S.R. v tsifrakh v 1963 godu, Kratkiy Statisticheskyy sbornik (U.S.S.R. in Figures for 1963, Brief Statistical Collection)*, Moscow, 1964, p. 196.

Table XI-5.—Housing fund in the urban communities of the U.S.S.R. at the end of year, 1926-63

[In millions of square meters of floor space]

Sectors	1926	1940	1950	1955	1956	1957	1958	1959	1960	1961	1962	1963
Total Housing Fund..	216	421	613	640	668	723	832	896	958	1,017	1,074	1,128
Including:												
Public sector.....	103	267	340	432	453	486	500	541	583	626	670	715
Percent.....	47.7	63.4	68.3	67.5	67.8	67.2	60.1	60.4	60.9	61.6	62.4	63.4
Private sector.....	113	154	173	208	215	237	332	355	375	391	404	413
Percent.....	52.3	36.6	33.7	32.5	32.2	32.8	39.9	39.6	39.1	38.4	37.6	36.6

Sources: *Narodnoye Khozyaistvo SSSR v 1956 godu, Statisticheskyy Ezhegodnik (National Economy of the U.S.S.R. in 1956, Statistical Yearbook)*, Moscow, 1957, p. 177; *Narodnoye Khozyaistvo SSSR v 1958, godu, Statisticheskyy Ezhegodnik (National Economy of the U.S.S.R. in 1958, Statistical Yearbook)*, Moscow, 1959, p. 641; *Narodnoye Khozyaistvo SSSR v 1962 godu, Statisticheskyy Ezhegodnik (National Economy of the U.S.S.R. in 1962, Statistical Yearbook)*, Moscow, 1963, p. 499; *SSSR v tsifrakh v 1963 godu, Kratkiy Statisticheskyy Sbornik (U.S.S.R. in Figures for 1963, Brief Statistical Collection)*, Moscow, 1964, p. 197.

TABLE XI-6.—Urban population growth and living space per capita in the U.S.S.R., 1923-63

Years	Urban population at end of year (million persons)	Urban housing at end of year		Index of per capita living space	Per capita living space as percent of health norm of 9 square meters
		Total living space (million square meters)	Per capita living space (square meters)		
1923.....	21.6	139.1	6.45	100.0	71.6
1926.....	26.3	153.8	5.85	90.7	65.0
1940.....	<sup>1</sup> 63.1	273.6	4.34	67.3	48.2
1950.....	73.0	333.4	4.57	70.8	50.8
1955.....	88.2	416.0	4.71	73.0	52.3
1956.....	91.4	434.2	4.75	73.6	52.8
1957.....	95.6	469.9	4.92	76.3	54.7
1958.....	<sup>2</sup> 100.0	540.8	<sup>3</sup> 5.40	83.7	60.0
1959.....	103.8	582.4	5.61	87.0	62.3
1960.....	108.3	622.7	5.75	89.1	63.9
1961.....	111.8	661.0	5.91	91.6	65.7
1962.....	115.1	698.1	6.06	93.9	67.3
1963.....	118.6	733.2	6.18	95.8	68.7

<sup>1</sup> As of Jan. 1, 1940.

<sup>2</sup> As of Jan. 15, 1959.

<sup>3</sup> It is important to note the significant increase in per capita living space between 1957 and 1958. This increase came about following the publication of the results of the January 1960 housing census which presented data for 1958. The comparison of current housing statistics with the newly release figures from the census showed that the total living space was underestimated by 33,100,000 square meters. The breakdown of this figure is interesting and informative, because private housing was underestimated by 43,700,000 square meters, while state housing was exaggerated by 15,600,000 square meters. In other words, there has been a tendency to report fulfillment and overfillment of state plans, while because of the so-called wild construction (dikoye stroitel'stvo) of private housing, this segment of the housing fund was unrecorded and underestimated.

Source: T. Sosnovy, *The Housing Problem in the Soviet Union, Research Program on the U.S.S.R.*, New York, 1954, p. 106. The author used official Soviet sources in estimating the living space and population figures in 1940, 1950, and 1955-63.

TABLE XI-7.—Per capita living space (square meters) in 27 large cities, 1926, 1956, and 1963

[Cities arranged in descending order by per capita living space in 1926]

Cities	1926 (end of year)	1956 (beginning of year)	1963 (beginning of year)	1963 as percent of 1926	Living space in 1963 as percent of health norm of 9 square meters
Leningrad.....	8.73	5.18	6.23	71.3	69.2
Odessa.....	7.40	5.78	6.57	88.7	73.0
Kiev.....	7.15	5.05	7.04	98.4	78.2
Tbilisi.....	6.79	5.53	5.90	86.8	65.5
Minsk.....	5.93	4.10	5.44	91.7	60.4
Dnepropetrovsk.....	5.83	4.97	6.37	108.5	70.8
Ashkhabad.....	5.78	4.35	5.44	94.1	60.4
Khar'kov.....	5.74	4.88	6.30	109.7	70.0
Moscow.....	5.69	4.75	7.02	123.4	78.0
Kazan'.....	5.58	4.03	5.27	94.4	58.2
Pern'.....	5.53	4.11	5.51	99.6	61.2
Rostov-on-Don.....	5.46	5.18	5.92	108.4	65.8
Kuibyshev.....	5.39	3.93	5.37	99.6	59.7
Saratov.....	5.38	4.39	5.65	105.0	62.7
Gor'ky.....	5.24	4.38	5.63	107.4	62.5
Baku.....	5.14	4.76	5.73	114.8	63.6
Sverdlovsk.....	4.90	4.50	6.09	124.3	67.7
Omsk.....	4.80	3.99	5.56	115.8	61.8
Tashkent.....	4.78	3.93	5.32	111.3	59.1
Volgograd.....	4.75	4.33	6.48	136.4	72.0
Erevan'.....	4.65	4.05	5.46	117.4	60.7
Alma-Ata.....	4.62	3.74	5.03	108.9	55.8
Dushambe.....	4.59	3.74	5.13	111.7	57.0
Chelyabinsk.....	4.54	4.03	6.11	134.8	67.9
Donetsk.....	4.50	4.68	7.20	160.0	80.0
Novosibirsk.....	4.15	3.82	5.63	135.7	62.6
Frunze.....	4.01	3.76	4.99	124.4	55.4

Source: Soviet Studies, vol. XI, July 1959, No. 1, article, *The Soviet Housing Situation Today*, by Timothy Sosnovy, pp. 5-6; *Narodnoye Khozyaistvo SSSR v 1963 godu, Statisticheskiy Ezhegodnik (National Economy of the U.S.S.R. in 1962, Statistical Yearbook)*, Moscow, 1963, pp. 25, 26, 500.

TABLE XI-8.—Apartment size in cities and workers' settlements, 1957-63

Indicators	1957	1958	1959	1960	1961	1962	1963
Floorspace constructed (in millions of square meters).....	52.0	71.2	80.7	82.8	80.2	80.5	77.4
Number of apartments (in thousands).....	1,413	1,986	2,237	2,294	2,201	2,143	2,029
Living space per apartment (in square meters).....	23.9	23.3	23.5	23.5	23.7	24.4	24.8

Sources: *Narodnoye khozyaistvo SSSR v 1959 Godu, Statisticheskiy Ezhegodnik (National Economy of the U.S.S.R., in 1959, Statistical Yearbook)*, Moscow, 1960, p. 127; *Narodnoye Khozyaistvo v 1960 godu* \* \* \*, Moscow, 1961 p. 205; *Narodnoye Khozyaistvo v 1961 godu* \* \* \*, Moscow, 1962, p. 166; *SSSR v tsitizakh v 1963 godu, Kratkiy statisticheskiy sbornik (U.S.S. in Figures for 1963, Brief Statistical Collection)*, Moscow, 1964, pp. 63, 195.

TABLE XI-9.—Density of occupancy per room in urban communities of the U.S.S.R. in 1923, 1926, 1940, 1950, 1960, 1961, 1962, and 1963

Years	Persons per room	Years	Persons per room
1923.....	2.60	1960	2.78
1926.....	2.71	1961	2.72
1940.....	3.46	1962	2.59
1950.....	3.48	1963	2.55

NOTE.—In the United States in 1963, the per capita living space was nearly 19.5 square meters (210 square feet) and average density of occupancy per room including kitchen, was nearly 0.57 person. The author wishes to thank M. E. Everett Ashley (Director, statistical report staff, Housing and Home Finance Agency, Washington, for permission to use Department data.

Sources: *The Housing Problem in the Soviet Union*, by Timothy Sosnovy, New York, 1954, p. 276. For 1950, 1960, 1961, 1962, and 1963 our latest estimation.

TABLE XI-10.—Occupancy of small-size apartments in 1958-59

Number of family members	Living space per family in square meters	Living space per person in square meters
1.....	13.7	13.7
2.....	18.6	9.3
3.....	22.0	7.3
4.....	26.4	6.6
5.....	29.6	5.9
6.....	31.0	5.2
7 and more.....	35.6	5.1

Sources: D. L. Broner, *Sovremennyye problemy zhilishchnogo khozyaistva, opyt ekonomiko-statisticheskogo analiza (Contemporary Problems in Housing Service, Experiment in Economic and Statistical Analysis)*, Moscow, 1961, p. 114.

TABLE XI-11.—Urban population provided with municipal utilities, 1927, 1939, and 1956; for 1960, the percent of floor space provided with municipal utilities in public sector only<sup>1</sup>

[Millions of persons and percent]

Type of municipal utilities	1927				1939				1956				1960, percent of floor space provided with municipal utilities in public sector						
	Urban population	With municipal utilities	Including population of private homes		Urban population	With municipal utilities	Including population of private homes		Urban population	With municipal utilities	Including population of private homes								
			Population	In percent			Population	In percent			Population	In percent							
Electric lighting	26.3	10.7	40.7	13.8	2.9	21.0	56.1	47.6	84.8	20.5	14.2	69.2	87.0	77.9	89.3	28.3	19.6	69.2	100.0
Running water	26.3	6.8	25.9	13.8	9	6.5	56.1	21.7	38.7	20.5	2	1.0	87.0	29.9	34.0	28.3	.3	1.0	57.3
Plumbing	26.3	4.6	17.5	13.8	4	2.9	56.1	15.8	28.1	20.5	.2	1.0	87.0	27.3	31.4	28.3	.3	.3	57.3
Central heating	26.3	(2)	(2)	13.8	(2)	(2)	56.1	6.2	11.1	20.5	(2)	(2)	87.0	18.3	22.4	28.3	.1	.3	44.7
Gas	26.3	(4)	(4)	13.8	(2)	(2)	56.1	(2)	7.5	20.5	(2)	(2)	87.0	13.9	18.6	28.3	.1	.3	29.0
Bath	26.3	(4)	(4)	13.8	(2)	(2)	56.1	7.2	7.5	20.5	(2)	(2)	87.0	7.7	8.9	28.3	.1	.3	30.6
Hot water	26.3	(4)	(4)	13.8	(2)	(2)	56.1	.4	.7	20.5	(2)	(2)	87.0	1.9	2.2	28.3	.1	.3	(2)

<sup>1</sup> (1) Per capita living space is assumed to be the same for persons living in state and in private homes for the beginning of 1927, 1939, 1956, and 1961. (2) The correlation between the state and private housing fund for the beginning of 1939 is accepted as also applicable to the beginning of 1941. (3) The level of municipal utilities in the housing fund belonging to local Soviets of the R. S. F. S. R. at the beginning of 1939 are assumed for all state housing funds at the beginning of 1939. (4) The level of municipal utilities of private housing fund for the beginning of 1939 are assumed to apply to the beginning of 1956. <sup>2</sup> No data.

*ekonomiki i organizatsii narodnogo khozyaystva (Course in the Economics and Organization of the Urban Economy)*, 3d revised and enlarged edition, Moscow, 1951, p. 160; D. L., Broner, *Sovremennyye problemy zhilishchnogo khozyaystva. Opyt ekonomiko-statisticheskogo analiza (Contemporary Problems in Housing Service, Experiment in Economic and Statistical Analysis)*, Moscow, 1961, p. 263; *Zhukhovichyevskoye Stroitel'stvo (Housing Construction)*, No. 12, 1948, p. 11. In the United States, of 33,500,000 apartments (urban and rural) had: running water 93.1 percent, linked up with the sewage system 90 percent, gas 94 percent, electric lighting 100 percent, either bath or shower 81.2 percent, central heating 67 percent, hot water 81.4 percent.

Sources: *Vsesoyuznaya perepis naseleniya 1926 goda (The All-Union Population Census of 1926)*, Moscow 1929, vol. LIII, pp. 90-91, 330-331, 440-441; B. B., Veselovskiy, *Kurs*

## CHAPTER XII

### TRANSPORTATION

TABLE XII-1.—Growth of freight traffic in the U.S.S.R., by type of carrier, 1955, 1959-63, and 1965 plans

	All carriers	Rail-roads	Motor transport	Pipe-lines	Inland water	Maritime	Air
Billion ton-kilometers <sup>1</sup>							
1955.....	1,165.0	970.9	42.5	14.7	67.7	68.9	0.252
1959.....	1,768.4	1,429.5	87.6	41.6	93.6	115.7	.439
1960.....	1,885.7	1,504.3	98.5	51.2	99.6	131.5	.563
1961.....	1,998.2	1,566.6	106.7	60.0	106.0	159.1	.802
1962.....	2,116.9	1,646.3	111.9	74.5	109.9	173.4	.89
1963.....	2,301.7	1,749.4	119.7	90.9	114.5	226.3	.91
1965 (original plan) <sup>2</sup> .....	2,533	1,825	146	185	140	235	§ 1.7
1965 (revised plan).....	2,686	§ 1,880	§ 140	§ 152	§ 130	§ 383	§ 1.2
Index (1955=100)							
1955.....	100	100	100	100	100	100	100
1959.....	152	147	206	283	138	168	174
1960.....	162	155	232	348	147	191	223
1961.....	172	161	249	408	157	231	318
1962.....	182	170	263	507	167	252	353
1963.....	198	180	282	618	169	328	361
1965 (original plan).....	217	188	344	1,259	207	341	675
1965 (revised plan).....	231	194	329	1,034	192	556	476

<sup>1</sup> All data except figures for 1965 revised plan are from official Soviet statistics. (U.S.S.R., Central Statistical Administration. *Narodnoye khozyaystvo SSSR v 1963 godu, statisticheskiy yezhegodnik*, Moscow 1965, p. 373; *Narodnoye khozyaystvo SSSR v 1961 godu*, Moscow 1962, p. 519; *Narodnoye khozyaystvo SSSR v 1960 godu*, Moscow 1961, p. 574;

<sup>2</sup> Original 1965 plan figures are from *Narodnoye khozyaystvo SSSR v 1960 godu*, Moscow 1961, p. 531. The railroad plan was given as a range 1800-1850.

<sup>3</sup> Plan was 320 percent increase over the 1958 figure, which was 399,000,000 ton-kilometers.

<sup>4</sup> *Gudok*, Jan. 29, 1965, p. 2.

<sup>5</sup> Planned increase over 1963 was 17 percent. (*Planovoye khozyaystvo*, No. 2, February 1964, p. 10.)

<sup>6</sup> Calculated from preliminary data for 1964 and percentage increases currently planned for 1965, as reported in the Soviet press in 1965. (*Gudok*, Jan. 30, 1965, p. 2; *Planovoye khozyaystvo*, No. 1, January 1965, p. 1, Feb. 25, 1965, p. 1, and Mar. 4, 1965, p. 1; *Grazhdanskaya aviatsiya*, No. 1, January 1965, p. 3.)

TABLE XII-2.—Value and volume indexes of the growth of total freight traffic in the U.S.S.R., 1955, 1959-63, and 1965 plans

	Value <sup>1</sup>		Volume	
	Million rubles	Index (1955=100)	Billion ton-kilometers	Index (1955=100)
1955.....	8,628	100	1,165.0	100
1959.....	14,972	174	1,768.4	152
1960.....	16,379	190	1,885.7	162
1961.....	17,462	202	1,998.2	172
1962.....	18,468	214	1,116.9	182
1963.....	19,826	230	2,301.7	198
1965 (original plan).....	22,999	267	2,533	217
1965 (revised plan).....	22,899	265	2,686	231

<sup>1</sup> Expressed in terms of new rubles at 1955 prices. Sum of the value of production for each carrier. This was obtained by multiplying ton-kilometers by estimated average revenue for 1955 (new kopeks per ton-kilometer) as follows:

- Railroads, 0.448 (1).
- Motor transport, 8.78. Calculated from the rate per ton for class 2 freight (presumed typical) at the average haul distance in 1955, according to rates established July 1, 1955 (2).
- Pipelines, 0.20. Estimated same as cost per ton-kilometer, which was calculated from ton-kilometers and total costs (3).
- Inland water, 0.387. Cost plus profit (4).
- Maritime, 0.297. Estimated same as cost per ton (5).
- Air, 20.

Source references:

- (1) Minsker, S. S., compiler. *Razvitiye zhelezodorozhnogo transporta v semiletii, sbornik statey*, Moscow 1960, p. 320.
- (2) U.S.S.R., Ministry of Automobile Transport and Highways. *Spravochnik yedinykh tarifov na perevozku gruzov avtomobil'nyim transportom*, Moscow 1955, p. 5.
- (3) Akademiya Nauk SSSR, Institut Kompleksnykh Transportnykh Problem. *Transportnyye izderzhki v narodnom khozyaystve SSSR*, Moscow 1959, p. 34.
- (4) U.S.S.R., Central Statistical Administration, *Transport i svyaz' SSSR, statisticheskiy sbornik*, Moscow 1957, p. 24. *Rechnoy transport*, no. 2, 1957, p. 7.
- (5) U.S.S.R., Central Statistical Administration. *Transport i svyaz' SSSR, statisticheskiy sbornik*, Moscow, 1957, p. 24.

CHAPTER XIII  
FOREIGN TRADE

HIGHLIGHTS OF RECENT DEVELOPMENTS IN THE FOREIGN TRADE OF  
THE U.S.S.R.

The international trade of the U.S.S.R. has been growing steadily in recent years. In line with this upward trend, total Soviet foreign trade turnover in 1964 registered another increase, equal to a margin of 8 percent of the preceding year. In 1963, by way of comparison, Soviet trade turnover made a gain of 6 percent. In terms of its aggregate ruble value, Soviet foreign trade amounted to 13.9 billion rubles in 1964, as compared with 12.9 in 1963.

Expressed in dollars, Soviet foreign trade turnover [exports plus imports] came to a value of \$15.4 billion in 1964, as against \$14.3 billion in 1963.

Thus, the foreign trade of the U.S.S.R. in 1963 was equal to 35 percent of the dollar value of U.S. world commerce during the same year. In 1964, the proportion remained roughly the same.

*Soviet foreign trade turnover, 1958-63*

[In millions of U.S. dollars]

	1958	1959	1960	1961	1962	1963	1964
Exports.....	4,208	5,441	5,562	5,998	7,031	7,272	7,682
Imports.....	4,349	5,073	5,629	5,828	6,465	7,059	7,733
Turnover.....	8,647	10,514	11,191	11,826	13,486	14,331	15,420
Percent of increase over turnover of preceding year.....	4	22	6	6	14	6	8

A. RECENT TRENDS IN TRADE VOLUME

During the years 1959-63, i.e. the most recent period for which fairly detailed data are available, the overall, quantitative record of the commodity trade of the U.S.S.R. has been notable for the following developments:

1. The overall value of the country's foreign trade increased 66 percent during the period as a whole, or at an annual rate of 10.7 percent per annum. During the preceding 5-year period, incidentally, the rate of expansion was roughly of the same order of magnitude.

2. The Soviet Union emerged during this period as the fifth ranking nation among the major trading nations of the world, behind France but ahead of Canada.

3. The dollar value of Soviet foreign trade in 1963 was 2.7 times as large as it was in 1953, the last year of the Stalin period.

B. GEOGRAPHIC PATTERN OF SOVIET FOREIGN TRADE

As far as its geography is concerned, Soviet foreign trade continues to be a highly concentrated affair. As much as 59 percent of all trade transactions concluded by the U.S.S.R. in 1963 took place on the territory of the six small countries of Eastern Europe which are comembers of CEMA<sup>1</sup>, the Soviet-initiated regional economic grouping. Another 11 percent of the foreign trade of the U.S.S.R. was devoted to Cuba and the Communist countries of Asia.

Hence, only 30 percent of all foreign commodity exchanges of the Soviet Union finds its way at present outside of the Communist camp. This portion of Soviet trade, in turn, is distributed as follows: 19 percent with the industrially advanced nations; 11 percent with the newly developing countries around the world.

It is worthy of note, moreover, that the Soviet Union has of late been expanding its trade with non-Communist countries somewhat more actively than its trade inside the bloc. During 1959-63, the increase in these two camps has been as follows: 88 percent for its trade with the outside world; 58 percent for its trade within the Communist camp. This trend may be observed in some detail in the summary table below which compares trade turnover in 1963 with that of 1958:

*Geographic distribution of Soviet foreign trade*

[In millions of rubles <sup>1</sup>]

	1958	1963	Index, 1963 as percent of 1958
Trade turnover, total.....	7,782	12,898	166
With Communist countries.....	5,754	9,077	158
East Europe (CEMA).....	4,174	7,628	183
Other.....	1,580	1,449	92
With non-Communist countries.....	2,028	3,821	188
Industrial nations.....	1,223	2,416	198
Newly developing nations.....	805	1,405	175

Source: *Vneshniia torgovlia*, No. 11, 1964, p. 9.

<sup>1</sup> The ruble is officially valued by the State Bank of the U.S.S.R. (since January 1961) as equal to \$1.11

Another trend that merits our attention, also reflected in the above table, are the relatively modest gains achieved by Soviet trade authorities as a result of their recent drive to promote trade with the newly developing countries. After 10 years of intensive commercial activity among the underdeveloped countries, initiated in 1953, the Soviet Union in 1963 exported about \$900 million worth of goods to this group of countries. This is, by any reckoning, a marginal amount, in light of the fact that the developing countries as a group imported in 1963, from all sources, a volume of goods valued at \$32 billion. As a supplier, therefore, the U.S.S.R. contributed 2.8 percent of all foreign merchandise imported into the underdeveloped areas of the world. The U.S. share, by comparison, was 25 percent.

The Communist camp as a whole, including East Europe and Asia, contributed 6 percent of all the goods imported from abroad in 1963 by the newly developing nations of the world.

<sup>1</sup> Council for Economic Mutual Assistance [generally known as Comecon].



## C. COMMODITY STRUCTURE

As in previous years, the Soviet Union continues to exchange its goods through the world market in a pattern resembling that of a relatively underindustrialized economy. Its principal exports continue to fall in the category of raw materials [fuels, minerals, timber, furs, and foodstuffs], and semimanufacturers (over 60 percent). On the import side, by the same token, machinery and other manufactured products make up the bulk of the merchandise imported into the Soviet economy (over 70 percent).

## 1. Exports

Among the commodities exported by the Soviet Union in 1963 the following were the principal categories of merchandise:

	Million dollars	Percent of total exports
Petroleum and products.....	910	12.5
Coal and coke.....	377	5.2
Iron ore.....	236	3.2
Steel semimanufactures.....	551	7.6
Forest products.....	414	5.7
Cotton fiber.....	244	3.3
Food.....	906	12.5
Grain.....	422	5.8
Machinery and equipment.....	1,435	19.7

## 2. Imports

The principal types of goods imported by the U.S.S.R. in 1963 from all sources were the following:

	Million dollars	Percent of total imports
Metals and metal products.....	465	6.6
Rubber.....	213	3.0
Cotton and wool fiber.....	339	4.8
Chemicals.....	285	4.0
Food.....	871	12.3
Grain.....	216	3.1
Consumer goods.....	1,240	17.6
Machinery and equipment.....	2,468	34.9
Transport equipment.....	847	12.0

## D. THE PATTERN OF SOVIET TRADE BY REGION

## 1. Trade with Eastern Europe

During the 9 years since the Soviet Union began to publish trade statistics, the countries of Eastern Europe as a group have dominated the geographic pattern of Soviet foreign commerce. If anything, their importance has grown slightly, namely from a share of 53 percent in 1955 to 58 percent in 1963.

The concentration on trade partners in Eastern Europe may be illustrated by the fact that in 1963 the Soviet Union exported to East Germany alone (\$1.3 billion) more than to all the industrial countries of the non-Communist world taken together (\$1.2 billion).

a. Exports.—A brief tabulation, as shown below, will illustrate what the Soviet Union contributed, by way of its own commodities,

to this large and growing intraregional exchange of merchandise in 1963:

Commodity group	Million dollars	Percent of total exports
Mineral fuels, solid and liquid.....	655	15.7
Petroleum.....	368	9.3
Ores and concentrates.....	264	6.4
Iron ore.....	230	5.6
Iron and steel.....	598	14.4
Nonferrous metals.....	150	3.7
Textile raw materials.....	274	6.6
Food.....	490	12.0
Grain.....	295	7.1
Consumer goods.....	86	2.1
Machinery and equipment.....	735	17.7

The above, somewhat compressed tabulation helps to identify the chief commodity categories in which the Soviet Union makes its chief contribution to the domestic resources available to the countries of Eastern Europe. Fuels, metals, foodstuffs, and machinery are the four main components of this outflow. Shipments of machinery, from the U.S.S.R., move to all six countries of the region. However, upon closer examination, it appears that only with regard to Bulgaria and Rumania does the Soviet Union function as a net exporter of items in the machinery category, as shown in the table below.

*Soviet trade in machinery and equipment with CEMA countries, 1963*

[In millions of rubles]

	Exports from the U.S.S.R.	Imports into the U.S.S.R.
Bulgaria.....	187	104
Rumania.....	86	57
Hungary.....	86	207
East Germany.....	72	642
Poland.....	115	200
Czechoslovakia.....	116	462
Total.....	662	1,672

*b. Imports.*—The most prominent feature of the commodity structure of Soviet imports from the CEMA countries is a high proportion of machinery and equipment. So high a proportion, namely 35 percent of the total value of trade with the world, is not generally associated with the import pattern of an advanced industrial nation such as the Soviet Union. What is equally anomalous, in this context, is that the percentage share of machinery has been rising, rather than declining, in recent years. In 1958, for example, the machinery component represented 39 percent, but in 1963 it rose to 45 percent of the value of all goods imported into the Soviet Union from its East European partners.

Imports in the food category also bulk large on the import side of Soviet foreign trade. The share of this group of merchandise (12 percent in 1963) has remained fairly stable in recent years, fluctuating mildly within the range of 10 to 15 percent of all imports.

On the other hand, consumer goods other than foodstuffs, have been gaining as a component of Soviet commodity acquisitions through

trade with Eastern Europe. Specifically, this category expanded from 5 percent in 1955 to 20.2 percent in 1963.

Chemicals (4 percent), rubber (0.6 percent), and textile fibers (0.1 percent) are among the lesser components in the range of goods imported regularly into the U.S.S.R. from Eastern Europe.

### 2. Trade with China

Trade relations between Russia and China in recent years have been adversely affected by the far-reaching political quarrel that has raged openly between these two Communist nations since 1960. The outflow of Soviet goods has been especially reduced, as shown by the drop from an annual level of \$955 million registered in 1959, to a level of \$187 million, reported for 1963. This is a drop of roughly 80 percent.

As far as the impact on principal commodities is concerned, the decline in Soviet exports to China may be illustrated as follows:

[In millions of dollars]

	1959	1963
Machinery and equipment.....	598	42
Petroleum.....	118	61
Iron and steel.....	48	27
Consumer goods.....	7	14

Although the movement of goods from China to Russia was also affected adversely by their post-1959 political dispute, the decline on this side of the trade has not been nearly as drastic. In dollar terms, the value of Chinese goods imported by the U.S.S.R. declined from \$1,100 million in 1959 to \$413 million in 1963, i.e. a drop of 63 percent. According to Chinese press reports, the relatively higher level of current exports from China in this exchange is explained by the fact that the latter is interested in repaying various credits, both economic and military, received from the U.S.S.R. in the past.

What has happened to the commodity content of Soviet imports from China since 1959 may be briefly described as follows:

Imports of ores and concentrates declined from \$73 to \$26 million between 1959 and 1963. Tin imports dropped from \$42 to \$9 million in value: from 20,800 to 4,300 metric tons in quantity.

Textile raw materials declined from \$92 to \$9 million during the same 4-year period.

Similarly, food imports into the U.S.S.R. from China, which amounted to \$219 million in 1959, dropped to \$22 million in 1963.

Other consumer goods have also moved downward sharply, as may be shown by a juxtaposition of the import figure of \$425 million for 1959 and \$288 million for 1963. At that, the reduced import category of "consumer goods" came to 75 percent of all Soviet imports from China in 1963. In 1959, by contrast, the same category encompassed 59 percent of all imports.

### 3. Trade with the industrial West

Some 18 percent of the foreign commerce of the U.S.S.R. is currently devoted to the industrialized countries of the free world. In 1963, this trade was slightly out of balance, with the U.S.S.R. showing a trade deficit of \$162 million with these hard-currency countries.

On the whole, Soviet trade with the industrially developed countries has followed a fairly stable commodity pattern in recent years. Basically, this trade has amounted to an exchange of Soviet raw materials in return for machinery and equipment from the West.

In this exchange, Russia's principal earner of foreign currency in the West, during the past few years, has been petroleum. In 1963, oil exports brought in 23.5 percent of the country's total earnings from exports to the West (\$284 million). Forest products served as another major source of foreign exchange income in this trade, accounting for 17.3 percent of the dollar value of total exports to this group of partners. Coal and coke contributed another 8.1 percent to the total intake.

Foodstuffs (11.4 percent), ferrous metals (6.9 percent), furs and pelts (5.5 percent), and textile materials (4.0 percent) made up the rest of the range of exports flowing from the U.S.S.R. to the industrial West in 1963.

The commodity content of Russia's imports from the West can be summed up under four headings:

By far the largest group of imported merchandise fell in the category of machinery and equipment. This group alone accounted for 42.4 percent of all Soviet imports from the West [\$589 million]. Within this broad group, two classes of equipment deserve special mention—transportation and chemical equipment. The former accounted for 30 percent; the latter for 21 percent of all the machinery imported from the West.

Metals contributed a share equal to 13.5 percent of total imports. In terms of dollars, the contribution came to \$187 million.

Last, but not least, grain and other consumer commodities, valued at \$232 million, added another 16.7 percent to the total inflow of merchandise from the industrial West. Wheat alone, largely from Canada, came into the U.S.S.R. in 1963 at a value of \$213 million, a record figure. At that, the larger portion of this record purchase, from both Canada and the United States, did not in fact reach Soviet ports until the early months of 1964.

#### *4. Trade with the less developed countries*

Soviet trade with the newly developing countries around the world is currently rising. Yet, this vast group of states still accounts for only 11 percent of total Soviet foreign trade; a rise of 1 percentage point over 1962.

India is now the Soviet Union's largest trade partner among the developing countries. In 1963, in fact, Russia exported more goods to India than to Communist China: \$222 million to the former, as against \$187 million to the latter.

In general, Asia has emerged as by far the most important continent in the geographic distribution of Soviet trade with the less-developed countries (\$819 million). Trade with Africa ranks second in importance (\$424 million), reflecting the fact that the United Arab Republic is at present the second largest trading partner of the U.S.S.R. among the newly developing countries.

The commodity structure of Soviet exports to the less-developed countries is summed up, very broadly, in the following table.

	Amount (in millions of dollars)			Percent, 1963
	1961	1962	1963	
Total exports from the U.S.S.R.-----	507	569	760	100.0
Machinery and equipment-----	236	285	361	47.4
Complete plants-----	139	183	220	29.0
Petroleum-----	67	63	81	10.7
Wood and products-----	38	34	37	4.8
Food-----	48	69	98	12.8

As shown by the above figures, Soviet exports to this group of countries are heavily weighted with machinery and equipment, about 50 percent of all shipments. A good proportion of this equipment, furthermore, consists of complete plants, which are being increasingly financed by economic aid credits. A rough calculation shows that some 48 percent of Soviet machinery exports to these countries was shipped in 1963 under the foreign aid program of the U.S.S.R. All in all, 25 percent of all current Soviet machinery exports are destined for the developing countries.

The import side of this segment of Soviet foreign trade, grouped in broad commodity classes, shapes up as follows:

	Amount (in millions of dollars)			Percent, 1963
	1961	1962	1963	
Total imports into the U.S.S.R.-----	584	615	675	100.0
Cotton fibers-----	122	112	163	24.1
Natural rubber-----	225	206	163	24.2
Food-----	99	142	158	23.5
Nonferrous metals-----	20	23	18	2.7

It may be interesting to compare the magnitude of Soviet exports to the newly developing countries with the global value of all goods imported by this group of nations. In 1963, the relevant figures were as follows: Total imports into the less-developed areas amounted to \$32 billion; goods exported to them by the U.S.S.R. came to \$760 million, or 2.4 percent of the total.<sup>2</sup>

Similarly, as a supplier of machinery to the newly developing countries, the Soviet Union has thus far been making only a modest showing. In 1963, machinery received from the U.S.S.R. (\$361 million) represented only 4.2 percent of the \$8.6 billion worth of machinery and equipment imported into the less-developed areas from all sources.<sup>3</sup>

#### E. RECENT TRENDS IN SOVIET TRADE POLICY

##### 1. Eastern Europe

As indicated by the record of recent commercial transactions, Eastern Europe continues to be the main theater of Soviet foreign trade operations.

Here, the Soviet Union is admittedly engaged in a type of commodity exchange that has economic as well as political and strategic

<sup>2</sup> United Nations. *Monthly Bulletin of Statistics*, December 1964, p. 88.

<sup>3</sup> *Ibid.*, March 1964, p. XXIV.

objectives. Briefly described, the objectives of intra CEMA trade, as cited in the official Soviet press, are as follows:<sup>4</sup>

(a) To work together, as part of their "collective international duty," to utilize all "advantages" inherent in the socialist system to the end of surpassing the world capitalist system in the absolute volume of industrial and agricultural production.

(b) To continue to coordinate the national plans of the several countries in order thereby "to assure the most rapid possible building of socialism and communism."

(c) To achieve the most economic utilization of the resources of the individual countries of East Europe by way of national specialization in selected lines of production.

(d) To help establish the proportions of production required "to meet the national needs of each country as well as the requirements of the world socialist system as a whole."

Ever since the formation of CEMA, the Soviet Union has functioned as the most important trade partner of the other countries of Eastern Europe.

The economic importance of the U.S.S.R. in this grouping is shown by the fact that some 40 percent of all imports into the CEMA region are provided by the U.S.S.R. In the main, the Soviet Union makes its best showing as a supplier of raw materials. In the case of a number of basic industrial materials, in fact, Soviet supplies dominate the markets of its trading partners in the CEMA group. Some of the reported percentages of the Soviet share in the total imports of its partners are as follows:

Petroleum.....	95
Iron ore.....	82
Pig iron.....	86
Steel semimanufactures.....	56
Coal.....	65

In the case of machinery, however, the Soviet Union functions in the role of a net importer in this regional trade. This fact may be illustrated by two rather revealing figures; of all the machinery items imported into the other CEMA countries only 28 percent come from the U.S.S.R. At the same time, however, the Soviet Union absorbs 49 percent of all machinery and equipment imported into the region as a whole.

In dollar figures, the recent movement of machinery between the U.S.S.R. and its satellites was recorded as follows (in millions of dollars):

	1961	1962	1963
Imports into the U.S.S.R. ....	1,245	1,624	1,859
Exports from the U.S.S.R. ....	460	607	735

What is equally remarkable is that machinery and equipment accounted for 45 percent of all the commodities supplied by the satellites in 1963 to the U.S.S.R. (the world's second largest producer of machinery).

<sup>4</sup> *Vneshniaya torgovlia*, No. 11, 1964, p. 7.

Transportation equipment and ships, in particular, play a large role in current Soviet imports from its regional trade partners. In 1963, this group of imports reached a figure of \$667 million.

### 2. *The newly developing countries*

During March-June 1964, the Soviet Union took part in the Conference on Trade and Development, held in Geneva under the auspices of the United Nations. At this session, which included representatives from 75 less developed countries, the delegates of the Soviet Union put forward a number of proposals which embodied their good intentions toward the developing countries. They also expressed themselves in favor of increasing trade relations between the Soviet bloc and the less developed countries. On the whole, however, the Soviet representatives to the Conference tried to avoid the imposition of any specific commitments upon them by the majority of the Conference, i.e. the newly developing countries. This position made it necessary for the Soviet delegates, on several occasions, to cast negative votes or to abstain from voting altogether. It was well recognized by the developing countries that the Soviet bloc could be counted upon for moral support but for very little by way of tangible concessions in the liberalization of imports or the extension of substantial credits.

At this Conference, the Soviet delegates took the rather unique position that while the Soviet Union is a highly developed economy, it is not subject to the same moral obligation toward the newly developing countries as are the economically advanced nations of the West.<sup>5</sup> Armed with their Marxian logic, the Soviet representatives argued that underdevelopment was the result of colonialism and that since they were, in their own opinion, free of the guilt of colonialism they could not be held responsible for solving any of the problems related to economic backwardness in the world. Indeed, they insisted, anything that the Soviet bloc countries did for the less developed countries they did for reasons of good will, beyond the call of duty.

However, the delegates from the countries producing primary material had no difficulty in reading the true meaning of the Soviet protestation of moral innocence. They read it as an indication that the Soviet bloc was either unwilling or unable to make any important trade concessions to the developing countries.

At this Conference, too, the Soviet Union attempted to incorporate its own views in a resolution on the problem of private capital investment in the developing countries. When these views failed to gain acceptance, the Soviet spokesman expressed its discontent with the fact that the resolution merely urged the creation of a climate favorable for attracting direct private investments "without recommending measures directed at the elimination or the restriction of the negative aspects of the activity of private capital."<sup>6</sup>

### 3. *The industrial West*

Despite the steady growth of industrial production at home, the Soviet Union continues to maintain, on a large scale, its traditional exchange of raw materials and foodstuffs for the finished products of the more industrialized nations of West Europe and Japan. The latter nations continue to serve as a ready market for the bulk of the

<sup>5</sup> *Vreshchniia torgovlia* No. 12, 1964, p. 16.

<sup>6</sup> *Ibid.*, p. 17.

petroleum, coal, timber, ores, and other raw materials that make up the standard range of Soviet export products.

One distinctive and enduring economic interest that draws the Soviet Union to the markets of the industrial West is the availability in this group of countries of a great reservoir of finished products and equipment embodying newly developed and tested technology. This need for maintaining regular contact with the new technical ideas generated in the West has, in fact, not diminished to any perceptible extent in recent decades. Moreover, the very need for such continuing contact, by way of import, has had a profound effect on Soviet trade policy within the past several years. It has led the Soviet Government to reexamine the whole rationale underlying its former policies of national and bloc-wide economic self-sufficiency.

The present Soviet position on autarchy, as modified by its search for economic efficiency, is described in an official Soviet source as follows:

From an economic point of view, autarchy is disadvantageous, because it tends to slow down the development of the productive forces, to brake the growth of labor productivity. As a matter of fact, the endeavor to produce everything at home, including such goods which are more expensive to produce domestically than to buy in the world market, represents not a saving but a waste of social labor. By the same token, the participation by a country in the international division of labor permits that country to economize on the expenditure of social labor, and thereby to raise its productivity. The Soviet Union and the other Socialist countries are not secluding themselves within the bounds of their national markets or of the world Socialist market, but are striving to utilize the advantages of the international division of labor on a worldwide scale.<sup>7</sup>

In general, in dealing with the industrial West, the Soviet Union displays to the outside world the underdeveloped profile of its economy. With respect to this group of countries, Soviet economic authorities tend to run a chronic import surplus, thus making it necessary to sell gold or to arrange for suppliers' credits of the largest possible duration. In recent years, accordingly, the Soviet Union has succeeded in obtaining several long-term credits, providing for repayment periods of over 5 years. This kind of long-term financing has been obtained, for the most part, for the recent Soviet purchases of fertilizer and chemical plants. According to available incomplete information, based on reports in the Western press, the U.S.S.R. has recently signed contracts for the purchase of the following plants under long-term credit arrangements:

[Dollars in millions]

Country supplier	Order	Value of contracts	Repayment years	Date
United Kingdom...	Complex of dacron plants.....	\$87.1	11	September 1964.
Do.....	Acetic acid plant.....	13.1	10	November 1964.
Do.....	Chemical plant.....	14.6	10	December 1964.
Do.....	do.....	11.6	10	Do.
Japan.....	Urea plant.....	9.1	8	Summer 1964.

The Soviet Government considers the recent spate of agreements on long-term credits to cover their purchases of complete industrial plants as one of several "victories for the foreign economic policy of the Soviet Union in the struggle against discriminatory barriers in international trade."<sup>8</sup>

<sup>7</sup> *Vneshniaia torgovlia*, No. 2, 1965, p. 5.  
<sup>8</sup> *Vneshniaia Torgovlia*, No. 2, 1965, p. 8.



TABLE XIII-1.—Geographic distribution of Soviet foreign trade, 1955-63  
 [In millions of U.S. dollars]

Year	Exports or imports	Total foreign trade <sup>1</sup>	Communist countries					Free world			
			Total <sup>1</sup>	European satellites	Communist China	Other Asian	Other	Total <sup>1</sup>	Industrial West	Less-developed countries	Other
1955	Exports.....	3,426.6	2,722.9	1,792.1	748.3	168.1	216.4	703.7	543.8	112.4	47.6
	Imports.....	3,090.5	2,418.4	1,692.8	643.6	94.6	217.5	642.1	430.7	210.4	1.1
1956	Exports.....	3,615.0	2,720.4	1,767.8	733.0	183.6	240.1	885.5	597.1	179.6	108.8
	Imports.....	3,612.6	2,735.8	1,813.1	764.2	106.8	230.7	878.9	578.8	297.3	8
1957	Exports.....	4,381.4	3,304.4	2,549.9	544.1	151.3	251.1	1,077.0	690.4	282.5	104.1
	Imports.....	3,937.9	3,825.2	1,914.8	738.1	115.9	251.1	1,117.2	672.5	435.4	4.3
1958	Exports.....	4,349.5	3,242.0	2,320.1	634.0	131.0	240.0	1,161.2	689.6	389.4	102.3
	Imports.....	4,440.7	3,242.0	2,205.7	881.2	194.2	240.0	1,107.8	622.3	482.1	3.2
1959	Exports.....	5,073.2	3,789.5	2,950.5	984.5	172.7	240.2	1,316.3	855.5	343.4	117.9
	Imports.....	5,561.6	4,207.5	3,117.7	1,100.3	116.7	240.2	1,383.7	756.5	522.2	5.0
1960	Exports.....	5,628.9	4,321.1	3,117.7	1,100.3	116.7	240.2	1,383.7	756.5	522.2	35.8
	Imports.....	5,998.2	4,321.1	3,117.7	1,100.3	116.7	240.2	1,383.7	756.5	522.2	6.0
1961	Exports.....	5,827.6	4,146.7	3,044.1	551.4	310.8	240.2	1,597.0	1,060.0	507.4	109.7
	Imports.....	7,030.5	4,905.2	3,871.1	233.4	310.8	240.2	1,597.0	1,060.0	507.4	9.3
1962	Exports.....	6,455.4	5,069.4	3,590.3	516.3	310.8	240.2	1,853.8	1,106.6	598.5	450.3
	Imports.....	7,272.4	5,069.4	3,590.3	516.3	310.8	240.2	1,853.8	1,106.6	598.5	3.6
1963	Exports.....	7,058.5	4,986.3	4,146.8	413.0	313.4	240.2	2,072.2	1,388.6	780.4	294.3
	Imports.....	7,058.5	4,986.3	4,146.8	413.0	313.4	240.2	2,072.2	1,388.6	780.4	8.7

<sup>1</sup> Because of rounding, components may not add to the totals shown.  
<sup>2</sup> Yugoslavia.  
<sup>3</sup> North Korea and North Vietnam.  
<sup>4</sup> Cuba, Outer Mongolia, and Yugoslavia.  
<sup>5</sup> Cuba, Outer Mongolia, Yugoslavia, and Albania.

Source: Figures based on *Vneshnaya Torgovlia SSSR za 1962 god*, Ministerstvu Vneshnei Torgovli SSSR (Moskva, 1964) and earlier volumes. Values converted from rubles to dollars at the rate of 1 ruble=\$1.11111.

TABLE XIII-2.—Commodity composition of Soviet exports, 1955 and 1958-68  
 (In millions of U.S. dollars and percent of total)

	1955		1958		1959		1960		1961		1962		1963	
	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent
Total exports <sup>1</sup> .....	3,426.6	100.0	4,287.5	100.0	5,440.7	100.0	5,561.6	100.0	5,988.2	100.0	7,030.5	100.0	7,272.4	100.0
Machinery and equipment.....	599.0	17.5	704.8	18.5	1,168.1	21.5	1,141.2	20.5	964.6	16.1	1,088.5	16.6	1,435.1	19.7
Complete plants.....	278.8	8.1	330.9	7.9	869.1	10.5	588.5	10.2	355.8	5.9	411.5	5.9	1,584.0	21.8
Fuels, lubricants, and related materials.....	329.0	9.6	651.2	15.2	797.8	14.7	901.8	16.2	1,044.8	17.4	1,152.5	16.4	1,280.3	17.6
Coal and coke.....	97.8	2.9	219.8	5.1	228.1	4.2	242.1	4.4	284.9	4.7	346.4	4.9	376.6	5.2
Petroleum and petroleum products.....	230.1	6.7	430.9	10.0	567.0	10.4	657.9	11.8	757.8	12.6	803.7	11.4	910.4	12.5
Ores and concentrates.....	115.4	3.4	160.0	3.7	215.8	4.0	242.9	4.4	252.6	4.2	273.6	3.9	291.4	4.0
Iron ore.....	81.6	2.4	137.4	3.2	154.3	2.8	175.0	3.1	187.8	3.1	215.7	3.1	255.0	3.5
Base metals and manufactures.....	432.4	12.6	692.0	16.1	743.8	13.7	837.7	16.1	923.2	15.4	1,010.3	14.4	1,072.8	14.8
Copper.....	321.6	9.4	495.3	11.6	547.9	10.1	642.7	11.6	712.1	11.9	792.8	11.3	794.1	10.9
Rolled ferrous metals.....	192.2	5.6	320.9	7.5	366.2	6.7	428.8	7.7	478.2	8.0	540.3	7.7	551.2	7.6
Nonferrous metals.....	110.7	3.2	197.6	4.6	196.9	3.6	194.9	3.5	211.1	3.5	217.5	3.1	218.7	3.0
Aluminum.....	28.0	.8	43.7	1.0	48.6	.9	44.7	.8	58.2	1.0	77.6	1.1	79.5	1.1
Tin.....	6.3	.2	11.5	.3	18.4	.3	24.6	.4	32.2	.5	44.1	.6	47.5	.6
Chemicals.....	72.4	2.1	113.8	2.7	122.3	2.2	145.7	2.6	173.9	2.9	176.8	2.5	192.6	2.6
Wood and wood products.....	174.5	5.1	240.9	5.6	259.9	4.8	305.1	5.5	361.7	6.0	420.4	6.0	414.2	5.7
Lumber.....	94.3	2.8	136.9	3.2	150.2	2.8	182.8	3.3	206.5	3.4	221.3	3.1	234.9	3.2
Textile raw materials and semimanufactures.....	346.7	10.1	503.8	11.8	508.0	9.3	588.6	10.6	664.9	11.1	731.5	11.8	737.7	10.1
Cotton fiber.....	297.9	8.7	405.6	9.5	438.1	8.0	498.9	9.0	568.8	9.5	631.5	9.0	637.7	8.8
Consumer goods.....	538.0	15.7	705.6	16.5	868.5	15.8	898.9	16.2	1,010.5	16.8	1,132.1	16.1	1,154.5	15.9
Food.....	386.4	11.3	510.6	11.9	597.7	10.9	683.4	12.3	796.5	13.3	912.1	13.0	906.3	12.5
Grain.....	283.5	8.3	358.8	8.4	437.2	8.0	467.8	8.4	529.4	8.8	592.4	8.4	492.2	6.8
Other consumer goods.....	151.6	4.4	205.8	4.8	200.5	3.7	205.6	3.7	214.0	3.6	220.0	3.1	248.1	3.4
Other merchandise.....	138.2	4.0	149.2	3.5	132.7	2.4	142.2	2.5	158.8	2.6	169.5	2.4	177.7	2.4
Unspecified.....	691.1	20.2	463.5	10.8	633.7	11.6	515.6	9.3	672.4	11.2	1,125.1	16.0	917.7	12.6

<sup>1</sup> Because of rounding, components may not add to the totals shown.

<sup>2</sup> Negligible.

TABLE XIII-3.—Commodity composition of Soviet imports, 1955 and 1958-63  
 [In millions of U.S. dollars and percent of total]

	1955		1958		1959		1960		1961		1962		1963	
	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent
Total imports <sup>1</sup>	3,060.5	100.0	4,349.5	100.0	5,073.2	100.0	5,628.9	100.0	5,827.6	100.0	6,455.4	100.0	7,058.5	100.0
Machinery and equipment	925.3	30.2	1,064.6	24.5	1,351.9	26.6	1,675.2	29.8	1,734.5	29.8	2,245.0	34.8	2,468.0	34.9
Transportation equipment	383.5	12.5	427.2	9.8	542.4	10.7	660.1	11.7	734.3	12.6	788.2	12.2	847.2	12.0
Fuels, lubricants, and related materials	250.0	8.2	212.2	4.9	231.3	4.6	237.3	4.2	217.0	3.7	188.7	3.1	201.9	2.9
Coal and coke	126.9	4.1	77.0	1.8	85.7	1.7	93.5	1.7	103.6	1.8	105.3	1.6	97.3	1.4
Petroleum and petroleum products	123.1	4.0	135.2	3.1	145.6	2.9	143.7	2.6	123.4	2.1	105.5	1.6	104.6	1.5
Ores and concentrates	251.3	8.2	405.5	9.3	331.0	6.5	314.0	5.6	290.4	5.0	237.5	3.7	292.1	4.1
Base metals and manufactures	204.1	6.7	316.5	7.3	435.0	8.6	545.9	9.7	404.2	6.9	665.4	10.3	464.9	6.6
Ferrous metals	71.0	2.3	138.4	3.2	265.2	5.2	373.9	6.6	243.4	4.2	427.0	6.6	339.9	4.8
Nonferrous metals	16.1	.5	137.8	3.1	122.0	2.4	178.8	3.2	140.4	2.4	192.7	3.0	169.5	2.4
Iron	133.1	4.3	133.1	3.1	169.9	3.3	172.0	3.1	145.0	2.5	186.4	2.9	125.0	1.8
Copper	47.9	1.6	39.5	.9	41.8	.8	34.8	.6	22.5	.4	20.5	.3	17.2	.2
Chemicals	43.5	1.4	54.5	1.3	74.3	1.5	71.9	1.3	53.0	.9	68.7	1.1	96.7	1.4
Rubber and rubber products	52.1	1.7	95.8	2.2	110.3	2.2	149.3	2.7	153.5	2.6	122.0	1.9	285.2	4.0
Wood and wood products	41.4	1.4	182.2	4.2	195.5	3.9	196.2	3.5	273.5	4.7	251.4	3.9	212.5	3.0
Textile raw materials and semimanufactures	92.9	3.0	104.8	2.4	94.0	1.9	104.5	1.9	124.3	2.1	118.5	1.8	118.9	1.7
Cotton fiber	166.4	5.4	306.3	7.1	239.7	4.7	179.9	3.2	130.1	2.2	282.8	4.4	338.8	4.8
Wool fiber	20.1	.7	135.2	3.1	163.9	3.2	179.9	3.2	130.8	2.2	118.0	1.8	170.0	2.4
Consumer goods	89.7	2.9	107.7	2.5	100.8	2.0	118.0	2.1	103.8	1.8	98.4	1.4	98.8	1.3
Food	667.3	21.8	1,187.0	27.3	1,465.8	28.9	1,572.2	27.9	1,777.7	30.5	1,826.7	28.3	2,110.7	29.9
Other consumer goods	518.1	16.9	502.7	12.9	548.3	10.8	611.8	10.9	553.5	9.5	612.8	9.5	870.8	12.3
Other merchandise	149.2	4.9	624.3	14.4	917.5	18.1	960.4	17.1	984.9	17.1	1,113.9	17.3	1,239.9	17.6
Unspecified	305.4	10.0	390.4	8.7	433.4	8.5	375.9	6.7	330.2	5.7	354.5	5.5	409.2	5.8
	104.2	3.4	89.3	2.1	95.2	1.9	88.7	1.7	118.7	2.0	104.4	1.6	188.2	2.2

<sup>1</sup> Because of rounding, components may not add to totals shown.

TABLE XIII-4.—Commodity composition of Soviet exports to European satellites, 1955 and 1958-63  
 [In millions of U.S. dollars and percent of total]

	1955		1958		1959		1960		1961		1962		1963	
	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent
Total exports <sup>1</sup> .....	1,732.1	100.0	2,320.1	100.0	2,950.5	100.0	3,117.7	100.0	3,399.7	100.0	3,971.1	100.0	4,163.3	100.0
Machinery and equipment.....	304.4	17.0	248.4	10.7	368.5	12.5	414.0	13.3	450.0	13.2	606.6	15.3	734.9	17.7
Complete plants.....	126.7	7.2	31.5	1.4	87.5	3.0	108.6	3.5	108.0	3.2	141.9	3.6	184.2	4.4
Fuels, lubricants and related materials.....	120.4	6.7	301.8	13.0	351.3	11.9	413.7	13.3	483.8	14.3	583.4	14.7	655.2	15.7
Coal and coke.....	64.1	3.6	163.9	7.0	182.5	6.2	171.1	5.5	204.0	6.0	252.2	6.4	265.1	6.4
Petroleum and petroleum products.....	102.3	5.7	146.3	6.3	187.1	6.3	240.7	7.7	279.5	8.2	328.4	8.3	387.7	9.3
Ores and concentrates.....	81.6	4.6	135.2	5.8	151.3	5.1	170.8	5.5	218.4	6.4	245.8	6.2	264.4	6.4
Iron ore.....	249.6	13.9	435.2	19.0	520.3	17.6	584.1	18.7	652.2	19.2	727.1	18.3	754.1	18.1
Base metals and manufactures.....	164.3	9.2	245.8	10.6	329.3	11.2	451.7	14.5	506.2	14.9	574.2	14.5	598.0	14.4
Ferrous metals.....	97.0	5.4	239.7	10.2	292.8	9.9	328.2	10.5	373.5	11.0	422.3	10.6	447.8	10.8
Rolled ferrous metals.....	85.3	4.8	109.4	4.7	126.2	4.3	132.4	4.2	146.0	4.3	152.8	3.8	156.1	3.7
Nonferrous metals.....	17.2	1.0	28.9	1.2	30.0	1.0	30.6	1.0	42.5	1.3	49.7	1.3	51.3	1.2
Aluminum.....	5.9	0.3	8.1	0.3	8.8	0.3	6.3	0.2	7.8	0.2	6.6	0.2	6.6	0.2
Tin.....	36.1	2.0	52.8	2.3	58.2	2.0	65.4	2.1	75.0	2.2	83.3	2.1	91.9	2.2
Chemicals.....	20.5	1.1	32.9	1.4	37.4	1.3	46.7	1.5	52.7	1.5	58.7	1.5	63.3	1.5
Wood and wood products.....	4.0	0.2	46.7	2.0	49.0	1.7	58.6	1.9	68.8	2.0	82.2	2.1	83.0	2.0
Lumber.....	264.3	14.7	243.9	10.5	241.3	8.2	283.2	9.1	293.0	8.6	273.3	6.9	273.6	6.6
Textile raw materials and semifinances.....	233.3	13.0	208.3	9.0	204.1	6.9	224.0	7.2	231.0	6.8	215.2	5.4	200.6	4.8
Cotton fiber.....	262.3	14.6	343.2	14.8	338.9	11.5	373.2	12.0	369.0	10.8	347.4	8.7	347.4	8.3
Consumer goods.....	230.4	12.9	269.8	11.6	353.2	12.0	352.6	11.3	275.0	8.1	347.5	8.8	295.1	7.1
Food.....	26.4	1.5	73.9	3.2	73.3	2.5	64.6	2.1	82.0	2.4	91.5	2.3	86.1	2.1
Other consumer goods.....	65.0	3.6	64.8	2.8	88.8	3.0	94.6	3.0	114.1	3.4	116.1	2.9	118.6	2.8
Other merchandise.....	340.9	19.0	251.3	12.1	388.0	13.2	384.0	12.3	484.3	14.2	548.4	13.8	546.8	13.1
Unspecified.....														

<sup>1</sup> Because of rounding, components may not add to totals shown.

<sup>2</sup> Negligible.

TABLE XIII-5.—Commodity composition of Soviet imports from European satellites, 1955 and 1958-63  
 [In millions of U.S. dollars and percent of total]

	1955		1958		1959		1960		1961		1962		1963	
	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent
Total imports <sup>1</sup> .....	1,662.8	100.0	2,205.7	100.0	2,519.4	100.0	2,819.4	100.0	3,044.1	100.0	3,590.3	100.0	4,146.8	100.0
Machinery and equipment.....	753.6	44.1	861.6	39.1	1,033.9	41.3	1,208.0	42.9	1,245.2	40.9	1,623.9	45.2	1,858.5	44.8
Transportation equipment.....	274.6	16.5	333.7	15.4	432.0	17.1	532.2	19.0	451.0	14.8	579.5	16.1	686.7	16.4
Fuels, lubricants, and related materials.....	233.9	14.1	190.1	8.6	292.0	11.6	218.7	7.8	192.0	6.3	182.6	5.1	182.0	4.4
Coal and coke.....	121.4	7.3	74.1	3.4	83.0	3.3	90.9	3.2	91.2	3.0	91.9	2.6	99.6	2.4
Petroleum and petroleum products.....	112.6	6.8	116.0	5.3	126.1	5.0	124.3	4.4	100.8	3.3	90.7	2.5	88.5	2.1
Ores and concentrates.....	152.9	9.2	160.8	7.3	122.0	4.8	102.4	3.6	91.9	3.0	86.9	2.4	85.9	2.1
Base metals and manufactures.....	37.2	2.2	35.1	1.6	36.2	1.4	34.3	1.2	37.9	1.2	44.8	1.2	43.1	1.0
Ferrous metals.....	11.0	.7	25.6	1.2	44.8	1.8	80.3	2.8	110.9	3.6	133.1	3.7	130.1	3.1
Nonferrous metals.....	4.8	.3	10.1	.5	9.6	.4	21.8	.8	35.2	1.2	43.3	1.2	50.0	1.2
Rolled ferrous metals.....	26.3	1.6	9.4	.4	11.4	.5	14.6	.5	17.0	.6	11.7	.3	13.9	.3
Copper.....	3	.2	2.2	.1	2.2	.1	1.1	.0	1.7	.0	1.7	.0	1.7	.0
Chemicals.....	37.9	2.3	49.6	2.2	63.3	2.5	72.8	2.6	85.4	2.8	133.0	3.7	170.3	4.1
Rubber and rubber products.....	14.5	.9	19.6	.9	19.5	.8	21.9	.8	24.2	.8	23.0	.7	24.9	.6
Wood and wood products.....	36.8	2.2	35.9	1.6	39.0	1.5	45.2	1.6	45.8	1.5	48.4	1.3	44.5	1.1
Textile raw materials and semimanufactures.....	6.5	.4	9.5	.4	7.6	.3	8.3	.3	10.4	.3	11.5	.3	3.2	.1
Cotton fiber.....	190.8	11.5	445.0	20.2	545.9	21.7	667.3	23.7	799.7	26.3	902.1	25.1	1,084.8	26.2
Consumer goods.....	115.9	7.0	122.5	5.6	133.8	5.0	171.2	6.1	230.2	7.6	221.8	6.2	248.3	6.0
Food.....	74.9	4.5	322.5	14.6	420.0	16.7	496.0	17.6	543.4	18.0	630.3	18.0	836.4	20.2
Other consumer goods.....	88.1	5.3	110.9	5.0	136.4	5.4	126.6	4.5	132.4	4.3	133.4	3.7	161.6	3.9
Other merchandise.....	130.6	7.9	287.5	13.0	280.5	11.1	255.8	9.1	270.1	8.9	300.7	8.4	368.2	8.9
Unspecified.....														

<sup>1</sup> Because of rounding, components may not add to totals shown. \* Negligible

TABLE XIII-6.—Commodity composition of Soviet exports to Communist China, 1955 and 1958-63  
 [In millions of U.S. dollars and percent of total]

	1955		1958		1959		1960		1961		1962		1963	
	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent
Total exports 1.....	748.3	100.0	634.0	100.0	954.5	100.0	817.1	100.0	367.3	100.0	233.4	100.0	187.2	100.0
Machinery and equipment.....	220.6	30.7	318.0	50.2	597.5	62.6	503.9	61.7	108.1	29.4	27.3	11.7	42.2	22.5
Complete plants.....	141.5	18.9	198.2	31.3	399.8	41.9	373.8	45.7	78.9	21.5	27.3	11.7	42.2	22.5
Fuels, lubricants, and related materials.....	79.0	10.6	92.4	14.6	117.7	12.3	113.1	13.8	120.7	32.9	80.5	34.5	14.6	7.8
Petroleum and petroleum products.....	79.0	10.6	92.4	14.6	117.7	12.3	113.1	13.8	120.7	32.9	80.5	34.5	14.6	7.8
Ores and concentrates.....	(2)	(2)	76.2	12.0	1.3	0.1	1.2	0.1	13.8	3.8	80.5	34.5	60.7	32.4
Base metals and manufactures.....	88.5	11.8	76.2	12.0	1.3	0.1	1.2	0.1	13.8	3.8	80.5	34.5	60.7	32.4
Ferrous metals.....	75.7	10.1	64.8	10.2	54.5	5.7	64.8	8.0	41.2	11.2	33.8	14.5	32.3	17.3
Nonferrous metals.....	53.7	7.2	96.8	15.3	48.0	5.0	50.3	6.1	34.7	9.4	23.2	10.0	27.4	14.6
Aluminum.....	12.7	1.7	13.8	2.2	29.4	3.1	39.2	4.8	19.3	5.3	17.9	7.7	17.9	9.6
Chemicals.....	4.8	.6	10.0	1.6	6.4	.7	10.5	1.3	6.5	1.8	4.9	2.1	4.9	2.6
Wood and wood products.....	12.3	1.6	3.5	.6	1.4	.1	2.6	.3	1.6	.4	1.2	.5	1.2	.6
Consumer goods.....	1.3	.2	9.2	1.5	3.9	.4	5.0	.6	2.1	.6	2.3	1.0	4.1	2.2
Food.....	1.3	.2	9.2	1.5	6.6	.7	4.4	.5	67.2	18.3	30.6	13.1	14.1	7.5
Other consumer goods.....	6.0	.8	13.8	2.2	11.0	1.2	11.9	1.5	63.8	17.4	20.8	8.9	13.4	7.2
Other merchandise.....	322.0	43.0	116.4	18.4	161.4	16.9	107.0	13.1	19.1	5.2	45.1	19.3	23.3	12.5
Unspecified.....														

1 Because of rounding, components may not add to totals shown.

2 Negligible.

TABLE XIII-7.—Commodity composition of Soviet imports from Communist China, 1955 and 1958-63  
 (In millions of U.S. dollars and percent of total)

	1955		1958		1959		1960		1961		1962		1963	
	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent
Total imports <sup>1</sup> .....	643.6	100.0	881.2	100.0	1,100.3	100.0	848.1	100.0	551.4	100.0	516.3	100.0	413.0	100.0
Machinery and equipment.....	10.3	1.6	4.3	.5	12.4	1.1	.7	.1	-.3	.1	8.7	1.7	6.9	1.7
Transportation equipment.....	10.3	1.6	4.3	.5	12.1	1.1	.7	.1	-.3	.1	8.7	1.7	6.9	1.7
Fuels, lubricants, and related materials.....	5.0	.8	3.0	.3	2.8	.3	2.6	.3	2.4	.4	2.7	.5	2.8	.7
Coal and coke.....	5.0	.8	2.9	.3	2.1	(2)	2.6	.3	2.4	.4	2.7	.5	2.8	.7
Petroleum and petroleum products.....														
Ores and concentrates.....	62.2	9.7	74.0	8.4	73.3	6.7	61.2	7.2	48.3	8.8	35.3	6.8	23.9	6.3
Base metals and manufactures.....	82.5	12.8	68.7	7.7	62.5	5.7	61.7	7.3	42.9	7.8	32.5	6.3	23.4	5.7
Ferrous metals.....	26.3	4.1	19.2	2.2	17.6	1.7	12.8	1.5	8.7	1.6	6.6	1.3	10.9	2.6
Rolled ferrous metals.....														
Nonferrous metals.....	56.2	8.7	48.9	5.5	44.9	4.0	48.9	5.8	34.2	6.2	25.9	5.0	12.5	3.0
Tin.....	47.9	7.4	39.3	4.5	41.7	3.8	34.8	4.1	22.4	4.1	17.5	3.4	8.7	2.1
Wood and wood products.....	7.4	1.2	17.3	2.0	10.5	1.0	14.3	1.7	7.9	1.4	5.5	1.1	7.6	1.8
Rubber and rubber products.....	.4	.1	1.0	.1	.0	.1	1.0	.1	.3	.1	.3	.1	.3	.1
Textile raw materials and semimanufactures.....	59.5	9.2	37.5	4.3	31.6	2.9	33.9	4.0	22.9	4.2	13.9	2.7	8.6	2.1
Cotton fiber.....														
Wool fiber.....	23.6	3.7	31.2	3.5	21.9	2.0	19.4	2.3	10.4	1.9	7.9	1.5	8.1	2.0
Consumer goods.....	246.7	38.3	433.0	49.1	444.4	40.3	518.4	61.1	360.6	65.4	382.3	74.0	309.6	75.0
Food.....	183.5	28.5	230.1	26.1	219.1	19.9	227.9	26.9	17.4	3.2	38.1	7.4	21.9	5.3
Other consumer goods.....	63.2	9.8	203.9	23.1	425.3	38.7	390.5	46.0	343.2	62.2	344.2	66.7	287.7	69.7
Other merchandise.....	168.4	26.2	160.7	18.2	171.6	15.6	96.6	11.4	31.0	5.6	26.6	5.2	19.0	4.6
Unspecified.....	.1	(3)	4.0	.5	7.2	.7	14.7	1.7	31.4	5.7	3.6	.7	5.5	1.3

<sup>1</sup> Because of rounding, components may not add to totals shown. <sup>2</sup> Negligible.

TABLE XIII-8.—Commodity composition of Soviet exports to the industrial West, 1955 and 1958-63

[In millions of U.S. dollars and percent of total]

	1955		1958		1959		1960		1961		1962		1963	
	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent
Total exports <sup>1</sup> .....	543.8	100.0	669.6	100.0	855.5	100.0	972.6	100.0	1,060.0	100.0	1,106.6	100.0	1,208.3	100.0
Fuels, lubricants, and related materials.....	72.3	13.3	143.7	21.5	207.7	24.3	245.8	25.3	279.1	26.3	320.9	29.0	382.4	31.6
Coal and coke.....	27.2	5.0	53.3	8.0	55.0	6.4	57.1	5.9	65.1	6.1	77.7	7.0	98.3	8.1
Petroleum and petroleum products.....	45.1	8.3	90.4	13.5	152.7	17.8	188.7	19.4	214.0	20.2	243.3	22.0	284.1	23.5
Ores and concentrates.....	7.7	1.4	23.9	3.6	25.6	3.0	33.1	3.4	31.4	3.0	25.1	2.3	25.6	2.1
Manganese ore.....	7.7	1.4	16.2	2.4	14.6	1.7	14.9	1.5	13.3	1.3	9.1	0.8	7.7	0.6
Base metals and manufactures.....	52.2	9.6	95.3	14.2	95.4	11.2	111.3	11.4	119.9	11.3	120.1	10.9	115.4	9.6
Iron.....	42.2	7.8	33.1	4.9	46.9	5.5	70.9	7.3	80.9	7.6	84.8	7.7	83.5	6.9
Steel.....	24.9	4.6	12.4	1.9	23.7	2.8	34.7	3.6	40.6	3.8	46.0	4.2	41.5	3.4
Rollled ferrous metals.....	7.9	1.5	10.3	1.5	11.8	1.4	18.9	1.9	24.0	2.3	25.9	2.3	27.9	2.3
Nonferrous metals.....	10.0	1.8	62.3	9.3	48.5	5.7	40.3	4.1	39.0	3.7	35.3	3.2	31.9	2.6
Aluminum.....	2.8	0.5	32.2	4.8	23.7	2.8	13.1	1.3	7.2	0.7	15.6	1.4	14.8	1.2
Wood and wood products.....	114.1	21.0	20.8	3.1	15.2	1.8	7.3	0.8	17.3	1.6	20.3	1.8	20.0	1.7
Lumber.....	72.8	13.4	122.9	18.4	129.5	15.1	157.5	16.2	177.3	16.7	199.7	18.2	203.0	17.3
Textile raw materials and semifinances.....	65.5	12.0	75.1	11.2	83.8	9.8	99.3	10.2	106.7	10.1	109.7	9.9	123.2	10.2
Cotton fiber.....	47.5	8.7	39.3	5.9	60.5	7.1	70.4	7.2	52.1	4.9	52.6	4.8	48.1	4.0
Other consumer goods.....	108.5	20.0	122.0	18.3	39.2	4.6	50.3	5.2	34.7	3.3	32.0	2.9	28.7	2.5
Food.....	71.2	13.1	85.0	12.7	170.6	19.9	182.2	17.3	206.6	19.5	188.4	17.0	215.8	17.9
Grain.....	47.5	8.7	63.1	9.4	99.1	11.6	117.4	12.1	158.2	14.9	134.1	12.1	137.4	11.4
Other consumer goods.....	37.3	6.9	37.5	5.6	44.3	5.2	50.8	5.2	48.4	4.6	54.3	4.9	78.4	6.5
Furs and pelts.....	35.6	6.5	34.1	5.1	39.9	4.7	44.3	4.6	41.4	3.9	46.2	4.2	66.8	5.5
Other merchandise.....	68.5	12.6	94.2	14.1	120.9	14.1	137.5	15.2	130.0	12.3	123.3	11.1	108.3	9.0
Unspecified.....	49.8	9.2	27.7	4.1	45.3	5.3	38.8	4.0	63.7	6.0	74.8	6.8	103.7	8.6

<sup>1</sup> Because of rounding, components may not add to totals shown.



TABLE XIII-9.—Commodity composition of Soviet imports from the industrial West, 1955 and 1958-63  
[In millions of U.S. dollars and percent of total]

	1955		1958		1959		1960		1961		1962		1963	
	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent
Total imports <sup>1</sup> .....	430.7	100.0	622.3	100.0	755.5	100.0	1,069.4	100.0	1,087.5	100.0	1,271.0	100.0	1,388.6	100.0
Machinery and equipment.....	181.4	42.1	194.1	31.2	293.9	38.8	455.9	42.6	469.8	43.2	601.8	47.3	588.6	42.4
Chemical equipment.....	(3)	(4)	19.5	3.1	77.8	10.3	135.4	12.7	131.9	12.1	88.4	7.0	124.1	8.9
Transportation equipment.....	98.5	22.9	76.3	12.3	91.6	12.1	121.1	11.3	68.1	6.3	150.1	11.8	163.0	11.7
Base metals and manufactures.....	53.8	12.5	161.9	26.0	219.1	29.0	303.2	28.4	241.9	22.2	295.4	23.2	287.3	20.7
Iron and steel.....	12.7	2.9	106.3	17.1	175.9	23.3	252.1	23.6	192.9	17.7	242.8	19.1	187.2	13.5
Roller ferrous metals.....	8.1	1.9	97.6	15.7	96.2	12.7	135.7	12.7	96.5	8.9	100.0	8.0	75.7	5.5
Pipes.....	1.3	0.3	1.1	0.2	58.9	7.8	101.9	9.5	80.7	7.4	110.6	8.6	75.7	5.5
Nonferrous metals.....	41.1	9.5	55.6	8.9	43.3	5.7	51.1	4.8	49.0	4.5	49.5	3.9	48.9	3.5
Copper.....	40.2	9.3	54.1	8.7	33.9	4.5	38.2	3.6	32.0	2.9	42.0	3.3	38.1	2.7
Wood and wood products.....	48.9	11.4	63.4	10.2	49.2	6.5	52.2	4.9	70.1	6.4	44.8	3.5	38.1	2.7
Textile raw materials and semimanufactures.....	23.6	5.5	50.8	8.2	43.3	5.7	79.5	7.4	83.8	7.7	70.8	5.5	66.7	4.8
Wool fiber.....	18.4	4.3	17.1	2.7	10.1	1.3	48.1	4.5	37.1	3.4	23.7	1.9	38.5	2.8
Synthetic fiber.....	7.3	1.7	18.9	3.0	20.1	2.7	12.9	1.2	28.7	2.6	30.7	2.4	41.9	3.0
Consumer goods.....	45.5	10.6	70.4	11.3	54.6	7.2	44.1	4.1	73.5	6.8	60.6	4.8	32.0	2.3
Other merchandise.....	31.2	7.2	71.4	11.5	87.7	11.6	118.0	11.0	128.2	11.8	131.2	10.3	232.1	16.7
Unspecified.....	40.2	9.3	10.3	1.7	8.7	1.2	16.7	1.6	22.0	2.0	19.1	1.5	48.8	3.5

<sup>1</sup> Because of rounding, components may not add to the totals shown.

<sup>2</sup> Negligible.

TABLE XIII-10.—Commodity composition of Soviet exports to less-developed countries, 1955 and 1958-63  
 [In millions of U.S. dollars and percent of total]

	1955		1958		1959		1960		1961		1962		1963	
	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent
Total exports <sup>1</sup> .....	112.4	100.0	389.4	100.0	343.4	100.0	345.8	100.0	507.4	100.0	593.5	100.0	760.4	100.0
Machinery and equipment.....	5.4	4.8	169.5	41.2	113.0	32.9	125.7	36.4	236.1	46.5	286.0	50.3	360.7	47.4
Complete plants.....	1.1	1.0	112.2	28.8	69.3	20.2	68.6	19.8	138.8	27.4	182.5	32.1	220.3	29.0
Petroleum and petroleum products.....	32.0	28.5	73.2	18.8	80.2	23.4	61.3	17.7	67.4	13.3	62.8	11.0	81.4	10.7
Roller ferrous metals.....	16.4	14.6	34.5	8.8	29.6	8.6	24.3	7.0	23.5	4.6	32.2	5.7	23.4	3.1
Wood and wood products.....	15.4	13.7	34.5	8.8	29.6	8.6	24.3	7.0	23.5	4.6	32.2	5.7	23.4	3.1
Food.....	11.9	10.6	45.6	11.7	45.2	13.2	39.3	11.4	38.1	7.5	34.4	6.1	36.8	4.8
Other merchandise.....	27.9	24.8	36.7	9.4	40.3	11.7	0.2	0.2	47.6	9.4	65.1	12.2	97.5	12.8
Unspecified.....	3.4	3.0	3.4	.9	4.6	1.3	6.2	1.8	38.2	7.5	18.5	3.3	98.0	12.9

<sup>1</sup> Because of rounding, components may not add to the totals shown.

TABLE XIII-11.—Commodity composition of Soviet imports from less-developed countries, 1955 and 1958-63  
 [In millions of U.S. dollars and percent of total]

	1955		1958		1959		1960		1961		1962		1963	
	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent	Value	Percent
Total imports <sup>1</sup> .....	210.4	100.0	482.1	100.0	522.2	100.0	574.9	100.0	584.1	100.0	615.2	100.0	674.8	100.0
Cotton fibers.....	18.9	9.0	135.2	28.0	111.6	21.4	139.4	24.2	122.0	20.9	112.4	18.3	167.7	24.9
Natural rubber.....	25.5	12.1	131.4	27.3	144.0	27.6	151.8	26.4	224.8	38.5	205.9	33.5	163.3	24.2
Food.....	108.0	49.0	92.0	19.1	107.1	20.5	123.3	21.4	99.1	17.0	142.0	23.1	158.4	23.5
Nonferrous metals.....	47.3	22.5	121.8	25.3	37.3	7.1	33.3	5.8	19.9	3.4	22.9	3.7	18.2	2.7
Other merchandise.....	15.5	7.4	1.7	.4	1.2	.2	128.5	22.0	115.5	19.8	131.1	21.3	163.0	24.2
Unspecified.....	15.5	7.4	1.7	.4	1.2	.2	128.5	22.0	2.8	.5	.9	.1	4.2	.6

<sup>1</sup> Because of rounding, components may not add to the totals shown.

TABLE XIII-12.—Trends in foreign trade between the U.S.S.R. and selected free-world countries, 1955 and 1958-63<sup>1</sup>

[In millions of U.S. dollars]

	1955	1958	1959	1960	1961	1962	1963
Free world, total.....	1,345.8	2,268.8	2,600.4	3,004.5	3,358.0	4,015.2	4,245.2
Industrial West.....	974.5	1,291.9	1,612.0	2,042.0	2,147.5	2,877.6	2,596.9
Finland.....	234.0	254.3	286.7	293.4	278.9	395.4	427.2
United Kingdom.....	240.2	215.4	256.6	300.6	355.0	330.4	344.9
West Germany.....	53.0	137.8	209.3	318.0	298.1	344.1	284.2
France.....	95.8	167.7	188.2	203.7	199.9	239.9	174.4
Italy.....	33.8	73.8	130.8	193.0	226.2	229.9	272.8
Sweden.....	45.6	68.3	86.0	99.5	103.2	129.6	133.8
Belgium.....	30.3	39.2	37.0	51.4	67.6	79.2	77.8
Netherlands.....	66.3	74.6	79.8	69.9	75.8	90.0	79.4
United States.....	24.3	30.8	43.4	84.6	75.0	44.4	52.7
Less-developed countries.....	322.7	871.5	865.6	920.7	1,091.5	1,183.7	1,436.2
Egypt.....	26.4	194.8	180.7	191.1	204.9	176.3	259.8
India.....	11.7	180.9	128.6	115.6	162.3	196.4	316.7
Malaysia.....	21.8	118.0	127.6	113.7	171.5	163.2	136.9
Afghanistan.....	24.5	35.7	43.9	48.8	59.2	64.7	64.5
Argentina.....	52.1	33.3	44.7	35.7	30.4	17.8	19.3
Iran.....	41.6	53.9	36.8	37.0	36.5	32.6	41.6
Indonesia.....	3.8	35.8	26.7	47.6	66.2	97.2	79.7
Other countries.....	48.6	105.4	122.8	41.8	119.0	453.9	213.0

<sup>1</sup> Because of rounding, components may not add to the totals shown.

TABLE XIII-13.—Soviet imports from the underdeveloped countries, 1955 and 1959-63<sup>1</sup>

[In millions of current U.S. dollars]

Area and country	1955	1959	1960	1961	1962	1963
Total.....	210.4	522.2	574.9	534.1	615.2	674.8
Africa.....	16.3	76.0	79.6	51.3	69.7	77.8
Algeria.....	0	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	.1	.7
Cameroon.....	0	8.5	.3	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> ) 2.0
Ethiopia.....	0	.7	.5	.7	1.2	2.0
Federation of Rhodesia and Nyasaland.....	0	28.5	26.4	13.2	13.6	16.0
Ghana.....	11.5	8.2	21.6	6.8	16.7	21.6
Guinea.....	0	.8	2.2	4.2	2.6	2.3
Ivory Coast.....	2.5	7.6	5.4	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Mali.....	0	( <sup>2</sup> )	0	3.8	4.4	3.0
Morocco.....	2.3	1.4	4.0	5.2	6.0	10.2
Nigeria.....	0	7.4	7.0	.1	.8	.6
Senegal.....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	0	.4
Somalia.....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	0	.3	1.3
Sudan.....	0	5.0	5.8	10.4	10.6	17.2
Tanganyika.....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	.9	.8
Togo.....	0	( <sup>2</sup> )	0	0	.2	( <sup>2</sup> )
Tunisia.....	0	1.0	1.5	2.8	2.3	2.8
Uganda.....	0	6.9	4.9	4.1	( <sup>2</sup> )	( <sup>2</sup> )
Asia.....	57.6	229.2	252.6	322.2	334.5	314.6
Afghanistan.....	10.9	15.6	16.8	19.7	25.3	19.6
Burma.....	16.8	4.0	5.0	2.5	12.3	13.8
Cambodia.....	0	( <sup>2</sup> )	3.0	6.3	6.1	2.1
Ceylon.....	0	4.7	8.6	9.0	6.1	7.4
India.....	4.4	60.6	68.4	66.9	71.7	94.8
Indonesia.....	3.7	11.0	31.4	35.9	38.7	29.8
Malaya.....	21.8	126.7	111.5	169.5	161.0	133.8
Nepal.....	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	.3	0	0
Pakistan.....	( <sup>2</sup> )	3.7	4.4	4.3	3.9	9.7
Thailand.....	( <sup>2</sup> )	2.9	3.5	9.8	9.4	3.6
Europe.....	13.4	19.2	24.8	7.4	12.8	12.1
Iceland.....	10.0	12.4	10.5	5.3	11.8	10.8
Portugal.....	3.4	1.8	2.5	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Spain.....	0	5.0	11.8	2.1	1.0	1.3
Latin America.....	78.0	56.5	35.7	50.7	74.1	75.4
Argentina.....	28.1	27.9	21.7	19.9	9.8	18.4
Brazil.....	1.9	4.8	9.4	24.0	35.8	43.4
Cuba.....	35.8	7.4	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Mexico.....	2.2	1.3	3.3	.3	7.4	8.2
Peru.....	0	( <sup>2</sup> )	0	2.4	5.8	.2
Uruguay.....	10.0	15.1	1.3	4.1	15.3	5.2
Middle East.....	44.7	141.5	182.0	152.5	134.2	195.2
Cyprus.....	0	( <sup>2</sup> )	.6	1.5	1.5	1.3
Greece.....	2.3	12.3	19.0	16.9	21.7	22.4
Iran.....	19.1	18.8	19.0	18.3	16.4	17.8
Iraq.....	.3	2.3	3.4	4.6	3.8	5.2
Israel.....	1.8	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Lebanon.....	.8	3.9	3.9	3.7	4.0	1.2
Libya.....	0	0	.5	.6	.2	.8
Libya.....	0	6.1	7.8	4.4	6.8	14.2
Syria.....	0	4.8	5.2	4.9	5.4	7.1
Turkey.....	5.1	4.8	121.3	96.2	72.9	123.6
United Arab Republic.....	15.3	92.7	1.3	1.4	1.5	1.6
Yemen.....	0	.6	1.3	1.4	1.5	1.6

<sup>1</sup> Imports are valued f.o.b. Because of rounding, components may not add to the totals shown. Excludes Yugoslavia for all years and Cuba for 1960-63. Imports from Cuba and Yugoslavia were as follows (in millions of current U.S. dollars): From Cuba: 1960, 103.8; 1961, 311.9; 1962, 224.0; 1963, 164.4. From Yugoslavia: 1955, 17.5; 1959, 53.1; 1960, 53.1; 1961, 54.6; 1962, 46.1; 1963, 80.9.

<sup>2</sup> Less than 50,000 rubles.

<sup>3</sup> Not reported.

Source: Official Soviet foreign trade publications.

TABLE XIII-14.—Soviet exports to the underdeveloped countries, 1955 and 1959-63<sup>1</sup>  
 [In millions of current U.S. dollars]

Area and country	1955	1959	1960	1961	1962	1963
Total.....	112.4	343.4	345.8	507.4	568.5	760.4
Africa.....	2.5	9.2	20.1	68.6	59.5	84.3
Algeria.....	.9	1.4	2.3	1.4	.8	5.1
Cameroon.....	0	(2)	(2)	(2)	(2)	(2)
Ethiopia.....	(2)	.6	.9	.9	.8	1.1
Federation of Rhodesia and Nyasa- land.....	(2)	(2)	0	0	0	0
Ghana.....	(2)	(2)	5.6	15.4	9.9	16.7
Guinea.....	(2)	.9	5.8	27.2	20.0	14.1
Mali.....	0	(2)	0	8.5	8.6	12.2
Morocco.....	1.4	1.7	5.8	3.4	5.7	9.8
Nigeria.....	(2)	(2)	(2)	(2)	.1	.6
Somalia.....	(2)	(2)	(2)	(2)	.9	6.8
Senegal.....	(2)	(2)	(2)	(2)	0	(2)
Sudan.....	.2	3.9	5.4	9.3	10.4	13.6
Togo.....	0	(2)	(2)	.1	.4	.2
Tunisia.....	0	.7	3.3	2.4	1.9	4.1
Asia.....	21.5	118.3	106.1	180.4	250.2	357.7
Afghanistan.....	13.6	28.3	32.0	39.4	39.4	44.9
Burma.....	.2	1.5	1.8	3.9	5.9	6.7
Cambodia.....	0	1.3	2.1	1.6	2.2	3.2
Ceylon.....	0	.6	1.0	1.8	10.1	19.2
India.....	7.3	68.0	47.1	95.4	124.8	221.9
Indonesia.....	.1	15.8	16.2	31.3	58.6	49.9
Malaya.....	0	.9	2.1	2.0	2.3	3.1
Nepal.....	(2)	(2)	(2)	.3	.8	1.1
Pakistan.....	.3	1.0	2.4	3.0	5.1	6.2
Thailand.....	(2)	.9	1.4	1.7	1.0	1.5
Europe.....	10.3	16.2	16.1	11.2	9.2	24.7
Iceland.....	10.3	12.0	10.6	9.3	8.6	9.8
Portugal.....	0	1.3	2.2	(2)	(2)	(2)
Spain.....	0	2.9	3.3	1.9	.6	14.9
Latin America.....	24.3	27.5	32.0	29.6	33.4	30.6
Argentina.....	24.0	16.8	14.0	10.5	8.0	.9
Brazil.....	(2)	1.0	15.8	18.4	30.1	29.4
Cuba.....	0	(2)	(1)	(1)	(1)	(1)
Mexico.....	(2)	.4	.8	.1	.1	.1
Peru.....	(2)	(2)	0	0	(2)	(2)
Uruguay.....	.3	9.3	1.4	.6	.2	.2
Middle East.....	53.4	172.2	162.7	217.6	211.2	263.2
Cyprus.....	0	(2)	.6	1.4	1.1	1.8
Greece.....	4.3	16.0	25.8	21.1	20.7	26.7
Iran.....	22.4	18.0	18.0	18.1	16.1	23.8
Iraq.....	(2)	23.3	20.2	37.3	52.0	43.4
Israel.....	6.7	(2)	(2)	(2)	(2)	(2)
Lebanon.....	1.3	3.3	4.3	4.7	4.3	4.6
Libya.....	0	0	1.0	1.4	1.9	2.6
Syria.....	.3	15.1	11.0	17.0	5.2	13.1
Turkey.....	7.4	5.6	8.2	5.8	4.3	8.7
United Arab Republic.....	11.0	88.0	70.0	108.7	103.3	135.2
Yemen.....	0	2.9	3.6	2.1	2.3	3.3

<sup>1</sup> Exports are valued f.o.b. Because of rounding, components may not add to the totals shown. Excludes Yugoslavia for all years and Cuba for 1960-63. Exports to Cuba and Yugoslavia were as follows (in millions of current U.S. dollars): To Cuba: 1960, 70.8; 1961, 287.0; 1962, 366.8; 1963, 399.8. To Yugoslavia: 1955, 16.4; 1959, 46.2; 1960, 55.1; 1961, 35.9; 1962, 72.3; 1963, 96.3.

<sup>2</sup> Less than 50,000 rubles.

<sup>3</sup> Not reported.

Source: Official Soviet foreign trade publications.

TABLE XIII-15.—U.S.S.R., imports of chemical plants and equipment, 1955-63

[In thousands of rubles]

	1955	1956	1957	1958	1959	1960	1961	1962	1963
Total.....	22,133	19,296	22,088	45,531	103,784	168,242	173,746	143,025	201,023
From—									
United Kingdom.....		10	203	5,657	30,147	35,263	37,194	15,958	27,248
Italy.....			196	18	6,012	20,557	25,307	12,051	26,059
West Germany.....		18	2,227	4,947	20,008	37,398	18,693	7,667	17,138
France.....			121	3,337	6,494	15,897	16,564	16,300	11,945
Sweden.....	6	6	1,216	1,984	2,551	226	417	1,846	327
Austria.....		224	1,607	1,372	1,317	2,635	2,970	1,107	2,937
United States.....				217	1,496	3,459	456	1,610	303
Holland.....		14	1			361	1,924	16,012	8,439
Switzerland.....			1,106		1,039	433	335	124	728
Belgium.....						1,949	6,818	2,848	
Japan.....					962	3,643	7,619	3,811	16,434
Percentage from Communist countries.....	99.9	98	70	56	32	26	27	38	38
Including—									
East Germany.....	10,376	10,219	10,170	15,849	17,959	16,720	16,126	20,096	21,219
Czechoslovakia.....	10,960	7,950	4,223	10,821	13,241	22,825	26,153	29,908	49,990
Hungary.....	791	849	1,018	1,329	2,523	4,376	5,116	4,992	5,311

Source: *Vneshnyaya Torgovlya*, 1959, 1961, 1963 (Moscow).TABLE XIII-16.—Total Soviet economic credits and grants extended to non-Communist underdeveloped countries, Jan. 1, 1954, to Dec. 31, 1964<sup>1</sup>

[In millions of current U.S. dollars]

	Cumulative, 1954-64	Cumulative, 1954-64	
Total.....	4,183	Asia—Continued	
Africa.....	758	Burma.....	14
Algeria.....	229	Cambodia.....	21
Congo (Brazzaville).....	9	Ceylon.....	30
Ethiopia.....	102	India.....	1,011
Ghana.....	89	Indonesia.....	369
Guinea.....	70	Nepal.....	10
Kenya.....	44	Pakistan.....	44
Mali.....	55	Europe: Iceland.....	3
Senegal.....	7	Latin America: Argentina.....	100
Somali Republic.....	57	Middle East.....	1,282
Sudan.....	22	Iran.....	39
Tunisia.....	28	Iraq.....	184
Uganda.....	16	Syrian Arab Republic.....	150
United Republic of Tanzania.....	30	Turkey.....	10
Asia.....	2,040	United Arab Republic (Egypt).....	833
Afghanistan.....	541	Yemen.....	66

<sup>1</sup> Data for 1964 are preliminary; actual drawings under these credits and grants during this period are estimated at approximately \$1,500,000,000.

CHAPTER XIV

ECONOMIC INDICATORS FOR THE SOVIET BLOC

TABLE XIV-1.—Gross national product of the Sino-Soviet bloc, 1960-63 <sup>1</sup>  
[In billions of dollars]

Country	1960	1961	1962	1963
Sino-Soviet bloc.....	413	418	436	460
European Soviet bloc.....	322	336	353	372
Asian Soviet bloc.....	91	82	83	88

<sup>1</sup> At market prices converted at purchasing power equivalents.

Sources: Department of State intelligence reports, "Indicators of Economic Strength of Selected Free World Countries Compared With Communist Countries."

TABLE XIV-2.—Intrabloc trade as percentage of total trade, by countries of the Sino-Soviet bloc, 1963

	Exports	Imports
Albania.....	NA	NA
Bulgaria.....	79.8	80.6
Czechoslovakia.....	70.4	69.3
Hungary.....	NA	NA
Poland.....	60.1	64.4
Rumania.....	67.4	66.4
Soviet Zone of Germany.....	76.1	74.3
U.S.S.R.....	63.3	67.1
Communist China.....	149.0	136.6
Mongolia.....	NA	NA
North Korea.....	195.0	195.0
North Vietnam.....	180.0	189.0

<sup>1</sup> Estimated.

NOTE.—NA indicates data not available.

Source: Official foreign trade statistics of Soviet bloc countries.

TABLE XIV-3.—Area sown to principal crops in Sino-Soviet bloc countries, 1963

[In thousands of hectares]

	Sino-Soviet bloc, total	European Soviet bloc, total <sup>1</sup>	Albania	Bulgaria	Czechoslovakia	Hungary	Poland	Rumania	Soviet zone of Germany	U.S.S.R. <sup>2</sup>	Asian-Soviet bloc, total	Communist China	Mon-golia	North Korea	North Vietnam
Grain crops, total	NA	158,650	NA	3 1,425	3 2,618	3 3,125	8,735	6,700	2,247	133,800	NA	NA	NA	NA	NA
Wheat	NA	72,409	NA	1,300	688	976	1,542	2,874	429	64,800	NA	NA	NA	NA	NA
Rye	NA	20,973	NA	60	420	209	4,383	80	821	15,000	NA	NA	NA	NA	NA
Corn	NA	12,961	NA	700	216	1,289	1,682	3,371	3	5,700	NA	NA	NA	NA	NA
Rice	NA	NA	NA	NA	Neg.	19	Neg.	NA	NA	5,100	NA	NA	NA	NA	NA
Potatoes	NA	13,198	NA	40	516	222	2,850	319	751	8,500	NA	NA	NA	NA	NA
Animal feeds, total	NA	67,513	NA	3 1,112	3 1,525	3 725	2,101	1,403	1,347	59,300	NA	NA	NA	NA	NA
Industrial crops, total	NA	4 17,810	NA	3 570	3 403	3 295	799	843	NA	14,900	NA	NA	NA	NA	NA
Cotton	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Flax	NA	NA	NA	NA	3 48	NA	NA	NA	NA	2,480	NA	NA	NA	NA	NA
Sunflower seeds	NA	5,229	NA	250	33	121	NA	NA	NA	1,460	NA	NA	NA	NA	NA
Sugarbeets	NA	4,977	NA	70	243	118	NA	465	NA	4,390	NA	NA	NA	NA	NA
Tobacco	NA	6 182	NA	117	6	20	34	178	246	3,750	NA	NA	NA	NA	NA
Total	NA	281,201	NA	3,147	5,062	4,377	14,475	9,265	NA	216,500	NA	NA	NA	NA	NA

NA indicates data not available.  
 Neg. indicates amount is negligible.  
<sup>1</sup> Total excludes Albania.  
<sup>2</sup> U.S. Department of Agriculture estimate.  
<sup>3</sup> U.S. Department of Commerce estimate.  
<sup>4</sup> Excludes Soviet zone of Germany.  
<sup>5</sup> Excludes Poland and Soviet zone of Germany.  
<sup>6</sup> Excludes Rumania and the U.S.S.R.



TABLE XIV-4.—Harvest of selected crops in Sino-Soviet bloc countries, 1963

[In thousands of metric tons]

Sino-Soviet bloc	Euro- pean Soviet Bloc <sup>1</sup>	Albania	Bulgaria	Czechoslovakia	Hungary	Poland	Rumania	Soviet zone of Germany	U.S.S.R. <sup>2</sup>	Asian-Soviet bloc, total	Communist China	Mongolia	North Korea	North Vietnam
Grain crops.....	53,034	NA	NA	NA	NA	NA	10,371	5,536	NA	NA	NA	NA	NA	NA
Wheat.....	21,602	NA	1,600	1,740	1,623	3,100	3,791	1,240	40,000	NA	NA	NA	NA	NA
Rye.....	21,314	NA	50	874	215	7,100	5,964	1,675	11,700	NA	NA	NA	NA	NA
Corn.....	136,686	NA	1,580	616	3,551	NA	NA	NA	3,900	NA	NA	NA	NA	NA
Rice.....	NA	NA	NA	( <sup>3</sup> )	NA	NA	2,693	NA	67,500	NA	NA	NA	NA	NA
Potatoes.....	NA	NA	400	6,392	2,025	44,800	NA	12,886	1,770	NA	NA	NA	NA	NA
Vegetables.....	NA	NA	137	NA	NA	NA	NA	774	1,770	NA	NA	NA	NA	NA
Cotton.....	NA	NA	NA	NA	NA	NA	NA	NA	4,000	NA	NA	NA	NA	NA
Flax.....	NA	NA	320	NA	126	NA	NA	NA	44,000	NA	NA	NA	NA	NA
Sunflower seeds.....	NA	NA	1,050	7,294	3,484	10,700	2,348	6,176	NA	NA	NA	NA	NA	NA
Sugarbeets (for pressing).....	74,782	NA	NA	NA	NA	NA	NA	11,283	NA	NA	NA	NA	NA	NA
Animal feeds.....	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA indicates data not available.  
<sup>1</sup> Totals do not include Albania.  
<sup>2</sup> U.S. Department of Agriculture estimates.  
<sup>3</sup> Excludes Poland.  
<sup>4</sup> Negligible.  
<sup>5</sup> Excludes Czechoslovakia, Poland, and the Soviet zone of Germany.  
 Sources: Official statistics of the Sino-Soviet bloc countries; U.S. Department of Agriculture publications.

TABLE XIV-5.—Sino-Soviet intrabloc trade, 1963  
[In millions of dollars]

Exporting country	Importing country														
	Sino-Soviet bloc, total <sup>1</sup>	European Soviet bloc, total <sup>1</sup>	Albania	Bulgaria	Czechoslovakia	Hungary	Poland	Rumania	Soviet zone of Germany	U.S.S.R.	Asian-Soviet bloc total	Communist China	Mongolia	North Korea	North Vietnam
Sino-Soviet bloc, total.....	NA	11,719	NA	747	1,502	850	1,290	679	1,910	4,719	NA	NA	NA	NA	NA
European Soviet bloc, total.....	11,544	11,015	22	740	1,487	850	1,255	654	1,876	4,131	1,829	1,131	199	176	
Albania.....	NA	17	2	2	7	4	4	2	2	( <sup>2</sup> )	NA	NA	NA	NA	
Bulgaria.....	666	661	1	80	70	16	33	14	81	446	5	NA	NA	NA	
Czechoslovakia.....	1,734	1,778	10	18	132	153	196	101	222	956	16	1	2	1	
Hungary.....	1,063	1,042	5	35	145	79	76	34	95	423	3	7	3	6	
Poland.....	1,620	1,504	2	12	145	79	33	41	120	617	21	5	4	1	
Rumania.....	2,063	2,042	4	98	229	122	250	63	42	413	26	14	4	7	
Soviet zone of Germany.....	4,603	4,163	4	495	849	443	663	399	1,314	1,276	440	187	82	4	
U.S.S.R.....	NA	704	NA	7	15	35	35	25	34	588	NA	NA	NA	NA	
Asian-Soviet bloc, total.....	2,629	2,479	NA	2	( <sup>2</sup> )	23	23	14	25	413	150	NA	NA	NA	
Communist China.....	NA	68	( <sup>2</sup> )	2	5	3	3	1	3	52	NA	NA	NA	NA	
Mongolia.....	NA	107	( <sup>2</sup> )	1	5	4	4	6	3	88	NA	NA	NA	NA	
North Korea.....	NA	52	( <sup>2</sup> )	2	5	3	3	4	3	35	NA	NA	NA	NA	
North Vietnam.....	NA	NA	( <sup>2</sup> )	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

NA indicates data not available.  
Sources: Official foreign trade statistics of Soviet bloc countries.

<sup>1</sup> Excluding Albania.  
<sup>2</sup> Estimated.  
<sup>3</sup> Negligible.

TABLE XIV-6.—Production of selected basic commodities in Sino-Soviet bloc countries, 1963

Commodities	Albania	Bulgaria	Czechoslovakia	German-Soviet zone	Hungary	Poland	Rumania	U.S.S.R.	European Soviet bloc, total <sup>1</sup>	Communist China	Mongolia	North Korea	North Vietnam	Asian-Soviet bloc, total	Sino-Soviet bloc, total
Electric power, million kilowatt-hours	NA	7,176	29,861	47,450	9,660	37,000	11,682	412,000	554,839	31,000	(2)	(2)	(2)	43,000	597,839
Coal, million metric tons	NA	21	101	2	30	123	10	532	824	210	(2)	(2)	(2)	231	1,051
Oil, thousand metric tons	NA	174	NA	2,150	1,752	212	12,233	206,100	222,621	6,000	(4)	(4)	(4)	6,000	228,621
Cement, thousand metric tons	NA	2,208	5,178	5,458	1,800	7,670	4,369	61,000	87,683	NA	NA	NA	NA	NA	NA
Pig iron, thousand metric tons	NA	<sup>2</sup> 263	5,254	2,150	<sup>3</sup> 1,404	5,396	1,706	38,700	74,874	NA	NA	NA	NA	NA	NA
Steel, thousand metric tons	NA	461	7,598	3,626	2,376	8,004	2,704	80,200	104,969	8,000	(6)	(6)	(6)	9,000	113,969

NA indicates data not available.  
 1. Total excludes Albania.  
 2. Production of Mongolia, North Korea, and North Vietnam combined equals 12,000,000 kilowatt-hours.  
 3. Production of Mongolia, North Korea, and North Vietnam combined equals 21,000,000 metric tons.  
 4. Insignificant.  
 5. Includes ferroalloys.  
 6. Production of Mongolia, North Korea, and North Vietnam combined equals 1,000,000 metric tons.  
 Sources: Official sources of the Soviet bloc countries; U.N. statistical sources; U.S. Department of State intelligence reports.

TABLE XIV-7.—Production of selected manufactured products, 1963

Commodities	Albania	Bulgaria	Czechoslovakia	Germany, Soviet zone	Hungary	Poland	Rumania	U.S.S.R.	European Soviet bloc, total <sup>1</sup>	Communist China	North Korea	North Vietnam	Asian-Soviet bloc, total	Sino-Soviet bloc, total
Automotive vehicles (thousand units)	NA	NA	70	94	6	52	20	587	829	NA	NA	NA	NA	NA
Tractors (thousand units)	NA	NA	28	16	3	15	13	325	2,403	NA	NA	NA	NA	NA
Rolling stock (freight) (thousand units)	NA	NA	NA	3	NA	16	4	37	360	NA	NA	NA	NA	NA
Metalworking machinery (thousand units)	NA	3	27	35	8	30	5	217	325	NA	NA	NA	NA	NA
Antifriction bearings (million units)	NA	NA	43	33	NA	24	9	466	4,575	NA	NA	NA	NA	NA
Chemical fertilizers (thousand tons)	NA	172	357	536	900	601	185	19,900	22,651	NA	NA	NA	NA	NA
Refrigerators (thousand units)	NA	17	221	245	36	120	72	911	1,622	NA	NA	NA	NA	NA
Sewing machines (thousand units)	NA	NA	NA	234	NA	218	74	2,602	3,128	NA	NA	NA	NA	NA
Cotton fabrics (million running meters)	NA	250	467	527	523	695	301	6,617	8,880	NA	NA	NA	NA	NA
Shoes (million pairs)	NA	13	45	54	24	96	23	463	718	NA	NA	NA	NA	NA

NA indicates data not available.

<sup>1</sup> Excludes Albania.

<sup>2</sup> Excludes Bulgaria.

<sup>3</sup> Excludes Bulgaria, Czechoslovakia, and Hungary

<sup>4</sup> Excludes Bulgaria and Hungary.

<sup>5</sup> Million square meters.  
<sup>6</sup> Leather shoes.  
 Sources: Official statistics of the Soviet bloc countries; United Nations statistical sources.

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This bibliography is limited primarily to monographs which have been received by the Foreign Demographic Analysis Division, U.S. Bureau of the Census, in the fields of Soviet economics, labor force, and population. With several exceptions, the selection is restricted to those monographs which have appeared since 1959. Entries marked with an asterisk (\*) have been added to the original bibliography appearing in Joint Economic Committee, *Dimensions of Soviet Economic Power*, 1962, pages 671-688 and the subsequent committee report, *Annual Economic Indicators for the U.S.S.R.*, 1964, pages 145-171. Relatively few purely technical books are included, and statistical handbooks are omitted entirely.

The bibliography is arranged according to subject and branch of the national economy. The subject listing is in alphabetical order, whereas the branch listing approximates the sequence used in Soviet statistical handbooks. Each entry appears only once in either the subject or the branch classification. A list of cross-references has been added at the end of each classification group. The arrangement within the subject listing and the branch listing is as follows:

#### SUBJECT LISTING

Background  
Capital Investment  
Communist Party  
Cooperatives  
Cost of Production  
Economy—General  
Geography, Urbanization, Location of Industry  
Input-Output  
International Comparisons  
Labor  
Law  
Level of Living  
National Income, State Budget, Taxes  
Planning  
Population and Vital Statistics  
Prices  
Regional Economy  
Social Insurance, Social Security  
Statistics, Accounting, Mechanized Data Processing  
Trade Unions  
Wages

BRANCH LISTING

Industry—General  
    Electric Power  
    Fuels  
    Metallurgy  
    Machine-Building and Metalworking  
    Chemical  
    Construction Materials  
    Logging, Woodworking, and Paper  
    Light  
    Food  
Construction  
Agriculture  
Forestry  
Transportation—General  
    Railroad  
    Automotive  
    Sea  
    River  
    Air  
Communications  
Trade and Material-Technical Supply  
Housing-Communal Economy  
Public Health  
Education  
Science and Scientific Services  
Banking  
Government  
Armed Forces  
Other

## SUBJECT LISTING

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## ADDENDUM

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## APPENDIX

PRELIMINARY REPORT ON THE PERFORMANCE OF THE  
ECONOMY OF THE U.S.S.R. IN 1964

NOTE: Detailed official statistical data on the national economy for each given year are usually published in the U.S.S.R. during the late months of the subsequent year in the annual volume titled *Narodnoe khoziaistvo v \* \* \* godu*. Prior to that date, however, the Soviet Government regularly publishes in the central press a brief official communication containing a summary of selected economic data and production figures designed to provide a preliminary report on the state of the national economy during the preceding year.

The following four tables are based on the latest official communication in this series which appeared in *Pravda* January 30, 1965, under the heading: "On the Results of the Fulfillment of the State Plan for the Development of the National Economy of the U.S.S.R. in 1964."

TABLE A-1.—Industry

Commodity	Unit	1963	1964	1964 as percent of 1963
Electric power.....	Billion kilowatt-hours...	412.0	459.0	111
Steel.....	Million metric tons....	80.2	85.0	106
Iron ore.....	do.....	137.0	146.0	106
Petroleum, crude.....	do.....	206.0	224.0	109
Coal.....	do.....	532.0	554.0	104
Cement.....	do.....	61.0	64.9	106
Timber, hauled.....	Million cubic meters....	253.0	260.0	103
Paper.....	Million metric tons....	2.9	3.0	106
Turbines.....	Million kilowatt-hours....	11.9	13.2	111
Machine tools, metal-cutting.....	Thousand units.....	183.0	184.0	101
Machine tools, metal-forming.....	do.....	33.8	34.2	100
Metallurgical equipment.....	Thousand metric tons....	236.0	232.0	98
Petroleum equipment.....	do.....	115.0	140.0	122
Chemical equipment.....	Million rubles.....	287.0	342.0	119
Weaving looms.....	Thousand units.....	24.1	24.6	102
Autos and trucks.....	do.....	687.0	603.0	103
Tractors.....	do.....	325.0	329.0	101
Farm machinery.....	Million rubles.....	1,371.0	1,361.0	101
Excavators.....	Thousand units.....	17.9	20.2	113
Fertilizers, mineral.....	Million metric tons....	19.9	25.6	128
Manmade fibers.....	Thousand metric tons....	308.0	361.0	117
Soda, caustic.....	do.....	1,040.0	1,153.0	110
Soda ash.....	do.....	2,500.0	2,700.0	108
Sulfuric acid.....	do.....	6,887.0	7,647.0	111
Automobile tires.....	Million units.....	22.6	24.4	108
Fabrics:				
Cotton.....	Million square meters....	5,069.0	5,368.0	106
Wool.....	do.....	471.0	471.0	100
Linen.....	do.....	509.0	544.0	107
Silk.....	do.....	861.0	827.0	103
Shoes, leather.....	Million pairs.....	463.0	474.0	103
Watches and clocks.....	Million units.....	27.1	28.7	106
Radio sets.....	do.....	4.8	4.8	99
Television sets.....	do.....	2.5	2.9	118
Refrigerators.....	Thousand units.....	911.0	1,134.0	125
Washing machines.....	do.....	2,300.0	2,900.0	125
Meat, slaughtered weight.....	Million metric tons....	10.2	8.1	80
Factory produced only.....	do.....	5.4	4.2	77
Fish catch.....	do.....	4.7	5.2	111
Butter.....	Thousand metric tons....	874.0	952.0	108
Cheese.....	do.....	222.0	256.0	118
Whole milk products.....	Million metric tons....	9.5	10.4	109
Granulated sugar, beet.....	do.....	5.5	7.0	127
Vegetable oils.....	do.....	2.1	2.2	102
Soap.....	do.....	1.8	1.9	104
Canned goods.....	Billion standard cans....	6.4	7.4	114

TABLE A-2.—Agriculture

Indicator	Unit	1962	1963	1964
<b>PRODUCTION</b>				
Grain.....	Million metric tons.....	140.2	107.5	(1)
Meat, slaughtered weight.....	do.....	9.5	10.2	8.1
Milk.....	do.....	63.9	61.2	(1)
Eggs.....	Billion.....	30.1	28.8	(1)
Wool.....	Thousand metric tons.....	371.0	373.0	(1)
<b>LIVESTOCK NUMBERS (end of year)</b>				
Large-horned cattle.....	Million heads.....	87.0	85.4	87.1
Cows.....	do.....	38.0	38.3	38.7
Hogs.....	do.....	70.0	40.9	52.8
Sheep and goats.....	do.....	146.4	139.5	130.6
Sheep.....	do.....	(1)	133.6	(1)

<sup>1</sup> No data.

TABLE A-3.—Transport

Indicator	Unit	1963	1964
<b>Freight carried:</b>			
Railroad.....	Billion ton kilometers.....	1,745.0	1,850.0
River (common carrier).....	do.....	114.0	124.4
Sea.....	do.....	122.2	(1)
Truck (common carriers).....	do.....	34.0	38.8
Oil pipeline.....	do.....	91.0	113.1
<b>Freight originated:</b>			
Railroad.....	Million metric tons.....	2,144.0	2,274.0
River (common carrier).....	do.....	239.0	252.3
Sea.....	do.....	93.6	(1)
Truck (common carriers).....	do.....	2,012.0	2,219.0
Oil pipelines.....	do.....	185.0	213.0

<sup>1</sup> No data.

TABLE A-4.—Other economic indicators

Indicator	Unit	1963	1964
Population (end of year).....	Million.....	226.0	229.0
Workers and employees.....	do.....	70.5	73.2
<b>Labor productivity:</b>			
In industry.....	Percent increase.....	5.0	4.0
In construction.....	do.....	4.0	6.0
Retail trade.....	Billion rubles.....	91.6	95.2
Foreign trade turnover.....	do.....	12.9	13.9
Capital investment (State).....	do.....	31.5	34.8
New housing.....	Million square meters.....	77.0	75.0
Do.....	Number of apartments (million).....	2.0	1.9
<b>Number of school graduates:</b>			
Elementary (8 years).....	Thousand.....	3,000.0	4,000.0
Secondary, general.....	do.....	900.0	1,400.0
Secondary, specialized.....	do.....	510.0	550.0
Higher education.....	do.....	330.0	350.0
Of which, engineers.....	do.....	125.0	133.0

