

Economic Intelligence Report

LABOR SUPPLY AND EMPLOYMENT IN THE USSR
1950-65



CIA/RR ER 60-25

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CENTRAL INTELLIGENCE AGENCY
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FOREWORD

This report presents a consistent set of summary statistics on Soviet manpower using concepts that conform to Soviet statistical practice but that also allow the use of Western techniques of analysis and projection. The report also discusses briefly the major developments during 1950-59 that have affected the labor supply and its utilization, primarily as background for an assessment of probable trends during 1960-65.

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LABOR SUPPLY AND EMPLOYMENT IN THE USSR
1950-65

Summary

During the past several years the USSR has released a considerable amount of statistical information, including some of the results from the 1959 census, which makes it possible to estimate trends in labor supply and employment with greater accuracy than has been possible heretofore.* In particular, the new data clarify the relationship between the year-to-year changes in the adult population, in school enrollment, and in civilian employment.

During 1950-55 the population 14 years of age and older in the USSR increased by 2.0 million to 2.5 million annually, but total civilian employment increased by only about 1 million annually, as shown on the chart, Figure 1.** During these years, enrollment in high schools and colleges increased rapidly, as the USSR began to implement the announced intention to provide universal high school (10-year) education for all youths. In 1955, 21.5 percent of the population in the age group 14 through 24 was enrolled in full-time day schools and colleges, compared with 10 percent in 1950.

During 1956-59, however, annual increments to the adult population declined sharply -- from 2.0 million in 1956 to 0.8 million in 1959 -- as a result of the low birth rates during World War II. Total civilian employment increased 3.3 million in 1956 and 1.7 million to 1.8 million annually in 1957-59, as shown in Figure 1. These

* Definitions of the terms used in this report are as follows: labor supply includes all persons 14 years of age and older not enrolled in full-time day schools; labor force includes the civilian employed, as defined below, and the armed forces and excludes unemployed, armed security forces, and domestic servants, as well as employment in private activities not registered with authorities -- categories for which reliable estimates cannot be obtained from open Soviet sources; civilian employment includes persons 14 years of age and older employed in the civilian economy. It includes persons employed by the state (workers and employees), collective farmers, members of artisans cooperatives, self-employed, and unpaid family workers in agriculture. A detailed description of the assumptions and methodology used in estimating and projecting the labor supply and the labor force during 1950-65 is given in Appendix A.

** Following p. 4.

additions to civilian employment, which were so considerably in excess of the additions to the adult population, resulted from a sharp cut-back in the proportion of young people enrolled in day schools and colleges and from reductions in the armed forces.

Day school enrollment in high schools and colleges dropped from 9.2 million in 1955 to 5.7 million in 1959, reflecting both a decrease in the number of persons of high school and college age and a decline in the proportion enrolled from 21.5 percent to 14.4 percent. This decline, which was concentrated in the high schools, was accelerated in 1958 and 1959 by the major reorganization of education announced in 1958. Several million additional teenagers became available for jobs as a result of the cutback in school enrollment, and tightened controls over the placement of school graduates helped to insure their employment.

In 1955 the USSR also began a series of cuts in its armed forces, thus providing a little more than 2 million men for the civilian labor force during 1955-59.

Total civilian employment increased from 89.6 million to 104.2 million during 1950-59, as shown in Figure 1. Plans for the state labor force (workers and employees) were regularly exceeded, increasing its share of the total from 44 percent to 54 percent. The share of agricultural employment declined from 57 percent to 49 percent, and the share of industrial employment increased from 20 percent to 24 percent.

During 1960-65, annual increments to the adult population will increase rapidly -- from 0.9 million in 1960 to 2.8 million in 1965. Civilian employment is expected, nevertheless, to increase by fairly constant increments during the period. Announced Soviet plans indicate clearly that the tools used so effectively to manipulate the labor supply during 1955-59 will continue to be used to insure an adequate labor supply during the years when the additions to the adult population will still be relatively small. The reorganization of education will hold down the proportion enrolled in day schools during these years. More than one-half of the total planned increase in high school and college enrollment is to take place in the night schools and correspondence courses. The reorganization also will give the state much better control over the allocation of elementary school (eighth grade) graduates between schools and jobs, thus providing more flexibility in meeting the changing needs for labor.

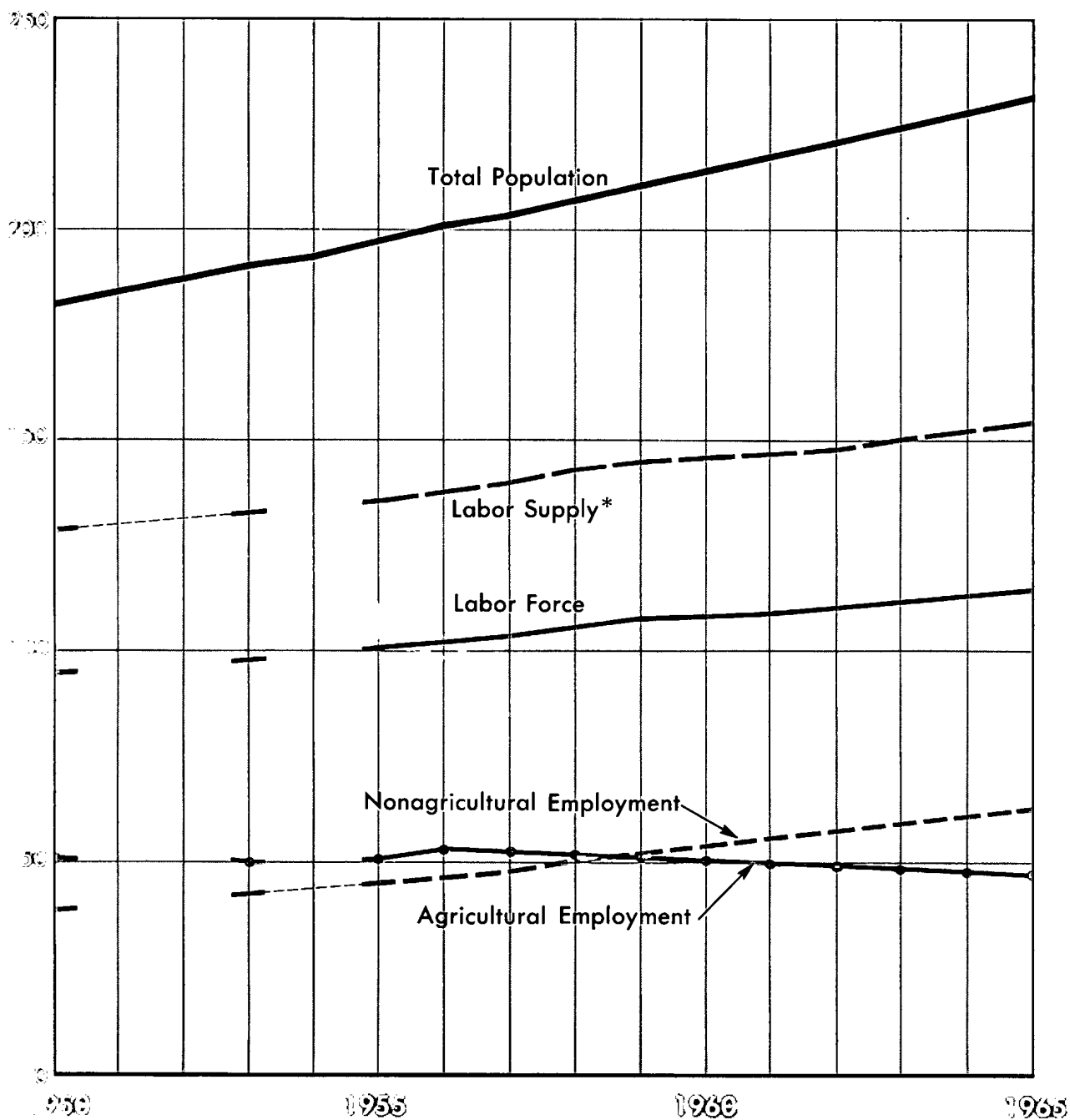
Soviet plans also call for a further reduction of 1.2 million in the armed forces in 1960-61, the years when the additions to the adult population will be unusually low -- 0.9 million in 1960 and 1.4 million in 1961. On the assumption that these plans are successfully

carried out, total civilian employment is expected to increase from 104.2 million in 1959 to 112.9 million in 1965, as shown in Figure 1. Plans for the state labor force call for an increase of 10.2 million during this period, of which 8.7 million can be provided from population growth and the planned cuts in the armed forces. In view of current and planned allocations to investment in agriculture, the USSR should have no difficulty in providing the remainder through transfers from the collective farms as agricultural productivity increases. Additional recruits also may come from the private sector of agriculture if current efforts to reduce the importance of private plots and privately owned cattle are successful. Agricultural employment is expected to decline by about 2 million by 1965, when it will represent 44 percent of the total. Fulfillment of the planned goal for employment in industry will bring its share of total employment to 26 percent.

If Soviet planners find that they need more labor than originally planned, they can allocate more youths to jobs instead of to full-time day schools. Current efforts to improve efficiency in agriculture may release more labor from farms than the projections imply. Finally, the current drive to increase the proportion of working women could be intensified.

Figure 1

USSR POPULATION AND LABOR FORCE 1950-59 and projected 1960-65



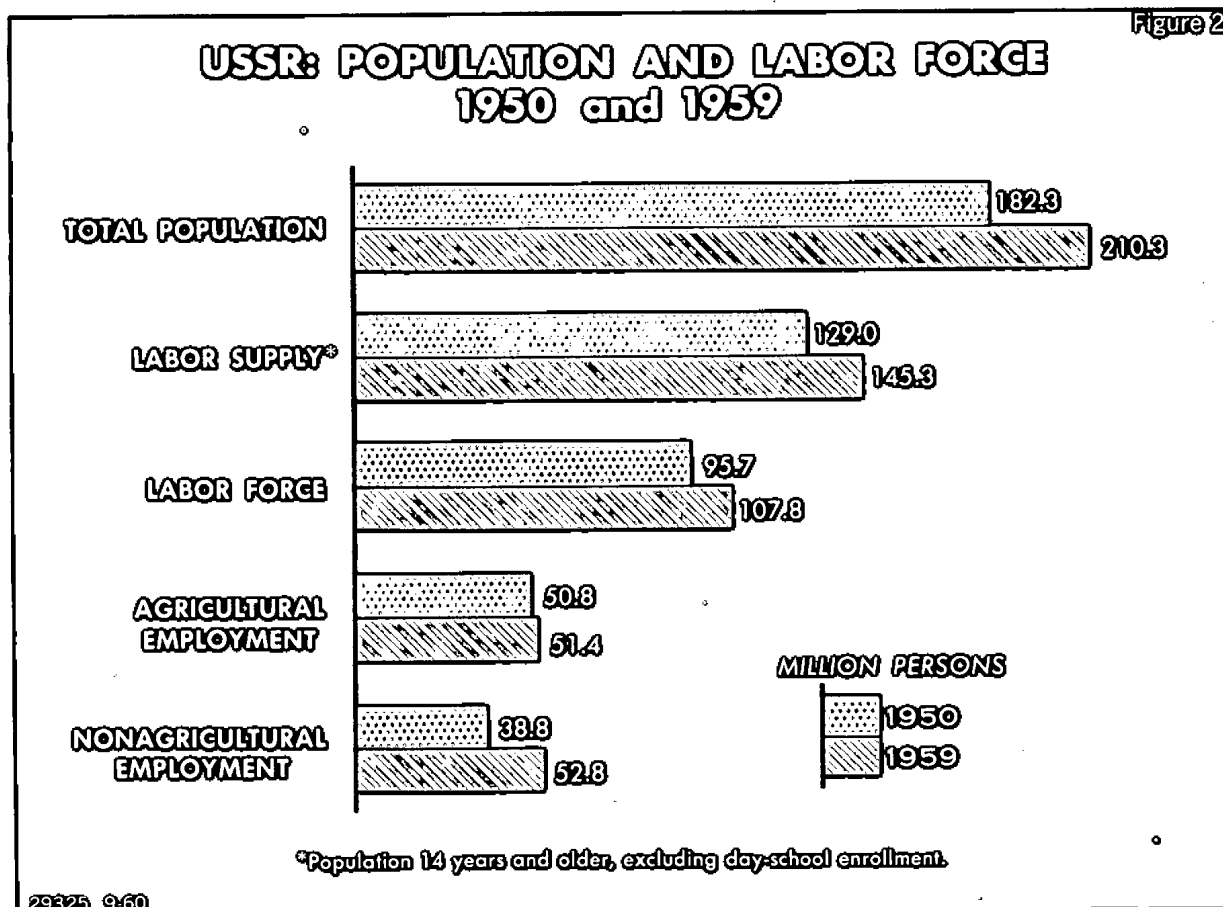
*Population 14 years and older, excluding day-school enrollment.

1965-1966

I. Trends in Labor Supply and Employment, 1950-59

A. Population* and Labor Supply

Between 1950 and 1959 the total population of the USSR increased from 182.3 million to 210.3 million -- an increase of 15.4 percent, as shown in Table 1** and on the chart, Figure 2, below. The adult population (14 years of age and older) increased by 13.3 percent. Between 1950 and 1953 the adult population absorbed almost the entire population increase because the relatively low birth rates of World War II were retarding the increase in the number of children. After 1953, however, annual increments to the adult population declined rapidly until in 1959 the annual increase was only 0.8 million -- about one-third of what it had been in 1953.



* All population data in this report are mid-year estimates.
** Table 1 follows on p. 6.

Table 1
 Population and Labor Supply in the USSR a/
 1950, 1953, and 1955-59

Million Persons

Year	Totals			Annual Increases		
	Total Population	Population 14 Years of Age and Older	Labor Supply	Total Population	Population 14 Years of Age and Older	Labor Supply
1950	182.3	133.3	129.0			
1953	190.9	140.9	133.0	2.9	2.5	1.3
1955	197.0	145.3	136.1	3.0	2.2	1.6
1956	200.2	147.3	138.3	3.2	2.0	2.2
1957	203.5	148.9	140.7	3.3	1.6	2.4
1958	206.9	150.2	143.6	3.4	1.3	2.9
1959	210.3	151.0	145.3	3.4	0.8	1.7

a. Annual average. For sources and methodology, see Appendix A.

In spite of the sharp decrease in annual increments to the adult population, increments to the labor supply increased steadily between 1950 and 1958. Although the increment was smaller in 1959, the growth of the labor supply in that year was twice as large as the growth in the adult population.

These changes in the labor supply relative to changes in the adult population resulted from the sharp fluctuations in day-school enrollment that occurred during the 1950's. The number of persons enrolled in full-time day classes in Soviet high schools and colleges increased from 4.3 million to 9.2 million during 1950-55 and declined steadily thereafter to 5.7 million in 1959, as shown in Table 2.* Most affected were the general high schools (grades 8 through 10).

These changes in school enrollment were the direct result of government policies with respect to education, policies that evidently were heavily influenced by the relative availabilities and needs for labor in the economy. In 1950 the regime began a rapid expansion of the general (day) high schools, and by 1955 enrollment was 3.5 times that of 1950. Because the number of persons of high school age actually declined during the period, the proportion enrolled in these day schools increased sharply. This channeling of an increasing proportion of youths into the school system occurred during a period when the needs of the economy for labor were not acute. The Fifth Five Year Plan (1951-55) called for an increase of only 1.2 million annually in the state labor force -- about one-half of the expected growth in the adult population. Even with the sharp increase in school enrollment, the plan was exceeded.**

The abandoned Sixth Five Year Plan (1956-60) called for an annual increase of 1.3 million in the state labor force, in spite of prospects for a sharp decline in annual increments to the adult population. At the same time, a crisis was developing in education because the high schools -- with their academic curricula -- were preparing more and more students for college while the universities and technikums*** were not expanding fast enough to accommodate them. Thus growing numbers of academically trained high school graduates were entering the labor market, disillusioned over their inability to go to college and little better prepared for jobs than elementary

* Table 2 follows on p. 8.

** See C, 1, p. 12, below.

*** Technikums are primarily designed to train semiprofessional technicians as assistants to the more highly trained college graduates. In addition, they train for such professions as dentistry, nursing, and teaching (primarily for elementary schools). Graduates of technikums have completed from 1 to 3 years of schooling beyond the high school level.

Table 2
 School Enrollment of the Population 14 Years of Age and Older
 in the USSR ^{a/}
 1950, 1953, and 1955-59

Type of School	Thousand Persons						
	1950	1953	1955	1956	1957	1958	1959
Total enrollment	<u>6,365</u>	<u>10,686</u>	<u>12,236</u>	<u>12,359</u>	<u>11,713</u>	<u>10,275</u>	<u>9,958</u>
Day	4,265	7,852	9,173	8,989	8,194	6,609	5,703
Evening and correspondence	2,100	2,834	3,063	3,370	3,519	3,666	4,255
General schools	<u>2,938</u>	<u>6,449</u>	<u>7,053</u>	<u>6,981</u>	<u>6,281</u>	<u>5,316</u>	<u>4,800</u>
Day (grades 8 through 10) ^{b/}	1,500	4,500	5,200	5,040	4,350	3,400	2,500
Evening and correspondence	1,438	1,949	1,853	1,941	1,931	1,916	2,300
Labor reserve schools (day)	882	1,029	1,356	1,365	1,392	904	991
Technikums	<u>1,298</u>	<u>1,646</u>	<u>1,960</u>	<u>2,012</u>	<u>1,941</u>	<u>1,876</u>	<u>1,907</u>
Day	1,065	1,328	1,470	1,407	1,259	1,125	1,067
Evening and correspondence	233	318	490	605	682	751	840
Universities and VUZes ^{c/}	<u>1,247</u>	<u>1,562</u>	<u>1,867</u>	<u>2,001</u>	<u>2,099</u>	<u>2,179</u>	<u>2,260</u>
Day	818	995	1,147	1,177	1,193	1,180	1,145
Evening and correspondence	429	567	720	824	906	999	1,115

a. As of September. For sources and methodology, see Appendix A.

b. Including some students in grade 11, established experimentally in a few Soviet schools after 1955.

c. Vyssheye Uchebnoye Zavedeniye (VUZ) -- Institute of Higher Education.

school graduates. As a result, the proportion of youths of high school age (14 through 16) in grades 8 through 10 of the general schools began to decrease after 1955 -- from 46 percent in that year to 30 percent in 1959. Thus several million additional teenagers became available for work. The particularly sharp decline in day school enrollment in 1958 and 1959 undoubtedly resulted from the radical educational reform announced in 1958. Although the period of compulsory schooling was extended from 7 years to 8 years, the reform legislation provided for the gradual replacement of the academic high schools with vocational-academic high schools, where students would work part-time; encouraged night school and correspondence study at the secondary and college level; and included features intended to insure better control over the allocation of youths between the schools and the labor force.

B. Total Labor Force and Civilian Employment

The total labor force increased 12.1 million between 1950 and 1959,* and civilian employment increased 14.6 million, the difference being accounted for by a corresponding decrease in the armed forces as shown in Table 3.** The annual increases in civilian employment were only about 1 million between 1950 and 1955, 3.3 million in 1956, and 1.7 million to 1.8 million between 1957 and 1959. As noted previously,*** the increments to the labor supply increased steadily in all but one year (1959) of this period, and the fluctuations in the increments to civilian employment must therefore have resulted from factors other than changes in the labor supply.

By far the most important of these factors was the changing level of the armed forces. According to an announcement by Khrushchev in January 1960, the Soviet armed forces were reduced from 5.8 million in 1955 to 3.6 million by the end of 1959; he also announced that the armed forces were 2.8 million in 1948. 1/† The USSR previously had announced reductions of 640,000 in 1955, 1.2 million in 1956-57, and 300,000 in 1958.†† 2/ The estimates shown in Table 3 indicate that during the period 1950-59 reductions in the military establishment

* These estimates indicate almost no change in the over-all labor force participation rate of the population 14 years of age and older not in school over the period as a whole. For a discussion of the use of labor force participation rates in the estimates and projections presented in this report, see Appendix A.

** Table 3 follows on p. 10.

*** See Table 1, p. 6, above.

† For serially numbered source references, see Appendix B.

†† The estimates of the armed forces for 1955-59 shown in Table 3, are based on these announcements. For the derivation of the estimates for 1950 and 1953, see Appendix A.

Table 3
 Employment Status of the Population 14 Years of Age and Older
 in the USSR a/
 1950, 1953, and 1955-59

Employment Status	Million Persons						
	1950	1953	1955	1956	1957	1958	1959
Both sexes, 14 years and older	<u>133.3</u>	<u>140.9</u>	<u>145.3</u>	<u>147.3</u>	<u>148.9</u>	<u>150.2</u>	<u>151.0</u>
Labor force	95.7	99.1	101.4	103.5	104.5	106.2	107.8
Civilian employment	89.6	92.5	95.6	98.9	100.6	102.4	104.2
Armed forces	6.1 b/	6.6 b/	5.8	4.6	3.9	3.8	3.6
Day school	4.3	7.9	9.2	9.0	8.2	6.6	5.7
Other c/	33.3	33.9	34.7	34.8	36.2	37.4	37.5
Men, 14 years and older	<u>54.8</u>	<u>58.9</u>	<u>61.3</u>	<u>62.5</u>	<u>63.4</u>	<u>64.2</u>	<u>64.8</u>
Labor force	45.4	47.5	49.0	49.8	50.2	51.5	52.6
Civilian employment	39.3	40.9	43.2	45.2	46.3	47.7	49.0
Armed forces	6.1 b/	6.6 b/	5.8	4.6	3.9	3.8	3.6
Day school	2.4	4.0	4.7	4.9	4.7	3.8	3.4
Other	7.0	7.4	7.6	7.8	8.5	8.9	8.8
Women, 14 years and older	<u>78.5</u>	<u>82.0</u>	<u>84.0</u>	<u>84.8</u>	<u>85.5</u>	<u>86.0</u>	<u>86.2</u>
Labor force	50.3	51.6	52.4	53.7	54.3	54.7	55.2
Civilian employment	50.3	51.6	52.4	53.7	54.3	54.7	55.2
Armed forces	d/	d/	d/	d/	d/	d/	d/
Day school	1.9	3.9	4.5	4.1	3.5	2.8	2.3
Other	26.3	26.5	27.1	27.0	27.7	28.5	28.7

a. Data on population and armed forces are as of 1 July, on school enrollment as of September, and on civilian employment are a hybrid of annual averages and other types of estimates. For sources and methodology, see Appendix A.

b. See Appendix A, pp. 30 and 31, below.

c. Including housewives and persons unemployed, retired, institutionalized (except prisoners employed in state enterprises), or disabled; persons exclusively engaged in private activities not registered with authorities; and members of the armed security forces.

d. The number of women in the armed forces was not reported and was assumed to be negligible.

made 2.5 million men available for the civilian economy. Nearly all of the reduction occurred during 1955-59, when the increments to the adult population were declining sharply. The unusually large increase in civilian employment in 1956 (3.3 million) reflects the impact of transfers of soldiers to civilian employment.

The reductions in the armed forces during 1955-59 also helped to offset the loss of older workers resulting from a new pension law effective 1 October 1956. This law not only increased old age pensions substantially but also discriminated against pensioners who continued to work. 3/ As a result, the number of persons receiving state old-age pensions increased from 1.6 million in 1955 to 3.5 million in 1958, 4/ and the proportion of pensioners who continued to work declined from 60 percent to 20 percent. 5/ Thus the rate of participation in the labor force by older persons probably decreased somewhat after 1956.

The rate of participation in the labor force by teenagers also may have decreased slightly during 1955-57 because of increased unemployment* among them. This unemployment, which apparently was both voluntary and involuntary, was due in part to the failure to expand college enrollments sufficiently to accommodate the rapidly growing number of high school graduates, many of whom preferred to remain unemployed rather than to take manual jobs, 6/ and also in part to the reluctance of enterprise managers to hire teenagers -- probably because the cost was too high and an alternative source of labor was available in the soldiers being demobilized during this period.

Initially, government efforts to alleviate the problem were aimed at providing incentives to the youths to take jobs. Effective 1 July 1956 the workday was reduced from 8 hours to 6 hours for persons 16 and 17 years old, with the provision that they were to receive a full day's pay. 7/ Effective 1 January 1957 the minimum wage was raised and the special bachelor tax was abolished for low-paid workers. 8/ These measures, however, sharply increased the cost of employing teenagers. The government, therefore, found it necessary to impose mandatory employment quotas on state enterprises in 1957. 9/

Finally, it is improbable that much of the change in civilian employment during the period could be attributable to transfers of

* As noted above (p. 1), the estimates of the labor force presented in this report do not include estimates of unemployment. Although there undoubtedly is some frictional unemployment in the USSR, there is no reliable way to estimate its level, and there is no evidence that the unemployment rate -- whatever it is -- changed significantly during the period 1950-59.

people from "uncounted" categories to "counted" categories. The sharp increase in civilian employment during 1953-57 has sometimes been attributed in part to the release of forced laborers from prison camps during that period. Statements made by the Soviet Deputy Procurator General, P.I. Kudryavtsev, to a US jurist suggest that the USSR by 1957 had released more than 2 million of the approximately 3 million persons imprisoned in early 1953. ^{10/} Although these may be underestimates of the prison population, there is little doubt that several million people were involved in the releases since 1953 and that most of them were Soviet citizens who returned to "civilian" life and to "civilian" employment. There is no evidence, however, that these releases appreciably inflated the statistics on civilian employment, apparently because working prisoners, who were in general employed by "state" enterprises -- including those administered by the Ministry of Internal Affairs (MVD) -- were reported in the statistics on the state labor force, at least since 1950. Had the employed prisoners not been so reported, their release in such substantial numbers would have been reflected in these statistics. The increases in civilian employment during 1953-57 can readily be explained by factors other than the release of prisoners.

C. Structure of Civilian Employment

The major structural changes in civilian employment between 1950 and 1959 are reflected in the data in Table 4.* Nonagricultural employment as a proportion of total employment increased from 43 percent in 1950 to 51 percent in 1959, and the state labor force (workers and employees) increased from 44 percent to 54 percent of the total. Employment actually declined in farm and nonfarm cooperatives and in private farming and handicrafts. Industrial employment represented a slightly larger percentage of nonagricultural employment in 1959 than in 1950.

1. State Labor Force

The number of workers and employees -- persons employed in state enterprises and institutions -- increased by 17.3 million during 1950-59. The goals for the state labor force generally have been exceeded by considerable margins,** as shown in Table 5.*** This overfulfillment probably was not entirely caused by faulty planning, however, because the announced goals apparently do not include employment

* Table 4 follows on p. 13.

** During the Fourth Five Year Plan (1946-50) the plan called for an increase of 6.2 million in the state labor force, but an increase of 11.6 million was actually achieved.

*** Table 5 follows on p. 14.

Table 4
 Civilian Employment in the USSR
 by Class of Worker and Branch of the Economy a/
 1950, 1953, and 1955-59

	Million Persons						
<u>Class of Worker and Branch of the Economy</u>	<u>1950</u>	<u>1953</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>
Total	89.6	92.5	95.6	98.9	100.6	102.4	104.2
Class of worker							
Workers and employees	39.0	43.7	48.4	50.5	53.1	54.6	56.3
Members of artisans cooperatives	1.6	1.7	1.8	1.2	1.2	1.3	1.4
Collective farmers	44.6	43.1	41.6	43.3	42.4	42.6	42.8
Self-employed, unpaid family workers and others <u>b/</u>	4.4	4.0	3.8	3.9	3.9	3.9	3.7
Branch of economy							
Agriculture	50.8	50.1	50.5	52.1	51.9	51.7	51.4
Nonagriculture	38.8	42.4	45.1	46.8	48.7	50.7	52.8
Industry	17.8	20.1	21.9	22.9	23.5	24.0	24.7
Other <u>c/</u>	21.0	22.3	23.2	23.9	25.2	26.7	28.1

a. For sources and methodology, see Appendix A.

b. Including approximately 200,000 full-time employees of the Communist Party and related organizations.

c. Primarily persons employed in construction, transport and communications, trade, education and health, and state administration.

transfers of the kind that would result from the conversion of collective farms into state farms, changes in the status of machine tractor stations (MTS's), and the conversion of artisans cooperatives into state enterprises. The conversion of collective farms to state farms and the transfer of the farmers to state payrolls, for example, played a major role in the growth of the state labor force in 1957. Similarly the transfer of collective farmers to the MTS's between 1950 and 1955 increased the state labor force by more than 2 million. Regardless of these statistical transfers, however, the increase of employment in the nonagricultural branches alone consistently exceeded the total planned growth in the state labor force during 1950-59.

Table 5

Comparisons of Planned and Actual Changes
 in the State Labor Force of the USSR a/
 1950-59

	Thousand Persons				
Total State Labor Force	1950-55	1956	1957	1958	1959
Planned	+5,800	+1,300	+1,700	+1,800	+1,300
Actual	+9,485	+2,157 <u>b/</u>	+2,611	+1,452	+1,700
Industry, construction, and transport and communications	+4,870	+1,683 <u>b/</u>	+1,250	+1,106	+1,182
Other nonagricultural branches	+1,895	+536	+663	+882	+869
Machine tractor stations	+2,387	-185	-326	-1,292	-741
State farms and other state agriculture	+333	+123	+1,024	+756	+390

a. 11/ and official Soviet plan announcements.

b. Including 600,000 persons transferred from artisans cooperatives into the state labor force.

2. Agricultural Employment

The estimates of agricultural employment used in this report refer to the number of persons 14 years and older who are employed primarily on state and collective farms during the year. Agricultural employment also includes workers engaged in tending privately

owned cattle and in farming private plots on collective and state farms and in cities.* In spite of the sharp decline as a share of total civilian employment, the level of agricultural employment was about the same (51 million) in 1959 as in 1950. The historical downward trend was reversed temporarily after 1953 as a result of Khrushchev's agricultural policies. After increasing during 1953-56, agricultural employment again began to decline slowly.

3. Industrial Employment

The estimates of industrial employment shown in Table 4** include all industrial personnel employed in state industrial establishments, on collective farms, and in industrial cooperatives, as well as those persons engaged in industrial activities in state establishments not classified by major activity in industry.***

Total industrial employment increased about 4 percent annually between 1950 and 1959, more than twice as fast as total civilian employment. The rate of growth also has been twice as fast as that called for in the Fifth Five Year Plan (1951-55) and in the annual plans for 1956-59. Plans for labor were exceeded, as were plans for production in all these years, but for some years plans for productivity were not fulfilled.

II. Outlook for Labor Supply and Employment, 1960-65

A. Population and Labor Supply

Assuming a continuation of current fertility rates, the total population of the USSR is expected to grow by about 3.5 million a year during 1960-65, as shown in Table 6† and on the chart, Figure 3.†† The rate of growth in the population will be somewhat lower than during the 1950's, however, because the relatively small number of girls born during World War II will be marrying and having children in the next several years. Increments to the population 14 years of age and older will increase sharply -- from 0.9 million in 1960 to 2.9 million in 1964. Annual increments to the labor supply are expected to continue to decline during 1960-61 and then to increase steadily thereafter.

* In 1958, 53 percent of all the meat produced in the USSR, 53 percent of all milk, and 85 percent of all eggs were obtained from privately owned livestock and poultry. 12/ These estimates of agricultural employment may differ significantly in level and trend from estimates of agricultural "labor input." See Appendix A, p. 35, below.

** P. 13, above.

*** Industry includes mining, electric power, and manufacturing.

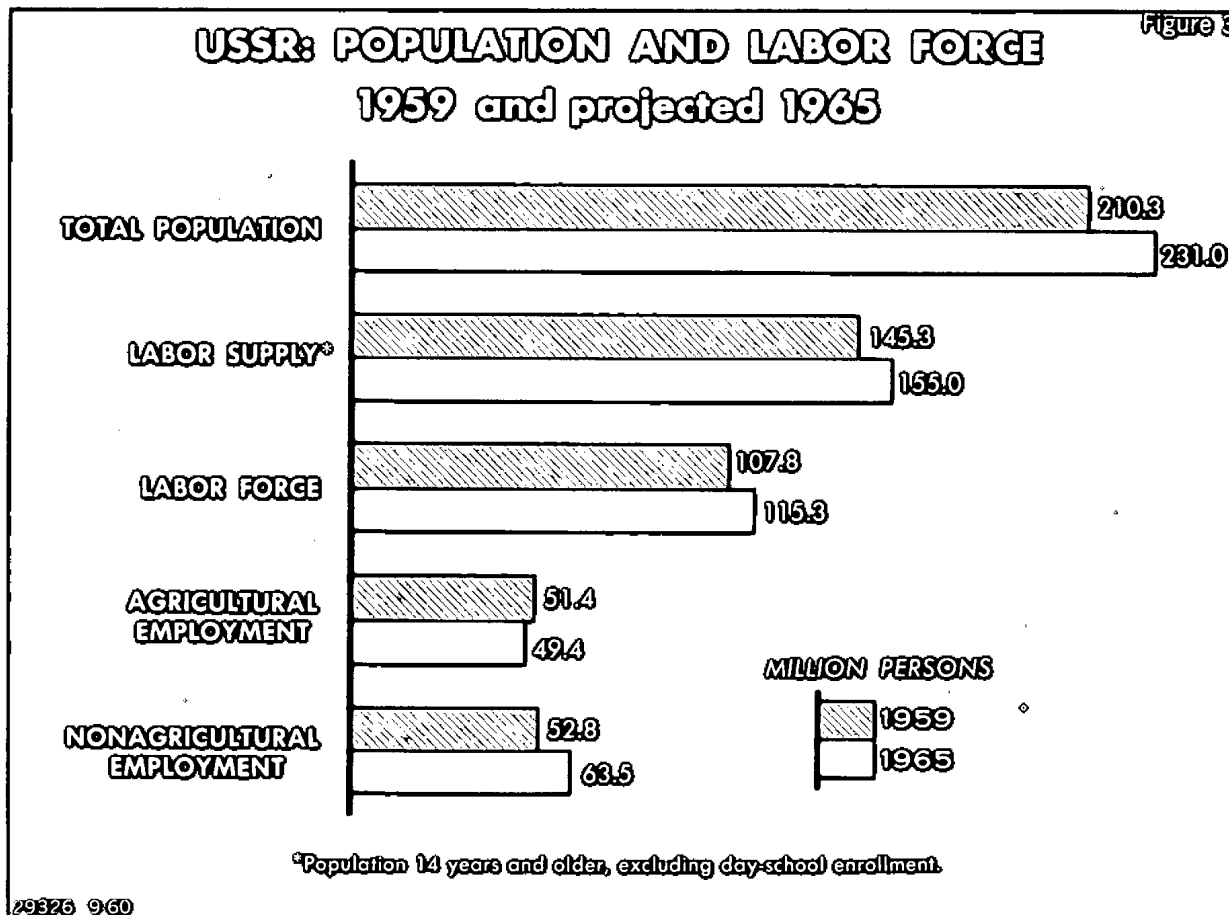
† Table 6 follows on p. 16.

†† Figure 3 follows on p. 17.

Table 6
 Population and Labor Supply in the USSR a/
 1959-65

Year	Million Persons					
	Totals			Annual Increases		
	Total Population	Population 14 Years of Age and Older	Labor Supply	Total Population	Population 14 Years of Age and Older	Labor Supply
1959	210.3	151.0	145.3			
1960	213.9	151.9	146.7	3.6	0.9	1.4
1961	217.4	153.3	147.6	3.5	1.4	0.9
1962	220.9	155.4	149.0	3.5	2.1	1.4
1963	224.3	157.9	150.8	3.4	2.5	1.8
1964	227.6	160.8	152.8	3.3	2.9	2.0
1965	231.0	163.6	155.0	3.4	2.8	2.2

a. Annual average. For sources and methodology, see Appendix A.



The expectations concerning the labor supply are based on projections of the population and on the estimates of school enrollment shown in Table 7* that are derived from Soviet plan goals for 1965 plus various assumptions concerning progress during the intervening years. As noted previously,** the USSR currently is carrying out a major reorganization of education which is scheduled for completion by 1965 but which seems to be proceeding rather slowly at present. As the reform progresses, however, the number of persons in the eighth grade (to be compulsory) and in the new "labor-polytechnical" high schools and vocational-technical schools will increase steadily. At the same time, however, the reorganization will give Soviet planners better control over school enrollment than they had previously. Although the state has always maintained tight control over enrollments in

* Table 7 follows on p. 18.

** See I, A, p. 9, above.

Table 7

Projections of School Enrollment of the Population 14 Years of Age and Older
in the USSR ^{a/}
1959-65

Type of School	Thousand Persons						
	1959	1960	1961	1962	1963	1964	1965
Total enrollment	<u>9,958</u>	<u>10,200</u>	<u>11,400</u>	<u>12,800</u>	<u>14,300</u>	<u>15,800</u>	<u>17,300</u>
Day	5,703	5,200	5,700	6,400	7,100	8,000	8,600
Evening and correspondence	4,255	5,000	5,700	6,400	7,200	7,800	8,700
General, labor-polytechnical and vocational-technical schools ^{b/}	<u>5,791</u>	<u>5,900</u>	<u>7,000</u>	<u>8,300</u>	<u>9,700</u>	<u>11,100</u>	<u>12,500</u>
Day	3,491	3,100	3,700	4,500	5,400	6,300	7,100
Evening and correspondence	2,300	2,800	3,300	3,800	4,300	4,800	5,400
Technikums	<u>1,907</u>	<u>1,900</u>	<u>1,900</u>	<u>1,900</u>	<u>1,900</u>	<u>1,900</u>	<u>1,900</u>
Day	1,067	1,000	900	800	700	700	600
Evening and correspondence	840	900	1,000	1,100	1,200	1,200	1,300
Universities and VUZes ^{c/}	<u>2,260</u>	<u>2,400</u>	<u>2,500</u>	<u>2,600</u>	<u>2,700</u>	<u>2,800</u>	<u>2,900</u>
Day	1,145	1,100	1,100	1,100	1,000	1,000	900
Evening and correspondence	1,115	1,300	1,400	1,500	1,700	1,800	2,000

a. As of September. For sources and methodology, see Appendix A. Data for the years 1960-65 have been rounded to the nearest hundred thousand.

b. Until 1959, vocational-technical schools were called labor reserve schools.

c. Vyssheye Uchebnoye Zavedeniye (VUZ) -- Institute of Higher Education.

universities and technikums, high school enrollment has been much less strictly regulated. In the current reorganization the control of admissions to the high schools is placed in the hands of the regional planning authorities. Each elementary school graduate must start socially useful labor, and all his subsequent education must be linked with productive labor in the national economy. 13/ This "productive labor" is to take the form either of a job or of admission to a "labor-polytechnical" high school (3 years) or to a vocational-technical school (1 to 3 years). In this connection the Deputy Minister of Education for the RSFSR recently stated explicitly that the number of graduates from the eighth grade who would go directly to work would be determined by the state's needs for labor. 14/ This type of control over high school admissions will give the USSR much greater flexibility in the allocation of its youths between school and the labor force.

To insure an ample supply of labor during the current plan period, the reorganization seeks to encourage young people to attend high school and college at night. Working youths who attend high school at night work only 5 days a week instead of the usual 6 and receive half-pay for the day not worked. These privileges also are granted to youths in the fifth, sixth, and seventh grades of the evening schools, but only until September 1962. 15/ According to the Seven Year Plan (1959-65), evening and correspondence enrollment in technikums and universities is to comprise an increasing proportion of total enrollment. 16/ Finally, workers enrolled in technikums and universities are to be granted up to 40 days of additional annual leave, with partial pay, for examinations and laboratory work. 17/

B. Total Labor Force and Civilian Employment

The total labor force is expected to increase by 7.5 million between 1959 and 1965 as a result of population growth. Civilian employment, however, is expected to increase 8.7 million -- the difference being accounted for by a projected decrease in the armed forces, as shown in Table 8.* The average annual increments to civilian employment will be smallest during 1960-63, reflecting similarly small increments to the labor supply. Both the total increase and the year-to-year changes during 1960-65 will be considerably smaller than during the preceding 6-year period.

The projections of civilian employment take into account the planned reductions in the armed forces -- 1.2 million in 1960 and 1961 -- approved by the Supreme Soviet in January 1960. These reductions will provide additional labor for the civilian economy during the years when the additions to the adult population will be lowest.

* Table 8 follows on p. 20.

Table 8

Projections of the Employment Status of the Population 14 Years of Age and Older
in the USSR a/
1959-65

	Million Persons						
Employment Status	1959	1960	1961	1962	1963	1964	1965
Both sexes, 14 years and older	<u>151.0</u>	<u>151.9</u>	<u>153.3</u>	<u>155.4</u>	<u>157.9</u>	<u>160.8</u>	<u>163.6</u>
Labor force	107.8	108.9	109.6	110.7	112.1	113.6	115.3
Civilian employment	104.2	105.6	106.9	108.3	109.7	111.2	112.9
Armed forces	3.6	3.3	2.7	2.4	2.4	2.4	2.4
Day school	5.7	5.2	5.7	6.4	7.1	8.0	8.6
Other b/	37.5	37.8	38.0	38.3	38.7	39.2	39.7
Men, 14 years and older	<u>64.8</u>	<u>65.3</u>	<u>66.2</u>	<u>67.4</u>	<u>68.8</u>	<u>70.4</u>	<u>72.0</u>
Labor force	52.6	53.2	53.8	54.5	55.4	56.3	57.3
Civilian employment	49.0	49.9	51.1	52.1	53.0	53.9	54.9
Armed forces	3.6	3.3	2.7	2.4	2.4	2.4	2.4
Day school	3.4	3.2	3.4	3.8	4.2	4.7	5.1
Other	8.8	8.9	9.0	9.1	9.2	9.4	9.6
Women, 14 years and older	<u>86.2</u>	<u>86.6</u>	<u>87.1</u>	<u>88.0</u>	<u>89.1</u>	<u>90.4</u>	<u>91.6</u>
Labor force	55.2	55.7	55.8	56.2	56.7	57.3	58.0
Civilian employment	55.2	55.7	55.8	56.2	56.7	57.3	58.0
Armed Forces	c/	c/	c/	c/	c/	c/	c/
Day school	2.3	2.0	2.3	2.6	2.9	3.3	3.5
Other	28.7	28.9	29.0	29.2	29.5	29.8	30.1

a. Data on population and armed forces are as of 1 July, on school enrollment as of September, and on civilian employment are a hybrid of annual averages and other types of estimates. For sources and methodology, see Appendix A.

b. Including housewives and persons unemployed, retired, institutionalized (except prisoners employed in state enterprises), or disabled; persons exclusively engaged in private activities not registered with authorities; and members of the armed security forces.

c. Negligible.

The projections of civilian employment also assume that the rates of participation in the labor force for men and women will not change significantly during 1960-65.* These rates are already quite high by Western standards, particularly the rate for women. In spite of the fact that two-thirds of all adult women now work, the USSR nevertheless has recently launched a major effort to induce even more women to enter employment. This effort includes the planned expansion of boarding schools, kindergartens, and nurseries; the opening of canteens and repair services; the increased production of home appliances; and, finally, a propaganda campaign to persuade women to take jobs. Substantial increases in the minimum wage and reductions in the workweek scheduled during 1960-65 also will provide incentives for women to work.

If these efforts are successful, the rate of participation by women may increase somewhat, but this increase may be offset toward the end of the period by a decline in the rate of participation by older persons. Soviet plans call for a substantial increase in minimum pensions in 1963, and some decrease in the employment of older persons undoubtedly will occur. If the USSR finds that it needs more labor than planned, however, it can, with the newly strengthened controls over school enrollment, channel a larger proportion of youths into jobs instead of into schools.

C. Structure of Civilian Employment

Projections of civilian employment by class of worker and branch of the economy are shown in Table 9.** These projections are based on the assumption that the planned goals for the state labor force will be fulfilled and that the required labor not provided through increase in the labor supply and reductions in the armed forces will be obtained by transfers from the cooperative and private sectors of the economy.

1. State Labor Force

The Seven Year Plan (1959-65) sets a goal for the state labor force (workers and employees) of 66.5 million in 1965. To achieve this goal, 10.2 million persons must be added to the state labor force between 1959 and 1965. According to the projections of civilian employment presented in Table 9, 8.7 million workers can be provided from population growth and through transfers from the armed forces. The remaining 1.5 million will have to be obtained by transfers from the cooperative and private sectors of the economy. The

* See Appendix A, p. 37, below.

** Table 9 follows on p. 22.

Table 9
 Projections of Civilian Employment in the USSR
 by Class of Worker and Branch of the Economy a/
 1959-65

	Million Persons						
Class of Worker and Branch of the Economy	1959	1960	1961	1962	1963	1964	1965
Total	<u>104.2</u>	<u>105.6</u>	<u>106.9</u>	<u>108.3</u>	<u>109.7</u>	<u>111.2</u>	<u>112.9</u>
Class of worker							
Workers and employees	56.3	58.0	59.7	61.4	63.1	64.8	66.5
Members of artisans cooperatives	1.4	1.5	1.5	1.5	1.6	1.7	1.7
Collective farmers	42.8	42.5	42.2	42.0	41.7	41.5	41.6
Self-employed, unpaid family workers, and others <u>b/</u>	3.7	3.6	3.5	3.4	3.3	3.2	3.1
Branch of economy							
Agriculture	51.4	51.0	50.6	50.2	49.8	49.5	49.4
Nonagriculture	52.8	54.6	56.3	58.1	59.9	61.7	63.5
Industry	24.7	25.4	26.1	26.9	27.7	28.5	29.3
Other	28.1	29.2	30.2	31.2	32.2	33.2	34.2

a. For sources and methodology, see Appendix A.

b. Including approximately 200,000 full-time employees of the Communist Party and related organizations.

estimates shown in Table 9* assume that the number of collective farmers and the number of unpaid family workers will decline accordingly. The projected decline in unpaid family workers in agriculture seems reasonable in view of recent Soviet actions to curtail private activities on farms. For example, state farms have recently been instructed to purchase by 1962 all livestock owned by their employees, 18/ and the maintenance of privately owned cattle in urban areas of the RSFSR has been outlawed. 19/ With respect to transfers from the collective farms, even smaller gains in productivity than those achieved in recent years would be adequate for the farms to release a little more than 1 million persons to the state labor force, as projected.

2. Agricultural Employment

According to the projections shown in Table 9, total agricultural employment is expected to decrease by 2 million between 1959 and 1965. Gains in efficiency on Soviet farms probably will be adequate to release at least that number of persons for nonagricultural employment.

The reduction in agricultural employment between 1959 and 1965 is expected to take place among both collective farmers and unpaid family workers who farm private plots. The projections assume that no major conversion of collective farms into state farms will take place. Should such a development occur -- and past trends indicate that it may -- collective farm employment will be smaller than projected, and the number of workers and employees will be correspondingly larger.

3. Industrial Employment

The projected increase of 4.6 million in industrial employment is based on planned goals for production and productivity set by the Seven Year Plan (1959-65) as a whole. The plan calls for an increase in industrial production of 80 percent and in labor productivity of about 47.5 percent. Should these goals be met, industrial employment will comprise 26 percent of civilian employment in 1965 compared with 24 percent in 1959. The percentage may be even larger if, as in the past, industrial employment increases faster than planned.

* P. 22, above.

APPENDIX A

METHODOLOGY

The estimates of the total labor force and its components presented in this report are based on official data published by the USSR. These data are far from comprehensive and usually are presented without adequate definition and explanation. The USSR does not publish specific figures for the adult population by employment status that show the civilian labor force, the armed forces, students, housewives, or others. Only selected statistics on a few of these categories have been published, and detailed statistics on population are available for only one recent date -- 15 January 1959.

Some double-counting is inevitable when treating separately such published statistics as day school enrollment and employment as being mutually exclusive. It is believed, however, that the magnitude of such double-counting is too small to affect significantly the relationships and trends described in this report.

In using the published data, particularly those relating to employment in the cooperative and private sectors, to develop the estimates in this report, it was frequently necessary to make assumptions concerning the definitions and coverage of the published statistical series. Because of the interpretations selected and the concepts used, these estimates necessarily may differ from those made by other researchers using different interpretations of the data and different methodology.

The concept of "labor force" used in this report is intended to measure utilized manpower resources in terms of persons and is considered particularly suited for use in conjunction with projections of the population to estimate future resources of manpower under specific assumptions regarding labor force participation. It is believed that the estimates of the labor force presented in this report measure these resources about as well as can be done with the data now available, in spite of the fact that the estimates given for the two major components of the labor force series -- workers and employees; collective farmers -- are not strictly comparable. The estimates of the former are annual averages, whereas estimates of the latter are assumed to represent an annual count of the number of persons who worked at the collective farms some time during the year. This measure of employment on collective farms is intended to represent manpower resources

available at these farms, in contrast to an annual average that would represent labor utilized. Agricultural employment is highly seasonal, and annual averages greatly understate the number of persons actually available for work on farms or for transfer to the nonagricultural branches of the economy.* With respect to workers and employees, the annual average does not significantly understate the total manpower available during the year, because seasonality in employment is not great among these overwhelmingly nonagricultural workers.

I. Population

The estimates and projections of the population of the USSR by age and sex were prepared by the Foreign Manpower Research Office, US Bureau of the Census, and are revisions of estimates published by that office in early 1959. 20/ These estimates and projections are consistent with the announced results of the population census conducted by the USSR in January 1959. 21/

II. School Enrollment of the Population 14 Years of Age and Older

For the period 1950-59, estimates of day-school enrollment refer only to secondary schools and colleges. Although some of the students in the seven-year elementary schools undoubtedly are 14 years of age or older, their number was assumed to be negligible. For the period 1960-65, estimates of day-school enrollment also include students in the eighth grade of the reorganized elementary schools because these students would be at least 14 years old. The data on enrollment in evening and correspondence schools include all students in these schools regardless of age.

A. Estimates of School Enrollment by Sex, 1950-59

Total enrollment in the various schools in 1950, 1953, and 1955-59 is given in Soviet statistical handbooks. 22/ Only enrollment in the day high schools (grades 8 through 10) in 1959 had to be estimated, and it was assumed that enrollment in these schools would continue to decline somewhat faster than the population of high school age.

In order to estimate labor supply by sex, it was necessary also to estimate day-school enrollment by sex. These estimates had to be made separately for each type of school from information relating to total enrollment (day, evening, and correspondence). The distribution of day-school enrollment by sex in each type of school was assumed to be the same as for total enrollment.

* See p. 35, below.

1. General Schools, Grades 8 Through 10

The proportion of women in general schools was reported in a Soviet journal as 54.5 percent in 1950 and 55.4 percent in 1955 23/; the proportion was estimated at 55.0 percent in 1953 by interpolation. Because about the same percentages also were reported for technikums, it was assumed that the percentage of women in grades 8 through 10 in 1956-59 was the same as reported for technikums -- 52 percent in 1956, 48 percent in 1957, 47 percent in 1958, and 45 percent in 1959.

2. Technikums and Colleges

The percentages of women in technikums and colleges in 1950, 1956, 1957, and 1958 are given in a Soviet handbook. 24/ Comparable figures for 1955 appeared in another Soviet handbook, 25/ and the percentages for 1959 were reported in the Soviet press. 26/

3. Labor Reserve Schools

A distribution of admissions to labor reserve schools, by sex, appeared in the 1958 Soviet statistical handbook for the period 1951-55 as a whole and annually for 1956-58. 27/ The distribution by sex of total enrollment was assumed to be the same as for admissions. The average given for 1951-55 was used for each of the years 1950, 1953, and 1955. The distribution in 1959 was assumed to be the same as in 1958.

B. Projections of School Enrollment by Sex, 1960-65

The projections of school enrollment in 1960-65 are based on the assumption that the USSR in general will fulfill its announced goals for enrollment in 1965, which presumably are consistent with other goals of the Seven Year Plan, such as the anticipated growth of civilian employment. Because goals were announced only for 1965, estimates for 1960-64 had to be based on assumptions about the pace of fulfillment. The announced goals relate to total enrollment, and because the sex structure of the school-age population will not change significantly between 1959 and 1965, it was assumed that the distribution of school enrollment by sex, in each type of school, will not change.

1. General Schools (Grades 8 Through 11)

Enrollment in grades 9 through 11 of the general schools in 1965 was estimated at 3.9 million by subtracting planned enrollment in grades 1 through 8 (36 million) and in schools for worker and rural

youths (4.8 million) 28/ plus an estimate of 600,000 enrolled in schools for adults from the planned total enrollment in all general schools of 45.3 million. 29/ In addition, it was assumed that 2 million persons 14 years of age and older would be enrolled in grade 8 in 1965, about one-half the number of persons 14 years of age in that year. This estimate is based on evidence that the 8-year school will be introduced very gradually. 30/ To estimate enrollment in grades 8 through 11 during 1960-64, the estimates of enrollment in 1959 and 1965 were first expressed as percentages of the population 14 through 17 years of age, from which most of these students would be drawn. The percentages are 21 in 1959 and 37 in 1965. Estimates for the intervening years were then obtained by assuming a small decline in the enrollment rate in 1960, a rapid rise in 1961 and 1962 -- when the first relatively large group of children born after World War II will reach age 14 -- and smaller increases in 1963-65.

2. Vocational-Technical Schools*

Although enrollment goals for vocational-technical schools have not been announced, some expansion in enrollment is planned. 31/ It was assumed, therefore, that enrollment would increase from a reported 991,000 in 1959 to 1.2 million in 1965. Estimates for intervening years were interpolated.

3. Schools for Worker and Rural Youths and for Adults

The planned enrollment in schools for worker and rural youths in 1965 was announced in the Soviet press. 32/ It was assumed that enrollment in schools for adults would be 600,000 in 1965 compared with about 200,000 in 1959 -- the rate of increase planned for the schools for worker and rural youths. Estimates for intervening years were interpolated.

4. Technikums

According to the Seven Year Plan (1959-65), 4 million persons will be admitted to technikums during 1959-65. Because average annual admissions are to be approximately the same as in the preceding 5-year period, 33/ total enrollment in each of the years 1960-65 was assumed to be the same as in 1959 -- 1.9 million.

Day enrollment as a proportion of total enrollment declined from 75 percent in 1955 to 56 percent in 1959. In view of the planned expansion of enrollment in evening schools throughout the

* Until 1959 vocational-technical schools were called labor reserve schools.

postelementary school system, it was assumed that this proportion will drop gradually to about 31 percent in 1965.

5. Colleges (Universities and VUZes*)

Estimates of college enrollment in 1960-65 are shown in Table 10. Enrollment in 1960 (2,364,000) was obtained by adding estimated admissions in September 1960 (533,000) to enrollment in 1959 (2,260,000), subtracting estimated graduations in June 1960 (323,000), multiplying the result by the estimated dropout rate (4.3 percent), and subtracting these dropouts. The same procedure was used for each succeeding year.

Table 10

Total Admissions, Graduations, and Enrollment
 in Universities and VUZes in the USSR
 1955-65

Year	Admissions a/ (Thousand)	Graduations b/ (Thousand)	Enrollment Unadjusted for Dropouts a/ (Thousand)	Dropout Rate (Percent)	Enroll- ment a/ (Thousand)
1955	461	246	N.A.	N.A.	1,867
1956	459	260	2,066	3.1	2,001
1957	438	267	2,172	3.4	2,099
1958	453	291	2,261	3.6	2,179
1959	513	337	2,355	4.0	2,260
1960	533	323	2,471	4.3	2,364
1961	553	321	2,597	4.6	2,477
1962	573	307	2,744	4.9	2,609
1963	593	317	2,886	5.2	2,735
1964	613	359	2,990	5.5	2,825
1965	633	373	3,086	5.8	2,906

a. As of September.

b. As of June.

* Vyssheye Uchebnoye Zavedeniye (VUZ) -- Institute of Higher Education.

The figures on admissions, graduations, and enrollment during 1955-59 were obtained from Soviet handbooks. 34/ According to the Soviet press, 8 million students are to be admitted to technikums and colleges during 1959-65. 35/ Because admissions to technikums are to be about 4 million, the other 4 million represent total planned admissions to colleges, which were allocated to individual years by assuming that the number of admissions in each year was 20,000 more than that of the preceding year.

Graduations each year during 1960-65 were estimated by assuming that total graduations in each of these years would be 70 percent of the class admitted 5 years earlier -- a ratio that prevailed during 1956-59. The results are consistent with the statement in the Seven Year Plan (1959-65) that total college graduations will be about 2.3 million. 36/

As shown in Table 10,* the dropout rate rose steadily after 1956, probably a consequence of the rising enrollment in evening and correspondence courses. Because this enrollment is scheduled to increase sharply, it was assumed that the dropout rate also would increase -- to 5.8 percent in 1965.**

The distribution of total enrollment between day and evening classes is based on a statement by V. Yelyutin, who is Soviet Minister of Higher and Secondary Specialized Education, that about 2 million college students will combine studies with jobs in 1965. 37/ Because total enrollment is estimated at 2,906,000 in 1965, day enrollment will be 906,000. Estimates of evening enrollment for the years 1960-65 were interpolated, and estimates of day enrollment were obtained by subtraction.

III. Total Labor Force and Civilian Employment, 1950-59

The total labor force in each year is the sum of an estimate of the armed forces and an estimate of civilian employment. The estimates of the armed forces in 1955-59 are based on Soviet announcements concerning strengths and demobilizations of the armed forces. The estimates for 1950 and 1953 were obtained as follows: (1) the total male labor force in these years was estimated by assuming that the rate of participation in the labor force by men in the labor supply was the same in 1950 and 1953 as in 1955, and (2) the estimates of the

* P. 29, above.

** This measure of the dropout rate was adopted for convenience in estimating enrollment and is not intended as a meaningful measure of academic attrition. Such attrition is usually measured by relating the number of dropouts during the school year to enrollment at the beginning of the school year.

number of males in civilian employment, derived as explained below, were then subtracted from the estimates of the total male labor force to obtain the number of men in the armed forces.

The estimates of civilian employment are the sums of separate estimates of employment, by sex, for four categories -- workers and employees, members of artisans cooperatives, collective farmers, and a residual comprised mainly of unpaid family workers.

A. Distribution of Civilian Employment by Class of Worker, 1950-59

1. Workers and Employees

The number of workers and employees is given in Soviet handbooks for 1950, 1953, and 1955-59. 38/ The percentages of women among workers and employees also is reported in Soviet sources. 39/

2. Collective Farmers

Estimates of total collective farm employment and its distribution by sex given in Table 11* were obtained (a) by estimating the number of persons in the "able-bodied ages" (men 16 through 59 and women 16 through 54) working on collective farms, (b) by distributing this employment by sex on the basis of the reported percentages of women, and (c) by adding estimates of the number of other persons 14 years of age and older working on collective farms obtained by applying estimated rates of participation** to estimates of the "non-able-bodied" population by age and sex.

a. Employment of Persons of Able-Bodied Age

The estimates of the number of persons in the able-bodied ages employed on collective farms in 1950 and 1955-58 are the sums of lines 5 and 11 of Table 12.*** These estimates are based on a similar table in a Soviet handbook. 40/ Although the term able-bodied ages does not appear in the Soviet table, the Chief of the Central Statistical Administration told a visiting US economist that the percentages shown for collective farm employment refer to persons in these age groups. The percentages were converted to absolute numbers

* Table 11 follows on p. 32.

** These rates of participation express employment as a percentage of the population in the age groups 14 to 15 for both sexes, 60 and older for men, and 55 and older for women.

*** Table 12 follows on p. 33.

Table 11

Distribution of Employment on Collective Farms
 in the USSR, by Broad Age Groups and by Sex
 1950, 1953, and 1955-59

Age and Sex	Million Persons						
	1950	1953	1955	1956	1957	1958	1959
Total employment, 14 years and older	<u>44.6</u>	<u>43.1</u>	<u>41.6</u>	<u>43.3</u>	<u>42.4</u>	<u>42.6</u>	<u>42.8</u>
Men	16.2	15.6	14.3	15.5	15.6	16.8	17.4
Women	28.4	27.5	27.3	27.8	26.8	25.8	25.4
Able-bodied ages	<u>36.0</u>	<u>34.2</u>	<u>33.6</u>	<u>34.9</u>	<u>34.1</u>	<u>34.5</u>	<u>34.9</u>
Men, 16 through 59	12.5	11.9	11.2	12.2	12.4	13.7	14.4
Women, 16 through 54	23.5	22.3	22.4	22.7	21.7	20.8	20.5
Other ages	<u>8.6</u>	<u>8.9</u>	<u>8.0</u>	<u>8.4</u>	<u>8.3</u>	<u>8.1</u>	<u>7.9</u>
Men	3.7	3.7	3.1	3.3	3.2	3.1	3.0
Women	4.9	5.2	4.9	5.1	5.1	5.0	4.9

by using the reported number of workers and employees and of members of artisans cooperatives in each year.* As the percentage distribution was not given for total employment in the "nonproductive branches" by class of worker, it was necessary to estimate the proportion of collective farmers in these branches as a residual by subtracting out the percentages that were workers and employees, plus an assumed percentage representing full-time employees of the Communist Party and related organizations. The estimate for 1953 was obtained by interpolation, allowing for a more rapid decline before 1953 than after 1953. For 1959 it was assumed that employment increased by the same amount as in 1958.

The total employment for collective farms in 1950, 1953, 1955, and 1957-58 was distributed by sex on the basis of the reported percentages of women collective farmers. ^{42/} The percentage for 1956 was obtained by interpolation, and the percentage for 1959

* The estimating procedure is described in detail in a forthcoming report of the Foreign Manpower Research Office, US Bureau of the Census. ^{41/}

Table 12

Distribution of the Population
 Employed in the National Economy of the USSR
 by Branch of Material Production
 and by Nonproductive Branches a/
 1950 and 1955-58

	Thousand Persons				
	<u>1950</u>	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>
Total employed in state and cooperative enterprises and institutions, in kolkhozes, and in the personal subsidiary economy	(1) <u>80,955</u>	<u>87,567</u>	<u>90,479</u>	<u>92,327</u>	<u>94,325</u>
Material production	(2) <u>69,783</u>	<u>74,607</u>	<u>77,088</u>	<u>78,386</u>	<u>79,516</u>
Workers and employees	(3) 28,739	36,603	38,363	40,347	41,220
Members of artisans cooperatives	(4) 1,214	1,576	995	1,108	1,132
Collective farmers employed in the social economy of the kolkhoz and in the personal subsidiary economy	(5) 35,620	32,838	34,111	33,238	33,485
Individual peasants and private artisans	(6) 1,619	350	362	277	189
Members of families of workers and employees employed in personal subsidiary economy	(7) 2,591	3,240	3,257	3,416	3,490
Nonproductive branches	(8) <u>11,172</u>	<u>12,960</u>	<u>13,391</u>	<u>13,941</u>	<u>14,809</u>
Workers and employees	(9) 10,156	11,777	12,174	12,801	13,380
Members of artisans cooperatives	(10) 385	223	205	92	168
Collective farmers	(11) 431	760	812	848	1,061
Other groups b/	(12) 200	200	200	200	200

a. Excluding military personnel.

b. Full-time workers of the Communist Party and related organizations.

was assumed to be the same as in 1958. Because the reported percentages apparently refer to women as a proportion of all workers in the able-bodied ages on collective farms, including MTS's,* and because nearly all MTS workers were men, an allowance had to be made for the shift of collective farmers into and out of MTS's during 1950-58. To obtain the number of women collective farmers in the able-bodied ages, therefore, the reported employment at MTS's was added to the estimates of collective farm employment, and the reported percentages of women were then applied to these totals. The number of men was obtained by subtraction.

b. Employment on Collective Farms in the Non-Able-Bodied Ages

The estimates of the number of persons 14 and 15 years of age and the number of men 60 years of age and older and of women 55 years of age and older working on collective farms were obtained by estimating the total population of collective farms in these age groups from available Soviet data** and applying rates of participation in the labor force similar to those reported in the 1926 census, taking into account the increased school enrollment of persons 14 and 15 years of age.

3. Members of Artisans Cooperatives

Membership in artisans cooperatives was reported in Soviet handbooks for 1955-59. 44/ Estimates for 1950 and 1953 were derived from Soviet data by the US Bureau of the Census. 45/ Total membership was distributed by sex on the basis of the percentages used to distribute workers and employees by sex.

4. Self-Employed, Unpaid Family Workers, and Others

Estimates of the number of persons in the category of self-employed, unpaid family workers, and others in 1950 and 1955-58 were obtained by adding the figures in lines 6, 7, and 12 in Table 12.*** The number of self-employed and unpaid family workers† was estimated by interpolation for 1953, and for 1959 a decline of 200,000 was assumed. The number of "other groups" (mainly full-time, paid employees of

* Persons employed at MTS's are classified as workers and employees.

** The principal source is a distribution of the collective farm population by broad age groups for 1952-56, given in a Soviet handbook. 43/

*** P. 33, above.

† Unpaid family workers included here are those working on private plots and tending privately owned livestock at state farms and in urban areas. Unpaid family workers living on collective farms are included in the estimates of collective farm employment.

the Communist Party) was assumed to remain unchanged in 1953 and 1959. The estimates were distributed by sex as follows: (a) the self-employed and "others" were distributed in the same manner as workers and employees; (b) it was assumed that 70 percent of the unpaid family workers were women -- a somewhat higher proportion than that for collective farmers.

B. Distribution of Employment by Branch of the Economy, 1950-59

1. Agriculture

The estimates of agricultural employment for 1950, 1953, and 1955-59 are the sums of (a) collective farmers, but excluding those employed in industrial activities at the farms; (b) workers and employees in state agriculture, reported in Soviet handbooks 46/; (c) unpaid family workers, taken from line 7 of Table 12* for 1950 and 1955-58 and estimated for 1953 by interpolation and for 1959 by extrapolation; and (d) self-employed farmers, representing about one-half of those persons included in line 6 of Table 12.

The estimates of agricultural employment presented in this report were obtained by adding together, for separate components of agriculture, estimates of employment that are not strictly comparable. Thus the employment figures derived from Table 12 for state farms and MTS's (included among workers and employees) are annual averages, those for collective farms are assumed to be an annual count of members in certain "able-bodied" ages participating at some time during the year in the collective economy or on their private plots, and those for self-employed and unpaid family workers and probably man-year equivalents. These estimates, therefore, may differ significantly both in level and in trend from estimates computed exclusively in terms of annual averages, man-year equivalents, or some other measure of "labor input." The estimates would differ even more from annual averages adjusted to exclude work in nonagricultural activities (such as construction, education, and health) performed on Soviet farms. Annual average employment in agriculture was reported in a recently published Soviet handbook 47/ to be about 33 million in 1959. The exclusion of nonagricultural activities at farms from this figure accounts for part of the difference between it and the estimate of 51.4 million which appears in Table 4.** Most of the difference, however, reflects time not worked by available manpower resources at collective farms.

* P. 33, above.

** P. 13, above.

In addition to this difference in over-all magnitude, year-to-year changes depicted by the two series also may differ significantly. Between 1956 and 1959, annual average employment in the socialized sector of collective farms declined 5 percent 48/ in contrast to a decline of only 1 percent in the estimates of collective farm employment shown in Table 4.* The exclusion of employment on private plots from the annual averages, and its inclusion in the latter estimates, suggests that this difference may have resulted from increased employment on the peasants' private holdings.

In spite of the hybrid nature of the estimates of agricultural employment in this report and the fact that they tend to overstate employment in purely agricultural activities, it is believed that they are an appropriate measure of the labor force on Soviet farms for the purpose of measuring the potential manpower available for other branches of the economy.

2. Industry

The estimates of industrial employment for 1950-59 are unpublished estimates of the US Bureau of the Census. A detailed description of coverage and methodology, together with estimates for 1950 and 1955, appear in a report issued by the Bureau. 49/ In general, the estimates were obtained by estimating the total number of workers (rabochiye) engaged in industrial activities at state enterprises, industrial cooperatives, and collective farms and adding estimates of the number of overhead personnel (engineering-technical and administrative employees, apprentices, and service personnel).

IV. Projections of the Total Labor Force and Civilian Employment, 1960-65

The total labor force was projected as follows. First, estimates of day-school enrollment in 1960-65, obtained as described above, were subtracted from the projections of the population 14 years of age and older, by sex, to obtain estimates of the labor supply. Second, rates of participation in the labor force in 1959 were computed for each sex by dividing the total labor force by the labor supply. The rates of participation thus derived were 85.7 percent for men and 65.8 percent for women.** Third, estimates of the total labor force in 1960-65 were obtained by applying the rates of participation to the projections of the labor supply. The estimates of civilian employment were then obtained by subtracting estimates of the armed forces from these estimates of the total labor force, taking into account the planned reduction of 1.2 million in the armed forces during 1960-61. 50/

* P. 13, above.

** These rates did not change significantly during 1955-59.

The projections of employment thus assume that the over-all rates of participation in the labor force of each sex of that portion of the population not in full-time school will not change significantly during 1960-65. Although these rates undoubtedly vary among age groups, among women, and with marital status and number and age of children, no Soviet data are available from which these rates can be estimated reliably by age, or from which trends can be ascertained. The procedure used here takes into account the two major factors that affect rates of participation -- sex and school enrollment. The age structure of the population will not change greatly during 1960-65, and the projections of population imply no significant change in either marital or family status.

A. Projections of Civilian Employment by Class of Worker, 1960-65

1. Workers and Employees

Estimates of the number of workers and employees were made by assuming that the planned goal for 1965 will be met. Estimates for 1960-64 were obtained by interpolation. It also has been assumed that the planned increase in the number of workers and employees represents the anticipated growth in the nonagricultural branches of the state economy and, therefore, that any growth in employment in state agriculture as a result of the conversion of collective farms to state farms will mean that the plan has been exceeded.

2. Collective Farmers

Estimates of the number of collective farmers are residuals, obtained by subtracting the estimates for the other categories (workers and employees, members of artisans cooperatives, and "others") from the estimates of total civilian employment.

3. Members of Artisans Cooperatives

It was assumed that the number employed in artisans cooperatives would increase by 300,000 during 1959-65, reflecting primarily the planned increase in industrial employment.

4. Others

In view of current efforts by the USSR to reduce the importance of family plots and privately owned cattle, it was assumed that "other" employment would decline steadily from 3.7 million in 1959 to 3.1 million in 1965.

B. Projections of Civilian Employment by Branch of the Economy,
1960-65

The projected change in nonagricultural employment equals the change in workers and employees plus the projected increase in employment in producer cooperatives and kolkhoz industry. Agricultural employment is a residual obtained by subtracting nonagricultural employment from total civilian employment.

The estimates of industrial employment were obtained by projecting the estimate of total industrial employment in 1959 by the increase in employment (22 percent) implicit in goals for production and productivity between 1958 and 1965. According to the Seven Year Plan (1959-65) industrial production is to increase by 80 percent and labor productivity in industry by about 47.5 percent between 1958 and 1965. Estimates for the intervening years were obtained by geometric interpolation. The estimates of total employment in the category Other Nonagriculture were made by subtracting the estimates of industrial employment from the estimates of total nonagricultural employment.

APPENDIX B

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