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AVERAGE ANNUAL MONEY EARNINGS
OF WAGeworkERS IN SOVIET INDUSTRY

1928-61



July 1963

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AVERAGE ANNUAL MONEY EARNINGS OF WAGeworkERS
IN SOVIET INDUSTRY*
1928-61

I. Introduction

This report presents estimates of average annual money earnings of wageworkers** in Soviet industry*** from 1928 to 1961 and estimates of these earnings in major branches of industry in 1928, 1935, 1950, 1956, and 1959. For the years considered in this report, wageworkers constituted the largest portion of all workers and employees† in industry -- from 75 to 83 percent 2/ -- and, in general, they earned less than engineering-technical workers and more than clerical workers or apprentices and junior service personnel (the other categories of workers and employees). Therefore, estimates of money earnings of wageworkers provide valuable support to previously published estimates of money earnings of all workers and employees. Furthermore, more data related to earnings of wageworkers in particular are available than data related to all workers and employees in general.

II. Growth of Average Annual Money Earnings

The growth of average annual money earnings of wageworkers in Soviet industry from 1928 to 1961 is shown in Table 1.†† This series

* This report complements an earlier report, published in December 1960, which presents estimates of average money earnings of all workers and employees in Soviet industry from 1940 to 1958. 1/ (For serially numbered source references, see Appendix C.)

** The Soviet statistical category of wageworker (rabochiy) is similar to the US category of production worker, although somewhat more limited in coverage. The Soviet category excludes some custodial personnel and technical personnel normally included in the US concept of production worker.

*** Soviet industry includes mining and electric power production as well as manufacturing activities.

† Workers and employees is a technical term used by the Soviet government. It includes all wage and salary earners but excludes members of the armed forces and collective farmers. Workers in industrial producers' cooperatives were not included in the total number of workers and employees in industry until 1960, when the producers' cooperatives were absorbed into the state sector.

†† Table 1 follows on p. 2. No direct or indirect data on money earnings of workers in 1962 have been observed in Soviet publications.

Table 1

Estimated Average Annual Money Earnings of Wageworkers
in Soviet Industry a/
Selected Years, 1928-61

Year	Amount <u>b/</u> (New Rubles)	Index		
		<u>1928 = 100</u>	<u>1940 = 100</u>	<u>1950 = 100</u>
1928	84 <u>c/</u>	100		
1929	90 <u>c/</u> <u>d/</u>	107		
1930	100 <u>c/</u>	118		
1931	115 <u>c/</u>	136		
1932	139 <u>c/</u>	165		
1933	151 <u>c/</u>	179		
1934	176 <u>c/</u>	209		
1935	222 <u>c/</u>	263		
1940	443	526	100	
1945	616	731	139	
1947	825	978	186	
1950	925	1,100	208	100
1953	971	1,150	219	105
1954	1,010	1,200	227	109
1955	1,020	1,210	230	110
1956	1,040	1,230	234	112
1957	1,100	1,300	247	119
1958	1,130	1,340	254	122
1959	1,160	1,380	262	126
1960	1,190	1,410	269	129
1961	1,240	1,470	280	134

a. For source identification numbers and methodology, see Appendix B. All figures are rounded to two or three places.

b. All ruble figures in this report are given in "new rubles" (ruble values in use after the Soviet currency reform of 1 January 1961) and may be converted into US dollars at the official rate of exchange of 0.9 ruble to US \$1. This rate does not necessarily reflect the value of the ruble in terms of the dollar.

c. Large-scale industry only.

d. Including apprentices. A comparable figure for 1928 is reported as 82.8 rubles. 3/

represents gross earnings paid to these workers through the wage funds of the various state enterprises. Therefore, the series includes basic wage rates and wage supplements (overtime pay, production bonuses, and the like) but does not include other less direct forms of remuneration (pensions, awards for socialist competition, educational stipends, and other government transfer payments). The types of payment included in the wage fund are listed in Appendix A. The methodology and sources for Table 1 are described in Appendix B.

III. Average Annual Money Earnings, by Branch of Industry

Estimates of average annual money earnings of wageworkers in major branches of Soviet industry in 1928, 1935, 1950, 1956, and 1959 are given in Table 2.* This table shows the relationship of these earnings to average earnings of wageworkers in all industry.

The early influence of the regime's priority treatment of producer goods industries can be seen in the changes from 1928 to 1935 (the first years of the era of the Five Year Plans), notably in the widening differential between coal, petroleum, and ferrous metallurgy (the "leading links" in the great industrialization drive) on the one side and food, sewing, and fur, leather, and footwear on the other.** Some changes in interbranch differentials also occurred between 1956 and 1959 as the wage reform of 1956-62 progressed. These data, however, do not show the full effect of the wage reform on interbranch differentials, because the reform was not completed in industry until the end of 1960.***

IV. Reliability of the Estimates

The estimates of average annual money earnings of wageworkers in industry were constructed from reported percentage changes in money and real earnings and in the cost of living during 1928-61, as explained in detail in Appendix B. The substantial amount of cross checking made possible by these data provides some assurances that the series is reliable. The series, however, represents a changing coverage of workers. The figures for the 1920's and 1930's cover wageworkers in large-scale industry only, whereas the figures for World War II and the postwar period appear to cover wageworkers in all state industry. In addition, the Soviet definition of "industry" sometimes has included and sometimes has excluded some quasi-industrial activities, such as logging, fishing, flour milling, and institutional food catering. 5/

* Table 2 follows on p. 4.

** Priority treatment of workers in producer goods industries began during the 1931-33 wage reform.

*** For a discussion of the 1956-62 wage reform, see source 4/.

Table 2
Estimated Average Annual Money Earnings of Wageworkers in Soviet Industry
by Branch of Industry a/
1928, 1935, 1950, 1956, and 1959

Branch of Industry	1928		1935		1950		1956		1959	
	Average Earnings in Rubles b/	Percent of the Average for all Industry b/	Average Earnings in Rubles c/	Percent of the Average for all Industry c/	Average Earnings in Rubles d/	Percent of the Average for all Industry d/	Average Earnings in Rubles d/	Percent of the Average for all Industry d/	Average Earnings in Rubles d/	Percent of the Average for all Industry d/
All industry	84.3	100.0	222.4	100.0	925	100.0	1,040	100.0	1,160	100.0
Electric power	105.0	124.5	260.2	117.0	941	101.7	1,031	99.1	N.A.	N.A.
Coal	75.9	90.1	255.6	114.9	1,572	170.0	1,686	162.1	2,119	182.7
Peat	N.A.	N.A.	N.A.	N.A.	651	70.4	814	78.3	1,205	N.A.
Petroleum	94.2	111.7	268.1	120.5	1,113	120.3 e/	1,154	111.0	1,495	103.9
Ferrous metallurgy (including ore mining)	89.4	106.0	250.2	112.5	1,266	136.9	1,345	129.3	N.A.	128.9
Nonferrous metallurgy	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1,498	144.0 d/	N.A.	N.A.
Machine building and metalworking	109.5	130.0	257.5	115.8	999	108.0 f/	1,083	104.1 g/	1,075	99.8
Chemicals	98.5	116.9	231.3 g/	104.0 g/	935	101.1	1,050	101.0 h/	N.A.	92.7
Mining of nonmetallic minerals	N.A.	N.A.	N.A.	N.A.	1,117	124.0	1,178	113.3	N.A.	N.A.
Construction materials	N.A.	N.A.	N.A.	N.A.	818	88.4	931	89.5	N.A.	N.A.
Glass, china, and pottery	N.A.	N.A.	N.A.	N.A.	811	87.7	940	90.4	N.A.	N.A.
Logging and woodworking	N.A.	N.A.	N.A.	N.A.	784	84.8	974	93.7	N.A.	N.A.
Woodworking	73.2	86.8	192.7	86.7	754	81.5	874 h/	84.0 h/	994	85.7
Paper	80.4	95.4	185.9	83.6	967	104.5	1,113	107.0 d/	1,191	102.7
Light	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	811 h/	78.0 h/	N.A.	N.A.
Textiles	69.3	82.2	184.6 d/	83.0	791	85.5	868	83.5	914	78.8
Sewing	95.7	113.6	174.5	78.4	635	68.6	N.A.	N.A.	763	65.8
Fur, leather, and footwear	103.2	122.4	195.7	88.0	725	78.4	877	84.3	962	82.9
Food	81.7	96.9	172.1	77.4	672	72.7	780 h/	75.0 h/	856	73.8
Printing	108.4	128.6	224.0	100.7	886	95.8	900	86.5	N.A.	N.A.

a. For source identification numbers and methodology, see Appendix B. Unless otherwise indicated, all average earnings figures are statistically accurate to the reported number of digits.
b. Calculated from monthly averages that are statistically accurate to four digits.
c. Calculated from monthly averages that are statistically accurate to five digits.
d. Statistically accurate to three digits.
e. Mozhina reports a percentage relationship of 117.5 for the petroleum branch relative to all industry in 1950. f/ Branch coverage may exclude oil exploration activities. If so, the reported relationship for 1956 taken from the same source probably also excludes these activities.
f. Mozhina reported a percentage relationship of 105.8 for machine building and metalworking in 1950 that presumably is definitionally comparable to the 104.1 reported for 1956. The data cited by Mozhina probably include repair workers, whereas data taken from the other sources probably do not.
g. The figures reported in Trud v SSSR for the chemical industry are based on the pre-1953 system of branch classification, unlike the figures reported for the other branches of industry.
h. Statistically accurate to two digits.

The estimates of average annual money earnings of wageworkers, by branch of industry, were made by multiplying the average earnings of wageworkers in all industry by the reported percentage relationships of average earnings in each branch to that for all industry, as explained in detail in Appendix B. The percentage relationships were reported by a number of authoritative and mutually supporting sources as a single set of data stretching from 1928 to 1959. Although the various sources differ in the number of branches and years reported, they include many identical percentages, which suggests that the data have been drawn from a single basic source -- probably the "labor section" statistics of the Central Statistical Administration.*

The estimates, by branch of industry, suffer from definitional problems similar to those involved in the estimates for all industry. The branch estimates refer to the branch as defined by the USSR in the given year, and the definitions of the industrial branches have changed over the years. For example, the coke-chemical industry sometimes is included in the ferrous metallurgy branch and sometimes in the chemical branch. The lines in Table 2,** therefore, do not contain entirely comparable figures. Summaries and discussions of the many changes in branch definitions appear in Elias, Savinskiy, Fedorov, and others. 8/

Although these changes in the definitions of industry and of the various branches of industry limit the precision of the various estimates, the estimates do provide a reasonably reliable base for considering interbranch earnings and income trends, for constructing value-added weights for any given year to use in indexes of industrial production, and for some other purposes.

V. Comparison of the Estimates with Previously Published Estimates

The new estimates of average earnings of wageworkers in 1956 are compared in Table 3*** with previously published estimates of average earnings of all workers and employees in 1955,[†] both for all industry

* For a discussion of the "labor section" statistics compiled by the Central Statistical Administration and for a description of statistical collection procedures, see source 7/.

** P. 4, above.

*** Table 3 follows on p. 6.

[†] The estimates of average earnings of all industrial workers and employees in 1955, by branch of industry, which were presented in an earlier report, source 9/, were made from a number of Soviet sources that revealed average earnings in the coal industry in 1955 and the percentage relationship of average earnings in the coal industry to average earnings in other branches of industry.

Table 3

Comparison of Newly Estimated Average Money Earnings of Wogeworkers in Soviet Industry in 1956 with Previously Estimated Average Money Earnings of Workers and Employees in Soviet Industry in 1955.

Branch of Industry	Wage Workers, 1956			Workers and Employees, 1955 a/		
	Average Earnings (New Rubles)	Rank	Percent of the Average for All Industry	Average Earnings b/ (New Rubles)	Rank	Percent of the Average for All Industry
All industry	1,040		100.0	1,017		100.0
Coal	1,686	1	162.1	1,504	1	148.0
Nonferrous metallurgy	1,498	2	144.0	1,390	2	137.0
Ferrous metallurgy c/	1,345	3	129.3	1,253	3	123.0
Petroleum	1,154	4	111.0	1,131	4	111.0
Paper	1,113	5	107.0	1,083	5	107.0
Machine building and metal-working	1,083	6	104.1	1,023	7	101.0
Chemicals	1,050	7	101.0	1,034	6	102.0
Electric power	1,031	8	99.1	979	8	96.0
Logging and woodworking	974	9	93.7	948	9	93.0
Construction materials	931	10	89.5	934	10	92.0
Light	811	11	78.0	830	11	82.0
Food	780	12	75.0	712	12	70.0

a. From an earlier report (source 10/).

b. Rounded to four places from the five places given in the earlier report (see footnote a, above).

c. Including ore mining.

and for the various branches of industry. Average earnings of wage-workers in 1956 were only slightly larger than the earnings of all industrial workers and employees in 1955. The estimates for branches of industry that are compared in Table 3 also are very similar in spite of the use of different sources and methodologies in the two sets of estimates and the use of adjacent rather than identical time periods.

The level of average annual money earnings of wageworkers might be expected to be similar to that of all workers and employees. In 1955 the level of earnings of the remaining categories of workers and employees (engineering-technical workers and clerical workers, apprentices, and junior service personnel) were dispersed approximately equally above and below the average earnings of wageworkers, as follows:

	(1)	(2)	
	Percent- age of Workers and Employees, 1955	Index of Average Earnings, 1955 (Wageworkers = 100)	Percentage Relation- ship*
Wageworkers	82 <u>11/</u>	100 <u>12/</u>	82.00
Engineering-technical workers	9 <u>13/</u>	165 <u>14/</u>	14.85
Clerical workers	4 <u>15/</u>	88 <u>16/</u>	3.52
Apprentices and junior service personnel	5 (re- sidual)	60 (esti- mate)	3.00
Total (estimated aver- age earnings of all workers and employees as a percentage of the average earnings of wageworkers)			<u>103.37**</u>

* Column (1) multiplied by column (2) and divided by 100 to give the final result as a percentage.

** The earnings figures for 1955 of 1,017 rubles for workers and employees and 1,020 rubles for wageworkers given in the earlier report (see Table 3, footnote a, p. 6, above) and in this report, respectively, do not conform to the relationship indicated here. They do suggest, however, an equally close relationship between the earnings of the two categories. Furthermore, much of the apparent lack of conformity might be attributed to the use of different sources and methodology.

The high degree of correlation between the two sets of estimates, by branch of industry, presented in Table 3* also supports the assumption that average annual money earnings of wageworkers in recent years are closely representative of the average for all workers and employees -- even by branch of industry -- and hence may be used with reasonable confidence when figures on earnings of workers and employees are not available.

* P. 6, above.

APPENDIX A

COMPOSITION OF THE WAGE FUND FOR WAGeworkERS
IN SOVIET INDUSTRY

The types of payments included in the wage fund for wageworkers in Soviet industrial enterprises 17/ are listed below. Many of the types of payments are designed to compensate the piece rate worker for loss of earnings resulting from time not spent at his regular job when he is assigned temporarily to other tasks.

1. Monetary Payments for Time Worked

a. Wages

Regular wage payments based on hourly and standard piece rates.

Payments to casual workers.

b. Wage Supplements

Payments for longevity.

Payments for difficult or hazardous working conditions (to the degree that these are not already included in regular wage payments).

Payments for overtime, night, or holiday work.

Payments for service in the Far North, the Far East, and other "remote" locations.

c. Bonuses

Regular bonuses for fulfillment of production, cost reduction, and other plans.

Premium payments to workers employed under progressive piece rate systems.

d. Other Payments

Additional pay for piece rate workers temporarily transferred to jobs that pay wages below the average compensation of their permanent positions.

Additional pay to piece rate workers to compensate for loss of earnings because of unfavorable working conditions such as lack of adequate supplies of materials, unsuitable tools and equipment, and technical complications outside the competence of the worker.

Additional pay to brigadiers for organizing the work of brigades.

2. Monetary Payments for Time Not Worked

a. Ordinary Allowances

Holiday pay.

Leave pay, including sick leave.

Compensation for unused leave.

Time-off pay for nursing mothers.

Travel pay for persons who are employed in the Far North and in remote regions and who are being transported to places where leave time may be used.

Payment for working time used in the performance of temporary state, social, or military duties.

Payment to juveniles who are guaranteed full pay but are restricted by law to a 4-hour or 6-hour day and must be paid for the portion of the day not worked.

b. Contingency Allowances

Payment for time lost in work stoppages that are not the fault of the workers.

3. Monetary Payments for Education and Training

Additional pay to persons attending classes during working hours to compensate for time lost.

Payments for instructing apprentices.

Payments for supervising trainees.

4. Payments in Kind

The cost of "free" communal services such as housing and public utility services and the cost of payments in kind in those instances in which such payments are stipulated by law.

Monetary compensation in lieu of housing and public utility services where they are required by law as conditions of the job.

APPENDIX B

METHODOLOGY

1. Data in Table 1,* Estimated Average Annual Money Earnings of Wage-workers in Soviet Industry, Selected Years, 1928-61

a. 1928-35

Average monthly money earnings of wageworkers in Soviet industry for these years were reported in Trud v SSSR. 18/ The monthly averages were multiplied by 12 to obtain the annual estimates. The data for these years refer to the earnings of wageworkers in large-scale industry only, and for 1929 they also include the earnings of apprentices.

b. 1940-61

An index of average annual money earnings was computed from the various percentage changes in money and real earnings reported in Soviet publications. These reports, for various combinations of years, are described below. The average monthly money earnings level of 85 rubles in 1955, which was reported in source 19/ and the index computed from the reported data were used to obtain the levels of money earnings in the other years.

(1) 1940, 1955, and 1956

Reported figures on increases in real earnings of wage workers and changes in the price level, as measured in the official cost-of-living index of the Central Statistical Administration, from 1940 to 1955 and from 1940 to 1956 were used to establish an index of money earnings for 1955 and 1956 on a 1940 base. 20/

(2) 1945

A Soviet economist, S.P. Figurnov, in a 1960 book 21/ noted that average money earnings of wageworkers in industry rose 39 percent between 1940 and 1945.

(3) 1947

Figurnov reported that average money earnings of wage-workers in industry in 1947 were 33 percent above the level in 1945 and that the level of earnings in 1947 was 86 percent above that in

* P. 2, above.

1940. 22/ If, however, the index of 139 for 1945 with a base year of 1940 is moved by the reported 33 percent increase from 1945 to 1947, the index for 1947 would be 185 rather than the 186 reported by Figurnov. Differences in rounding probably account for this discrepancy. Figurnov's index of 186 was accepted, and, therefore, estimates for other years that are based on the 1947 level were checked for consistency with reported data on changes in real earnings and the price level. In case of disagreement, the level supported by the real earnings and price data was accepted.

(4) 1950 and 1954

Figurnov reported that average money earnings of wage-workers in industry in 1954 were 22.3 percent above those in 1947 and that the 1954 level represented a 9 percent increase above the 1950 level. 23/ Reported data on real earnings and the price level confirm the 1950 and 1954 levels. 24/ Additional confirmation was obtained from a report in Sotsialisticheskiy trud 25/ that average earnings of wageworkers in industry in 1955 were 11 percent above those in 1950 and from a report in a Soviet book 26/ that the 1954 level was 8.9 percent above that in 1950.

(5) 1953

In two publications, Figurnov reported that average money earnings of wageworkers in industry rose 5 percent from 1950 to 1953. 27/

(6) 1957

A Soviet source reported that average money earnings of wageworkers in industry in 1957 were 119 percent of the 1950 level. 28/ The 1957 level was confirmed by reported changes in real earnings and the price level. 29/

(7) 1958

The index for 1958 was based on two reports that average money earnings of wageworkers in industry equaled 111 percent of the 1955 level. 30/

(8) 1959

A Soviet source reported that average money earnings in industry increased 26 percent from 1950 to 1959. 31/ Although the source does not specify whether the increase is that for wageworkers or for all workers and employees in industry, the increases in real and money earnings given therein are compared to increases in the productivity of wageworkers, implying that the earnings data also refer to wageworkers.

(9) 1960

A Soviet source reported that average money earnings of wageworkers in industry increased 17 percent from 1955 to 1960, excluding the earnings of workers in producers' cooperatives, which were incorporated into the system of state enterprises in 1960. 32/

(10) 1961

The increase in average money earnings of wageworkers in 1961 from the 1960 level was assumed to be 4 percent, only slightly less than the 4.5 percent increase in labor productivity. This assumption was based on the concern evidenced in source 33/ about the rapid growth of earnings relative to productivity during 1961.

2. Data in Table 2,* Estimated Average Annual Money Earnings of Wageworkers in Soviet Industry, by Branch of Industry, 1928, 1935, 1950, 1956, and 1959

Average annual money earnings of wageworkers in the various branches of Soviet industry were computed by multiplying the average earnings of wageworkers in all industry for the various years by the percentage relationships of average earnings in each branch to that for all industry, as reported in the following sources.

a. 1928

Percentage relationships were reported in two or three of the three basic sources (Mozhina, 34/ Orlovskiy and Sergeyeva, 35/ and Trud v SSSR 36/) for all branches of industry included in the table except electric power, which was reported only in Trud v SSSR, and the ferrous metallurgy branch and the fur, leather, and footwear branch, which were reported only in Orlovskiy and Sergeyeva. In addition, average money earnings in some branches were reported in Trud v SSSR.

b. 1935

Percentage relationships were reported both in Trud v SSSR and in Orlovskiy and Sergeyeva for all branches of industry included in the table except electric power and printing, which were reported only in Trud v SSSR, and textiles and ferrous metallurgy, which were reported only in Orlovskiy and Sergeyeva. In addition, average money earnings in some branches were reported in Trud v SSSR. Trud v SSSR also reported percentage relationships of 107.6 and 112.8 for 1928 and 1935, respectively, for ferrous metallurgy. These relationships, however, appear to exclude ore mining.

* P. 4, above.

c. 1950

Percentage relationships were reported in Mozhina for electric power; peat; mining of nonmetallic minerals; construction materials; printing; logging and woodworking; and glass, china, and pottery. Percentage relationships were reported in Orlovskiy and Sergeyeva for petroleum, chemicals, woodworking, paper, sewing, food, and machine building and metalworking. Percentage relationships were reported in both sources for coal; ferrous metallurgy; textiles; and fur, leather, and footwear.

d. 1956

Percentage relationships were reported in Mozhina for mining of nonmetallic minerals; logging and woodworking; textiles; printing; glass, china, and pottery; and fur, leather, and footwear. Percentage relationships were reported in Aganbegyan and Mayer 37/ for nonferrous metallurgy, chemicals, paper, light, food, and woodworking. Percentage relationships were reported in both sources for electric power, coal, peat, petroleum, ferrous metallurgy, construction materials, and machine building and metalworking.

In addition, Aganbegyan and Mayer reported that, in 1956, logging alone had a relationship of 100 to the average for all industry, and woodworking had a relationship of 84. The relationship for the entire logging and woodworking industry (93.7), reported in Mozhina, falls between these two.

e. 1959

All percentage relationships were presented in Orlovskiy and Sergeyeva.

APPENDIX C

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