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# PROVISIONAL INTELLIGENCE REPORT PR - 32

POSTWAR TRENDS IN MANPOWER OF THE USSR

AND THE EUROPEAN SATELLITES

1947-57

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#### POSTWAR TRENDS IN MANPOWER OF THE USSR

#### AND THE EUROPEAN SATELLITES

#### 1947-57

#### Summary

The present trends of population in the USSR and the European Satellites are expected to produce an increase of about h0 million during the period 19h7=57. This increase, together with internal shifts in the utilization of labor during the period, will permit an expansion of the nonagricultural labor force by 22 million, or h7 percent, to a high of almost 70 million workers and employees. Employment in industry, mining, and construction is expected to rise 66 percent. In addition, the labor force will be better staffed as a result of the compulsory education program and the training of skilled engineering, professional, and technical workers, who are increasing at a more rapid rate than the total labor

In the USSR the estimated increase in the number of workers and employees from 19h7 to 1957 amounts to 1h million, a rise of h3.5 percent during the 10-year period. The Soviet labor force in 1957 will be composed primarily of individuals in the 15- to 60- year age group with a proportion of skilled and technical personnel that should compare favorably with that of the Western European labor force.

The development of the labor force of the European Satellites will follow the same pattern as that of the USSR, reaching a total of 23.7 million in the nonagricultural sector of the economy by 1957.

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#### I. USSR and European Satellites.

#### A. Total Population.

Fefore World War II the rates of population increase in the USSR and the European Satellites were more rapid than in Western Europe. Although the rate of population growth in the USSR is not rising so rapidly at present, it is still high (15 per 1,000 per year). The rates of postwar population increases in the European Satellites are about equal to or above prewar levels, except in East Germany and Hungary. It is estimated that the population will continue to increase at these rates in the USSR and the European Satellites, producing an aggregate population increase of about hO million, or 14.3 percent, from 1947 to 1957. (See Table 1# and Figure 1.\*\*). The estimated population of the USSR and the European Satellites for 1957 will be double the present population of the US. (See also Table h, Appendix A.\*\*\*)

B. Civilian Employment.

1. Agricultural Labor.

A study of rural economies in Eastern Europe made for the League of Nations\*\*\*\* indicated that in about 1930 the nations which are now European Satellites had an excess population\*\*\*\*\* dependent upon agriculture of about 15 million people, or about 4.5 million male agricultural workers. Agricultural workers are still in excess throughout the Soviet Floc. The policies of the Commutnists are directed at reducing this overpopulation in agriculture by

Table 1 follows on p. 3.

\*\*\*\* Wilbert E. Moore, Economic Demography of Eastern and Southern Europe, League of Nations, Geneva, 1945. \*\*\*\*\* Excess population was measured by calculating the number needed for current production if the European average per capita output could be attained. The difference between this requirement and the actual population dependent on agriculture was counted as excess.

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<sup>\*\*</sup> Following p. 2.

<sup>###</sup> P. 13, below.



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Table 1

# Estimated Total Population and Employment of the USSR and the European Satellites 1947, 1952, 1957

~	/d 7.101	1000 b/	1057 b/	Increase	Increase, 1947-57
ŢĒ,	(Thousands)	(Thousands)	(Thousands)	Thousands	Percent
Total Population Agricultural Employment Nonagricultural Employment	278,868 75,080 117,627	298,096 70,008 60,796	318,682 68,11,3 69,926	39 <b>,811</b> -6,937 22,299	14.3 -9.3 17.0
truction	21,108 8,158	30,717 12,262	35°128 15°908	111,020 7,550	66°0 89°3
Engineering, Froiessional, and Technical	וובוו, נו	6,890	10,666	6,252	9,נוננ

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mechanization and collectivization of farms and transfers of individuals to industry. Fetween 1957, an estimated reduction of 7 million agricultural workers, as shown in Table 1, is likely to be achieved: 5 million in the USSR and 2 million in the European Satellites. The creation of a balance between agriculture and industry in the European Satellites, however, will have barely begun by 1957. It is assumed that a considerable surplus of labor will remain for transfer to industry as agricultural productivity increases.

#### 2. Nonagricultural Labor.

The planned\* increase in the nonagricultural labor force during the years 1947-57 is estimated at 22 million, or h7 percent. The increase will result from transfers of appreciable numbers now employed in agriculture, utilization of the natural increase in the working age population, and employment of more women in industrial labor in the European Satellites.

#### 3. Industry, Mining, and Construction.

The increases planned for employment in industry, mining, and construction between 1967 and 1957 (66 percent) are nearly 12 times as rapid as the increases in total nonegricultural employment (67 percent). Nonagricultural employment in the USSR and the European Satellites in 1952 is estimated to have been slightly greater than nonagricultural employment in the US, but employment in industry, mining, and construction in these countries\*\* is estimated at nearly 31 million as against 19 million in the US.\*\*\* This difference demonstrates

\* "Planned" is used in this report as follows: figures from 1917 to 1952 represent estimates based on past plans and performance announced; from 1952 to 1957, figures from announced plans are used unless evidence indicates notable failure to achieve goals; if plans do not extend to 1957, mathematical projections are used.

\*\* Albania is not included in this total.

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\*\*\* The US figure includes only contract construction and is therefore slightly too low to be strictly comparable.

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the lesser emphasis on trade and consumer services that is characteristic of Communist economies.

#### C. Increases in Trained Manpower.

The well-integrated system of vocational training in prewar USSR has been revived and expanded since the war. The European Satellites are rapidly reorganizing their educational systems to conform to this Soviet pattern. The increase in the number of graduates of vocational and technical schools is indicated in Table 1 and Figure 2.\* The estimated rate of increase in skilled workers was almost twice as rapid as that of the total nonagricultural labor force (89 percent as compared with h7 percent). The rate of increase in engineering, professional, and technical personnel was three times as rapid (lh2 percent).\*\*

The development of all elements of the labor force was more ranid in the first 5 years of the 19h7-57 period than that planned for the second 5-year period, since the rapid rate of recovery during the immediate postwar years could not be maintained once the prewar level had been attained. The slowdown occurred during 19h8 in most phases of the economy of the USSR but occurred later in some of the Satellites. The change is consistent with the announced changes in the Soviet index of industrial production.

II. USSR.

A. Total Population.

An announcement by  $L_{\circ}P_{\circ}$  Beriya on 7 November 1951 stated that in 1950 the annual increase in the population of the USSR was

\* Following p. 6.

\*\* For the purpose of this report, the output of one the job training, apprentice training, and labor reserve schools has been considered the increment to the skilled labor force. The graduates from full 3= and heyear vocational high schools have been classed as technical workers, and the graduates of higher institutions as professional and engineering personnel.

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"over 3 million." This estimate and other estimates indicate a total increase of over 33 million for the period 1947-57, bringing the total at the end of the period to almost 225 million (see Table 2).\*

#### B. Civilian Employment.

If present trends continue at a slightly slackened rate, the number of workers and employees in the USSR will have increased by D: million, or  $h_{3.5}$  percent, from 1947 to 1957. The total by 1957 will be  $h_{6.2}$  million, of whom about  $h_3$  million will be in the nonagricultural sectors and over 3 million in State agriculture.

The estimated increase of 1k million workers and employees is computed on the basis of the following projected changes: (1) a net increase of 5 million in total employment, (2) a gain of 5 million at the expense of collective farms, and (3) a redistribution of k million slave laborers from their present status to nonagricultural employment. This estimate is based on projections of present trends and information indicating that because of the increasing productivity<sub>p</sub> collective farms will require fewer agricultural laborers.

Employment in industry, mining, and construction is planned to increase during the 10-year period by 6.6 million, or 45 percent, slightly greater than the percentage increase in total workers and employees. The total of 19.1 million workers in this sector by 1957 is about equal to present US employment. Soviet employment was already heavily concentrated in these critical sectors by 1947. In 1952, <sup>1/3</sup> percent of nonagricultural workers in the USSR were in industry, mining, and construction as compared with 38 percent in the US (see Table 2).\*\*

\* Table 2 follows on p. 7. \*\* The distribution of Soviet workers and employees is broken down in detail in Table 5, Appendix B (p. 15, below), and in Figure 3 (following p. 6).

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Table 2

Setimated Population and Employment in the USSR 1957, 1957

	1							HILLONS
		19h7 B/		1952 <sup>8</sup> /		1957 æ/		
	Total	Male	Fenale	Total	Total	Male	Fenale	Increase 1947-57
Total Population Population, 15 to 60 Years of Age	191.1 109.7	87°9 h17°9	103.2 61.8	207.3 117.5	224.5 133.1	105.0 60.3	119.5	33.h 23.h
Employed Not Employed	82.5 27.2	12 0 5 0 6 %	10.5 21.3	30°5 30°5	94.0 39 <b>.</b> 1	52°1 8°2	47.9 b/ 30.9	/ 11.5 11.9
In School	2 °2	1,1	<b>1</b> .h	<b>h</b> .5	7°2	3.7	3°8	5°0
Employed, under 15 and over 59 Years of Age Civilian Employment, All Ages	11.7 94.2 c/	/ 48°2	5°5 0°5	10.2 96.8	5°2 99°2	3.8 55-9	1. <sup>4</sup> 43.3	<b>က်</b> ကို
Collective Farmers Workers and Employees	87 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	22°8 16°6	29°2 15°6	148°0 110°8	117.0 116.2	23°6 26°8	23.h 19.h	5°0 11°0
struction	<b>ឣ</b> ៷ ៷៷	N.A. NaA.	No <b>A.</b> NoAo	17.6 8.3	19°1 10°1	N oAo N oAo	N .A. N .A.	6.6 11.6
and Technical and Technical	3.0	N,A.	N.A.	lı "9	7.7	N .A.	N°A。	и.7
Slave Labor	10.0	8.8	1.2	8°0	6°0	<del>ر</del> گ	0°5	-lt "O
a. As of 1 January. b. Fstimated on the basis of 65 percent of the women 15 to 60 years of age employed in 1947 and 58	at of t	he vonen	15 to 6	0 years	of age	employed	tn 1947	<b>an</b> d 58

percent in 1957。

Excluder those at school and at work in the same year, those temporarily unemployed, contract the MVD and special defense projects, and military employees. employees of °°

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#### C. Composition of the Labor Force.

The estimated increase in the 15-to 60-year age group for 1947-57 is 23.4 million, 12.4 million of whom will be males. As a result, both the employed group and the nonworking group (primarily students and housewives) will increase. The percentage of the labor force under 15 and over 59 is expected to drop. The estimated net increase of 5 million employed individuals results from an increase of 11.5 million persons in the 15- to 60-year age group and a 6.5-million decrease in the employment of other age groups.

Since the 11.7 million underage and overage workers in 19h7 had a productivity considerably below average, the decrease in employment of these individuals and the increase in employment of the 15- to 60-year age group is expected to improve the quality of the Soviet labor force. Although some of the older workers will remain employed, most of the under-15 age group will, as a result of the compulsory education program, be in school.

#### D. Increases in Trained Manpower.

The Fifth Five Year Plan (1951-55) provides for the introduction of compulsory 10-year education in the cities. Since, before 1950, the drive for compulsory education through the seventh grade had already enrolled 90 percent of the 11- to 14-year age group, the percentage of those over 15 who can stay in school is expected to rise. The system of compulsory education is expected to raise the quality of the labor force. It has already sharply reduced the number trained in the less efficient labor reserve schools and increased the enrollments in the regular and technical high schools. This shift, in turn, increases the enrollment in higher educational institutions. It is estimated that enrollment of youth over 15 in the regular high schools, technical high schools, and higher institutions will increase from 2.5 million in 19h7 to 7.5 million in 1957. The annual rate of graduation at the end of the period is estimated at about 500,000 from technical high schools

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and over 200,000 from higher institutions. This increment will incorrespond to the corps of engineers and technicians by 156 percent during the period 19/7-57, bringing the number to 7.7 million.

The facilities for training skilled workers, including the training for higher skills of those already employed, are also turning out a sufficient number to increase this group at a faster rate than the increase in total workers and employees. At the end of the period the proportion of technical and skilled employees to the total employees in industry should compare favorably with that in Western Europe.

#### III. European Satellites.

#### A. Total Population.

The total population increase in the European Satellites from 1947 to 1957, as indicated in Table 3, is estimated at  $6_{a}b$  million, bringing the total to  $9b_{a}2$  million by 1957. The rate of increase of only

#### Table 3

#### Estimated Population and Employment in the European Satellites 1917, 1952, 1957

		a an	T	housands
	1947	<u>1952</u>	<u>1957</u>	Increase 1947-57
Total Population	87.8	90.8	94.2	6.4
Civilian Employment	38.h	41.9	44.8	6.4
Agricultural Employment	23.0	22.0	21,1	-1.9
Nonagricultural Employment	15.4	19.9	23.7	8.3
Industry, Mining, and Construc-				
tion	8.6	13.2	16.1	7.5
Skilled	2.9	3.9	5.8	2.9
Engineering, Professional,		•		
and Technical	1.4	1.9	3.0	1.6

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7.3 percent for the 10 years is less than half the rate of increase in the USSR. The rates for the different Satellites are variable, ranging from 0 in the Soviet Zone of Germany to 22 per thousand in Albania.

#### B. Civilian Employment.

The European Satellites plan to increase civilian employment by 6.4 million, or over 16 percent, a rate of increase more rapid than that in the USSR. The more rapid rate of increase in employment than in population is an index of the increasing employment of women. The net increase of 6.4 million results from a decrease of 1.9 million in agriculture and an increase of 8.3 million in nonagricultural employment. A large excess of farm labor, however, would still be available if average European agricultural productivity could be reached in the Satellites.

Over 80 percent of the total increase in nonagricultural employment is planned for allocation to industry, mining, and construction --- those sectors of the economy considered most vital by the Communists. The addition of 7.5 million employees in these sectors of the economy will result in a total of 16.1 million by 1957.

East Germany and Czechoslovakia, highly industrialized nations before World War II, plan only modest increases in industry, mining, and construction during the 10-year period. Substantial increases amounting to 85 percent in Poland and 135 percent in Eulgaria are estimated. Very rapid increases of 280 and 310 percent, respectively, are projected for Hungary and Rumania, not only because these countries had a relatively small prewar industrial base but also because they were just beginning postwar recovery in 1947. (See Table 6, Appendix C<sub>p</sub>\* and Figure  $4_0$ \*\*)

\* P. 17, below. \*\* Following p. 10.

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#### C. Increases in Trained Manpower.

The European Satellites are rapidly adopting the system of vocational training which has been evolved in the USSR. Under pressure for more highly trained personnel, they also are accelerating personnel training by shortening the time before graduation. This shortening of the period of education will obviously result in a considerable sacrifice of quality for numbers. Quality also suffers from the purges of faculties and from enrollments that are designed to fill the educational system with loyal Communists. The vocational training system is expected to increase the supply of skilled labor by 100 percent, and engineering, professional, and technical personnel by 123 percent.

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#### APPENDIX A

#### ESTIMATED POPULATION OF THE USSR AND THE EUROPEAN SATELLITES 1947, 1952 1957

#### Table 4

**********			Thousands		
Countries	<u>1947 a</u>	<u>1958 a/</u>	<u>1957 a/</u>	Increase 1947-57	
USSR	191,100	207,300	224,500	33,400	
Albania	1,160	1,265	1,415	255	
Bulgaria	7,020	7,247	7,707	687	
Czechoslovakia	12,164	12,802	13, 387	1,223	
East Germany	18,800	18,500	17,900	-900	
Hungary	9,076	9,367	9,616	540	
Poland	23,700	25, 328	26,847	3,147	
Rumania	15,848	16,287	16,710	862	
Total	278,868	298,096	<u>318,082</u>	39,224	
	•	•		•	

a. As of 1 January.

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#### APPENDIX B

#### DISTRIBUTION OF WORKERS AND EMPLOYEES IN THE USSR 1947, 1952, 1957

Table	5

		T	housands
	1947 •/	1952 a/	<u>1957 a/</u>
Industry			
Electric Power Petroleum Coal Ferrous Metallurgy Nonferrous Metallurgy Metalworking, Machine Construction Timber Chemical Textile Fish Food Meat and Dairy	273 300 280 300 235 3,700 120 132 500 111 725 210	330 307 950 908 385 4,635 469 398 1,014 193 1,224 259	355 342 950 998 435 5,210 516 436 1,084 211 1,344 284
Paper Other Industry	85 2,599	110 3,218	110 3,500
Total Industry	<u>9,900</u>	14,400	15,775
Construction Rail Transport Water Transport Other Transport Education Public Health Trade Public Feeding Credit Dwelling, Communal Economy	2,600 1,750 2,125 2,125 2,550 1,300 2,970 970 335 1,140	3,150 2,050 2,525 3,400 1,550 3,160 1,010 355 1,220	3,300 2,225 243 2,800 4,400 1,870 3,580 1,500 415 1,445

a. As of 1 January.

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#### Table 5

(Continued)

			Thousands
	1947 a/	<u>1952 a/</u>	1957 <u>e</u> /
State and Public Institutions Art Communications State Agriculture, Forestry Other	2,170 235 570 1,600 1,470	2,210 255 610 3,250 1,420	2,325 315 760 3,410 1,812
Total	32,200	40,800	46,175

a. As of 1 January.

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#### APPENDIX C

#### ESTIMATED EMPLOYMENT IN THE USSR AND THE EUROPEAN SATELLITES 1947, 1952, 1957

#### Table 6

		1	housands
	<u>1947 9/</u>	1952 a/	1957 <b>a</b> /
USSR			
Agricultural Nonagricultural	52,000	48,000	47,000
	32,200	10,800	46,175
Industry, Mining, and Construction Unskilled	12,500	17,750	19,075
Skillsd	23,640	27,550	28,365
Engineering, Professional, and Technical	5,500	8,320	10,110
Successfy recovery and rechtfort	3,060	4,930	7,700
Albania			
Agricultural	480	458	9.3. 0
Nonagricultural	400	111	443 171
Unskilled	38	93	130
Skilled	1	10	23
Engineering, Professional, and Technical	4	8	18
Bulgaria			
Agricultural	2,700	0 550	0 500
Nonagricultural	719	2,550 917	2,500
Industry, Mining, and Construction	233	434	1,030 550
Unskilled	472	573	581
Skilled	160	210	260
Engineering, Professional, and Technical	87	134	189
Czechoslovakia			,
Agricultural	2 200	0.000	
Nonagricultural	2,200	2,000 2,1,21	1,900
Industry, Mining, and Construction	3,200 2,096	3,434 2,638	4,100 3,248
A Is of I Contain	-		- 0

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Table 6

(Continued)

			Thousands
***************************************	<u>1947 -/</u>	<u>1952 a/</u>	
Czechoslovakia (Continued)			
Unskilled	1,972	2,279	2,583
Skilled	600	808	1,011
Engineering, Professional, and Technical	228	347	506
East Germany and East Berlin			
Agricultural	2,200	2,124	1,900
Nonagricultural	5,782	5,731	6,600
Industry, Mining, and Construction	3,000	4,025	4,415
Unskilled	4,492	4,133	4,422
Skilled	885	1,094	1,563
Engineering, Professional, and Technical	405	504	615
Hungary			
Agricultural	2,100	1,850	1,700
Nonagricultural	1,400	2,250	2,750
Industry, Mining, and Construction	470	1,420	1,800
Unskilled	881	1,669	2,006
Skilled	349	372	474
Engineering, Professional, and Technical	170	209	270
Poland			,
Agricultural	7,400	7,300	7,100
Nonagricultural	3,180	5,200	5,900
Industry, Mining, and Construction	2,075	3,050	3,840
Unskilled	2,180	3,669	3,220
Skilled	700	1.064	1,850
Engineering, Professional, and Technical	300	467	930
•	,		

a. As of 1 January.

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#### Table 6

#### (Continued)

	Thousands		
	<u>1947 e/</u>	<u>1952 a/</u>	<u>1957 e/</u>
Rumania			
Agricultural	6,000	5,850	5,600
Nonagricultural	1,100	2,353	3,200
Industry, Mining, and Construction	534	1,600	2,200
Unskilled	680	1,691	2.145
Skilled	260	384	2,145 617
Engineering, Professional, and Technical	160	278	438

a. As of 1 January.

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