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APPENDIXES

APPENDIX A

Basic Tables

TABLE A-1

Indicators of Business and Labor Market Conditions in Germany, 1870-1944

Year	INDICATORS OF BUSINESS CONDITIONS				INDICATORS OF LABOR MARKET CONDITIONS					
	Industrial Production (1913=100) (1)	Wholesale Prices (1913=100) (2)	Cost of living (1913=100) (3)	Real National Income (1913=100) (4)	Reference Dates, NBER (5)	Employment Rate, Unions (percent) (6)	Employed, Sickness Insurance (millions) (7)	Employed, Workmen's Compensation (millions) (8)	Unemployed, Registered (millions) (9)	Man-days Lost Strikes (millions) (10) Lockouts (millions) (11)
1870	18	92	64	36	T					
1871	21	100	69	..						
1872	23	114	72	..	P					
1873	23	120	80	..						
1874	22	112	83	..						
1875	22	100	76	..						
1876	24	95	76	..						
1877	22	91	77	39						
1878	25	83	73	..	T					
1879	26	81	72	..						
1880	25	87	76	..						
1881	27	85	77	..						
1882	28	81	75	..	P		4.081			
1883	30	80	75	47			..			
1884	31	78	72	..			..
1885	32	75	70	..			..
1886	33	72	68	..			..
1887	35	73	68	..		99.8	..			
1888	36	75	70	..		96.2	5.191			
1889	39	82	73	..		99.8	5.613			
1890	40	86	75	64	P	97.7	5.933			
1891	41	86	77	64		96.1	6.013			
1892	40	80	76	65		93.7	6.004			
1893	42	77	75	67		97.2	6.097			
1894	45	73	74	69	T	96.9	6.208			

TABLE A-1, continued

Year	INDICATORS OF BUSINESS CONDITIONS				INDICATORS OF LABOR MARKET CONDITIONS						
	Industrial Production (1913=100) (1)	Wholesale Prices (1913=100) (2)	Cost of Living (1913=100) (3)	Real National Income (1913=100) (4)	Reference Dates, NBER (5)	Employment Rate, Unions (percent) (6)	Employed, Sickness Insurance (millions) (7)	Employed, Workmen's Compensation Registered (millions) (8)	Unemployed, Registered (millions) (9)	Strikes (millions) (10)	Man-days Lost (millions) (11)
1895	48	72	73	71		97.2		6.434			
1896	53	72	72	74		99.4		6.745			
1897	56	76	74	75		98.8		7.093			
1898	60	79	76	75		99.6		7.379			
1899	64	83	76	78		98.8		7.700		3.3	0.1
1900	65	90	77	80	P	98.0		8.005		3.2	0.5
1901	65	83	78	80		93.3		7.908		2.3	0.1
1902	69	81	78	81	T	97.1		7.955		1.3	0.7
1903	73	82	78	83	P	97.3		8.220		2.8	1.4
1904	78	82	79	85	T	97.9	11.0	8.552		3.6	1.7
1905	79	86	82	85		98.4	11.3	8.868		14.5	4.5
1906	84	92	87	87		98.8	12.0	9.272		8.2	3.4
1907	83	97	88	90	P	98.4	12.2	9.652		6.2	2.8
1908	79	90	88	93	T	97.1	12.0	9.541		2.3	1.4
1909	81	91	90	94		97.2	12.2	9.619		2.8	1.4
1910	89	93	92	95		98.1	12.7	9.979		4.6	13.2
1911	96	94	95	96		98.1	13.3	10.397		7.7	3.8
1912	99	102	100	95		98.0	13.9	10.616		7.7	3.0
1913	100	100	100	100	P	97.1	14.0 ^a	10.905		8.8	3.0
1914	83	105	103		T	92.8	14.0	...		1.7	1.1
1915	67	142	129			96.8	12.3			0.04	0
1916	64	152	170			97.8	12.2			0.2	0
1917	62	179	253		P	99.0	12.7			1.9	0
1918	57	217	313			98.8	12.7			1.5	0
1919	42	416	415		T	96.3	14.7		0.693	32.5	0.6

TABLE A-1, continued

Year	INDICATORS OF BUSINESS CONDITIONS				INDICATORS OF LABOR MARKET CONDITIONS						
	Industrial Production (1913=100) (1)	Wholesale Prices (1913=100) (2)	Cost of Living (1913=100) (3)	Real National Income (1913=100) (4)	Reference Dates, NBER (5)	Employment Rate, Unions (percent) (6)	Employed, Sickness Insurance (millions) (7)	Employed, Workmen's Compensation (millions) (8)	Unemployed, Registered (millions) (9)	Strikes (millions) (10)	Man-days Lost (11)
1920	61	1,486	1,018			96.2		...	0.366	15.4	1.4
1921	73	1,911	1,340			98.0		...	0.310	22.6	3.3
1922	78	34,208	15,040		P	98.5		...	0.077	23.4	4.3
1923	52	16,620 bill.	15,900 bill.		T	90.4		...	0.829	11.0	1.3
1924	77	136	131			86.5	16.1	11.186	0.937 ^b	13.4	22.8
1925	92	139	142	94	P	93.3	17.3	11.882	0.664	4.0	5.9
1926	87	129	142	97	T	82.0	16.0	10.447	2.068	0.8	0.4
1927	110	135	148	105		91.3	17.5	11.949	1.391	3.1	3.0
1928	113	136	152	109		91.4	18.0	12.104	1.391	8.6	11.7
1929	114	131	154	108	P	86.7	17.9	11.650	1.899	1.6	2.7
1930	99	114	148	104		77.3	16.4	10.424	3.076	3.7	0.3
1931	82	98	136	92		65.8	14.3	8.541	4.520	1.5	0.4
1932	66	86	121	82	T	56.2	12.5	7.125	5.575	1.1	0
1933	74	82	118	86			13.0	7.697	4.804	0.1	0
1934	94	87	121	95			15.0	9.296	2.718	0	0
1935	107 ^c	92	123	104			15.9	10.258	2.151 ^e	0	0
1936	119	95	124	114			17.1	11.251	1.593	0	0
1937	131	96	125	124			18.4	12.335	0.912	0	0
1938	140 ^d	95	126	137			19.5	13.318	0.430	0	0
1939	148 ^e	96	126	150			20.2	15.350	0.119	0	0
1940		102	130	150			19.0		0.052	0	0
1941		104	133	154			19.2		0.010	0	0
1942		106	137				18.4 ^f			0	0
1943		108	138				18.3 ^f			0	0
1944		110	141				20.0 ^f			0	0

(notes on next page)

Footnotes to Table A-1

^a First 11 months.

^b Change in coverage. From 1924 includes all registered unemployed, up to 1923 only "main recipients" of unemployment insurance. The 1924 and 1925 data, comparable to earlier segment, are 841,000 and 384,000 respectively.

^c Includes Saar from March 1935 on.

^d According to source, the data "as a rule" include Austria from March 1938 and Sudetenland from January 1939 (*Statistical Year-Book of the League of Nations*, 1939-40, p. 169).

^e Average of first 6 months.

^f End of March.

SOURCE, by column:

(1) Production Index of the Institut für Konjunkturforschung (IKF). The data for 1870-1918 are based on the Kaiserreich territory. The interwar data are related to 1913 production in the post-Versailles area. However, at the beginning of the interwar period the territorial changes between 1919 and 1922 are reflected in the index, i.e., these years have an upward bias. Similarly, at the end of the interwar period the addition of the Saar and in part of Austria and the Sudetenland affect the level of the index. The following sources were used:

1870-1928: *IKF Sonderheft* 31, pp. 23, 28, 56, and 58.

1928-38: *Jahrbuch* 1939-40, p. 57* (spliced to earlier series in 1928). Shifted to base 1913 = 100 by averaging producers' goods and consumers' goods, see Table 2, cols. 2 and 3. For Weights see *IKF Sonderheft* 31, p. 37.

1939: League of Nations, *Statistical Year-Book*, 1939-40, p. 169.

(2) 1870-1913 and 1924-34: *Jahrbuch* 1938, p. 321. Covers forty-five raw materials and semimanufactured goods (Jacobs-Richter Index).

1914-23: *Wirtschaft und Statistik*, 1925, "Zahlen zur Geldentwertung in Deutschland, 1913 bis 1923" p. 5. Covers 38 commodities (18 foods, 20 raw materials).

1935-45: *Handbuch* 1928-44, p. 459. Covers 45 raw materials and semimanufactured goods (Jacobs-Richter Index).

(3) Appendix Tables A-11, col. 1 and its sources; A-33, col. 1; and A-41, col. 2.

(4) 1870, -77, -83 and -90: National income, see Paul Jostock, "The Long-term Growth of National Income in Germany," International Association for Research in Income and Wealth, *Income and Wealth*, Series V, p. 118. Deflated by cost-of-living index, (see col. 3).

1891-1913: For national income, see "Das deutsche Volkseinkommen, vor und nach dem Kriege," *Einzelchriften zur Statistik des deutschen Reichs*, No. 24, pp. 31 and 32. Deflated by cost-of-living index, (see col. 3).

1925-41: Paul Jostock, "The Growth of National Income and National Wealth in Germany," Report to the *International Association for Research in Income and Wealth* (unpublished).

(5) Arthur F. Burns and Wesley C. Mitchell, *Measuring Business Cycles* (National Bureau of Economic Research, 1946), p. 70. P = peak; T = trough.

(6) 1887-1903: Jürgen Kuczynski, "Germany, 1800 to the Present Day" (for full title, see note to Appendix Table A-2, Part I). Figures are Kuczynski's estimates of unemployment among industrial workers (based on labor market and membership reports of health and accident insurance associations).

1904-13 and 1919-23: W. Woytinsky, *Der Deutsche Arbeitsmarkt; Ergebnisse der gewerkschaftlichen Arbeitslosenstatistik 1919 bis 1929* (Berlin, Verlagsgesellschaft des Allgemeinen Deutschen Gewerkschaftsbundes, 1930), pp. 102 and 121.

1913-18: *Jahrbuch* 1920, p. 261.

1924-32: *Reichsarbeitsblatt*, *passim*.

(7) 1904 and 1924-27: Computed from data in *Reichsarbeitsblatt*, *passim*. Spliced to IKF series, using Kuczynski's estimate for 1913-14. See Jürgen and Marguerite Kuczynski, *Die Lage des deutschen Industriearbeiters, 1913-14 und 1924 bis 1930* (Berlin, 1931), p. 8.

1928-29: *IKF Handbuch* 1936, p. 12.

1929-38: *IKF Statistik des In- und Auslands*, *passim*.

1930 and 1931: Our estimates. Interpolated on basis of unrevised series, *IKF Handbuch* 1936, p. 12.

Footnotes to Table A-1, *concluded*

1938-45: *Handbuch* 1928-44, p. 478, spliced to IKF series in 1938.

(8) F. Grumbach and H. König, "Beschäftigung und Löhne der deutschen Industrie-
wirtschaft, 1888-1954," *Weltwirtschaftliches Archiv*, 1957-I, pp. 128-29, Table 2.

(9) 1919-23: Robert R. Kuczynski, "Postwar Labor Conditions in Germany,"
Bureau of Labor Statistics, *Bul.* 380, 1925, pp. 157, ff.

1924-28: *IKF Handbuch* 1933, p. 15 (linked to later series in 1928).

1928-42: *Handbuch* 1928-44, p. 484.

(10 and 11) *Jahrbuch* 1934, p. 321. Data for 1925 taken from *Jahrbuch* 1933, p. 311.

TABLE A-2
Money Wages, All Industry, 1871-1944
(1913 = 100)
Part I: 1871-1913

Year	Average Weekly Earnings	Year	Average Weekly Earnings	Year	Average Weekly Earnings
1871	51	1885	58	1900	75
1872	57	1886	58	1901	74
1873	63	1887	59	1902	74
1874	65	1888	62	1903	75
		1889	64	1904	77
1875	64	1890	65	1905	80
1876	59	1891	65	1906	84
1877	56	1892	65	1907	89
1878	56	1893	65	1908	88
1879	53	1894	65	1909	89
1880	54	1895	65	1910	91
1881	54	1896	68	1911	93
1882	56	1897	68	1912	96
1883	57	1898	71	1913	100
1884	57	1899	73		

The only wage measure for the 1871-1913 period that aims at comprehensive coverage is the wage index constructed by Jürgen Kuczynski, given here with base shifted to 1913. The original series is in *Germany, 1800 to the Present Day* (Vol. III, Part I of *A Short History of Labour Conditions under Industrial Capitalism*, London, 1945), p. 128. It is based on a great number of weekly, daily, and in some cases, annual series of rates or earnings; it does not include any hourly wage data. Because of the type of wage data included, the index is affected by the long-term changes in normal or actual working hours. The following industries are included: metals, textiles, wood, printing, chemicals, transportation, mining, building.

(continued on next page)

Table A-2, *continued*
Part II: 1913-1923

<i>Year</i>	<i>Weekly Earnings of Ruhr Miners</i>	<i>Year</i>	<i>Weekly Earnings of Ruhr Miners</i>
1913	100	1919	340
1914	100	1920 Dec.	990
1915	110	1921 Dec.	1,780
1916	130	1922 Dec.	45,230
1917	160	1923 Dec.	86,200 billions
1918	200		

No comprehensive index numbers are available for the war and inflation period. Average weekly wages of coal miners in the Ruhr district were chosen to represent the tendencies during that decade because they corresponded well to the indexes which are available for segments of the period 1913-23, as follows:

- (a) From the first 6 months of 1913 to the last 6 months of 1918 the weekly wages of coal miners in the Ruhr district increased by 123 percent, while average daily earnings of male workers in 12 industries increased by 141 percent from March 1914 to September 1918.
- (b) From 1913 to April 1922 (first month in which comprehensive data are available) miners' wages rose 26.1 times, while average weekly wages of skilled and unskilled workers in 8 industries rose 27.6 times.
- (c) From 1913 to the end of the hyperinflation, miners' wages rose 862 billion times, while average weekly wages of skilled and unskilled workers in 8 industries rose 871 billion times.

SOURCE: *Wirtschaft und Statistik*, 1925; "Zahlen zur Geldentwertung in Deutschland, 1914 bis 1924," p. 41.

(continued on next page)

TABLE A-2, *continued*
Part III: 1913-14 and 1924-1944

Year	Hourly Wages		Weekly Wages	
	Rates (1)	Earnings (2)	Rates (3)	Earnings (4)
1913-14	100	100	100	100
1924	107	112	99	91
1925	135	146	124	123
1926	146	155	134	128
1927	154	169	141	143
1928	168	190	151	164
1929	177	200	158	169
1930	180	194	...	155
1931	171	180	...	137
1932	144	151	...	113
1933	140	146	...	115
1934	140	150	...	124
1935	140	152	...	127
1936	140	155	...	132
1937	140	158	...	136
1938	141	163	...	143
1939	141	168	...	148
1940	141	172 ^a	...	153 ^a
1941	143	180	...	163
1942	144	183	...	164
1943	144	184	...	164
1944	144	184	...	162

^a From 1940 on including the "Ostmark."

The wage rate statistics compiled by the Statistische Reichsamts cover the most important centers for each of 12 industries, 1913 and 1924-27, and for each of 17 industries, 1928 on. In each industry the wage rates are a combination of minimum time rates and minimum standard piece rate for adults in selected representative occupations. The rates for the selected occupations are not, of course, necessarily the average rates paid for the skill groups which they represent. The standard piece rates are usually about 15 percent above comparable time rates and are designed to provide a minimum of hourly earnings to be realized by the *average* piece worker in the selected occupation. Thus, neither time nor piece rates are minimum rates for all workers in the broad skill groups which the selected occupations represent. Sources and other details for the several series are:

(notes continue on next page)

Table A-2, *concluded*

SOURCE:

Hourly Rates

1913, 1924, and 1925: Rates for skilled and unskilled workers in 12 industries, *Wirtschaft und Statistik*, 1926, p. 51, and *Jahrbuch 1927*, pp. 318-21. Average of skilled and unskilled workers (weighted 2.5 and 1.0) our estimate. (Adjusted to level of later segment in 1925.)

1925-42: *Wirtschaft und Statistik* and *Reichsarbeitsblatt*, *passim*. Based on 12 industries up to 1927, and on 17 industries thereafter; level of entire series based on average for 17 industries.

1943: Our estimate. Based on 1942-43 change of hourly rates in five skill and sex groups (unweighted average).

1944: Assumed to equal 1943.

Weekly Rates

Average of skilled and unskilled workers (weighted 2.5 and 1.0) our estimate.

1913: *Jahrbuch 1927*, p. 320.

1924-25: *Wirtschaft und Statistik*, 1926, p. 51.

1926: *Jahrbuch 1927*, p. 320.

1927: *Wirtschaft und Statistik*, 1927, *passim*.

1927-28: *Wirtschaft und Statistik*, 1929, p. 53.

1928-29: *Wirtschaft und Statistik*, 1930, p. 148.

Level of series based on latest segment.

Earnings, Weekly and Hourly

1913 and 1925: *Wirtschaft und Statistik*, 1938, p. 157 and 1939, p. 520.

1924: Our estimate; based on change of rates 1924-25 and average relationship of change in earnings to change in rates during 1925-29.

1926: Interpolated between 1925 and 1927 on basis of hourly rates.

1927: Read from graph in *Vierteljahrshefte zur Statistik des deutschen Reichs*, hereafter referred to as *Vierteljahrshefte*, 1943, v, p. 20.

1928-44: *Handbuch 1928-44*, p. 472.

TABLE A-3
 Wages of Printers, 1871-1943
 Part I: Three Cities,^a 1871-1913

Year	AVERAGE WEEKLY RATES				AVERAGE HOURLY RATES		
	<i>Berlin</i>	<i>Hanover</i>	<i>Munich</i>	<i>Average, 3 Cities</i>		<i>Average, 3 Cities</i>	
	(marks) (1)	(marks) (2)	(marks) (3)	(marks) (1913=100) (4)	(marks) (1913=100) (5)	(pfgs.) (1913=100) (6)	(pfgs.) (1913=100) (7)
1871	16.70 ^b	16.70 ^b	18.86 ^b	17.42	53	29.0	46
1872	22.50	22.50	18.86	21.29	65	35.5	56
1873 ^e	26.00	22.43	21.45	23.29	71	40.7	64
1874	26.00	22.43	21.45	23.29	71	40.7	64
1875	26.00	22.43	21.45	23.29	71	40.7	64
1876 ^d	24.38	21.94	21.45	22.59	68	39.5	62
1877	24.38	21.94	21.45	22.59	68	39.5	62
1878 ^e	23.40	21.45	21.13	21.99	67	38.4	60
1879	23.40	21.45	21.13	21.99	67	38.4	60
1880	23.40	21.45	21.13	21.99	67	38.4	60
1881	23.40	21.45	21.13	21.99	67	38.4	60
1882	23.40	21.45	21.13	21.99	67	38.4	60
1883	23.40	21.45	21.13	21.99	67	38.4	60
1884	23.40	21.45	21.13	21.99	67	38.4	60
1885	23.40	21.45	21.13	21.99	67	38.4	60
1886 ^e	24.60	22.55	22.55	23.23	70	40.6	64
1887	24.60	22.55	22.55	23.23	70	40.6	64
1888	24.60	22.55	22.55	23.23	70	40.6	64
1889	24.60	22.55	22.55	23.23	70	40.6	64
1890 ^f	25.63	23.58	23.58	24.26	74	42.4	67
1891	25.63	23.58	23.58	24.26	74	42.4	67
1892	25.63	23.58	23.58	24.26	74	44.7	70
1893	25.63	23.58	23.58	24.26	74	44.7	70
1894	25.63	23.58	23.58	24.26	74	44.7	70
1895	25.63	23.58	23.58	24.26	74	44.7	70
1896 ^d	26.25	24.15	24.68	25.03	76	46.1	73
1897	26.25	24.15	24.68	25.03	76	46.1	73
1898	26.25	24.15	24.68	25.03	76	46.1	73
1899	26.25	24.15	24.68	25.03	76	46.1	73
1900	26.25	24.15	24.68	25.03	76	46.1	73
1901	26.25	24.15	24.68	25.03	76	46.1	73
1902 ^f	28.13	25.88	26.44	26.82	81	49.4	78
1903	28.13	25.88	26.44	26.82	81	49.4	78
1904	28.13	25.88	26.44	26.82	81	49.4	78
1905	28.13	25.88	26.44	26.82	81	49.4	78
1906	28.13	25.88	26.44	26.82	81	49.4	78
1907 ^f	31.25	28.75	29.37	29.79	90	55.7	88
1908	31.25	28.75	29.37	29.79	90	55.7	88
1909	31.25	28.75	29.37	29.79	90	55.7	88
1910	31.25	28.75	29.37	29.79	90	55.7	88
1911	31.25	28.75	29.37	29.79	90	55.7	88
1912 ^f	34.38	31.62	33.00	33.00	100	63.5	100
1913	34.38	31.62	33.00	33.00	100	63.5	100

TABLE A-3, *continued*
Part II: All Cities, 1913 and 1924-1943

Year	Weekly Rates ^a		Hourly Rates ^b	
	(marks) (1)	(1913 = 100) (2)	(pfennigs) (3)	(1913 = 100) (4)
1913	34.38	100	61.0	100
1924	32.56	95	62.0	102
1925	45.00	131	88.8	146
1926	48.00	140	95.9	157
1927	50.86	148	101.7	167
1928	55.12	160	110.2	181
1929	57.88	168	115.7	190
1930	58.50	170	116.9	192
1931	55.60	162	111.1	182
1932	47.87	139	95.7	157
1933	...	...	95.7	157
1934	...	...	95.7	157
1935	...	...	95.7	157
1936	...	...	95.7	157
1937	...	...	95.7	157
1938	...	...	95.7	157
1939	...	...	95.7	157
1940	...	...	95.7	157
1941	...	...	95.7	157
1942	...	...	95.8	157
1943	...	...	95.8	157

^a Berlin, Hanover, and Munich.

^b Our estimate, based on piece rates for compositors.

^c From May 9th.

^d From July 1st.

^e From October 1st.

^f From January 1st.

^g Highest city-size class.

^h All city-size classes.

SOURCE, Part I:

Weekly rates

Jürgen Kuczynski, "Germany 1800 to the Present Day," p. 192.

Hourly rates

Our estimates based on weekly rates and data on hours worked per week, as published by Jürgen Kuczynski, *op. cit.*, p. 144; Robert Kuczynski, *Arbeitslohn und Arbeitszeit in Europa und Amerika, 1870-1909* (Berlin, 1913), pp. 567-69; and *Jahrbuch 1926*, p. 288.

Part II:

Weekly and hourly rates

1913-April 1930: *Jahrbuch 1924-25*, p. 284; *Jahrbuch 1926*, p. 288; *Jahrbuch 1927*, pp. 319, 321; *Jahrbuch 1929*, p. 261.

Weekly rates

May 1930-1932: Our estimate based on average hourly union rates (*Vierteljahrshefte*, 1931, Part II, p. 105), assuming a 48-hour workweek. Adjusted to level of preceding segment.

Hourly rates

May 1930-1944: *Vierteljahrshefte*, 1931, Part II, p. 105; *Wirtschaft und Statistik, passim*; *Reichsarbeitsblatt, passim*. Adjusted to level of preceding segment.

TABLE A-4

Hourly Wage Rates of Building Workers, 1871-1943
Part I: Berlin, Nuremberg, and Rostock, 1871-1913

Year	SKILLED					UNSKILLED					ALL WORKERS										
	Berlin		Nuremberg		Rostock		Berlin		Nuremberg		Rostock		Average, 3 Cities								
	<i>Pfennigs</i> (1)	<i>Pfennigs</i> (2)	<i>Pfennigs</i> (2)	<i>Pfennigs</i> (2)	<i>Pfennigs</i> (3)	<i>Pfennigs</i> (3)	<i>Pfennigs</i> (4)	<i>Pfennigs</i> (4)	<i>Pfennigs</i> (5)	<i>Pfennigs</i> (5)	<i>Pfennigs</i> (6)	<i>Pfennigs</i> (6)	<i>Pfennigs</i> (7)	<i>Pfennigs</i> (7)	<i>Pfennigs</i> (8)	<i>Pfennigs</i> (8)	<i>Pfennigs</i> (9)	<i>Pfennigs</i> (9)	<i>Pfennigs</i> (10)	<i>Pfennigs</i> (10)	<i>Pfennigs</i> (11)	Pfennigs (12)
1871	27.5	20.5	22.5	23.5	34	14	16	16.3	32	19.9	33										
1872	42.5	24	26	30.8	44	17	16	20.2	40	25.5	42										
1873	45	28.5	27.5	33.7	49	18.5	20 ^a	23.3	46	28.5	48										
1874	45	29.5	27.5	34.0	49	19.5	20.5	23.7	47	28.8	48										
1875	45	31	32.5	36.2	52	20.5	23 ^a	24.7	49	30.4	51										
1876	45	31.5	37.5	38.0	55	20.5	25	24.8	49	31.4	52										
1877	39 ^a	31.5	35	35.2	51	20	23	22.5	44	28.8	48										
1878	36	32	35	34.3	50	20	22.5	21.7	43	28.0	47										
1879	33 ^a	31	32	32.0	46	21	21	20.7	41	26.3	44										
1880	33 ^a	32	32	32.2	47	23 ^a	20.5	21.2	42	26.8	45										
1881	32.5	32	32	32.2	46	22.5 ^a	20.5	20.3	40	26.3	44										
1882	30	29	32	30.3	44	25	20	21.0	41	25.7	43										
1883	37.5	29	32	32.8	47	25 ^a	20	21.0	41	26.9	45										
1884	40.5 ^a	30	32	34.2	49	25	20	21.0	41	27.6	46										
1885	45	32	32	36.3	52	27	21	22.0	43	29.2	49										
1886	50	32	35	39.0	56	27.5	20	22.0	43	30.5	51										
1887	50	32	35	39.0	56	28	22.5	23.5	46	31.3	52										
1888	50	32	37	39.7	57	30	25	25.0	49	32.3	54										
1889	55	32.5	40	42.5	61	32.5	25	26.2	52	34.3	57										

TABLE A-4, continued

Year	SKILLED				UNSKILLED				ALL WORKERS		
	Berlin		Rostock		Berlin		Rostock		Average, 3 Cities		
	<i>pfennigs</i> (1)	<i>pfennigs</i> (2)	<i>pfennigs</i> (3)	<i>pfennigs</i> (4)	<i>pfennigs</i> (6)	<i>pfennigs</i> (7)	<i>pfennigs</i> (8)	<i>pfennigs</i> (9)	<i>pfennigs</i> (11)	<i>pfennigs</i> (12)	
1890	55	36	42	44.3	35	22	26	27.7	55	36.0	60
1891	55	37	42	44.3	35	22	26	27.7	55	36.0	60
1892	55	37	42	44.7	35	23	26	28.0	55	36.3	61
1893	55	37	42	44.7	35	23	26	28.0	55	36.3	61
1894	52.5	37	42	43.8	34	23	26	27.7	55	35.8	60
1895	50	38	42	43.3	32.5	24	26	27.5	54	35.4	59
1896	55	39	42	45.3	35	25	26	28.7	57	37.0	62
1897	55	40	42	45.7	32.5	26	26	28.2	56	36.9	62
1898	60	42	42	48.0	35	27	28	30.0	59	39.0	65
1899	60	43	44	49.0	35	27	28	30.0	59	39.5	66
1900	62.5	43	44	49.8	40	27	29	32.0	63	40.9	68
1901	65	43	45	51.0	40	27	29	32.0	63	41.5	69
1902	65	43	45	51.0	40	28	29	32.3	64	41.7	70
1903	67.5	43	45	51.8	45	28	30	34.3	68	43.1	72
1904	70	47	47	54.7	45	30	31	35.3	70	45.0	75
1905	73	51	47	57.0	48	33	31	37.3	74	47.2	79
1906	75	54 ^a	50	59.7	50	35	32	39.0	77	49.3	82
1907	75	56	50	60.3	50	40	36	42.0	83	51.2	85
1908	75	59	53	62.3	50	43	38	43.7	86	53.0	88
1909	78 ^a	60	55 ^a	64.3	50 ^a	45	40	45.0	89	54.7	91
1910	80	60	56	65.3	55	47	41	47.7	94	56.5	94
1911	80	62	58 ^a	66.7	54 ^a	49.5 ^a	43 ^a	48.8	96	57.8	96
1912	80	63	60	67.7	54 ^a	50.5 ^a	44 ^a	49.5	98	58.6	98
1913	82	64 ^a	62 ^a	69.3	55 ^a	51 ^a	46	50.7	100	60.0	100

TABLE A-4, continued
Part II: All Cities, 1913 and 1924-1943

Year	SKILLED		UNSKILLED		ALL WORKERS	
	(pfennigs)	(1913 = 100)	(pfennigs)	(1913 = 100)	(pfennigs)	(1913 = 100)
1913	64.5	100	48.5	100	56.5	100
1924	65.4	101	53.1	109	59.2	105
1925	94.0	146	75.0	155	84.5	150
1926	103.8	161	80.7	166	92.2	163
1927	108.0	167	83.8	173	95.9	170
1928	115.5	179	90.5	187	103.0	182
1929	123.1	191	96.9	200	110.0	195
1930	125.2	194	98.5	203	111.8	198
1931	116.7	181	91.5	189	104.1	184
1932	92.0	143	72.4	149	82.2	145
1933 ^b	81.5	126	65.2	134	73.4	130
1934	81.1	126	64.8	134	73.0	129
1935	81.1	126	64.9	134	73.0	129
1936	81.2	126	65.0	134	73.1	129
1937	81.6	127	65.6	135	73.6	130
1938	81.7	127	65.6	135	73.6	130
1939	82.3	128	66.0	136	74.2	131
1940	82.9	129	67.0	138	75.0	133
1941 ^c	84.4	131	67.7	140	76.0	135
1942	84.9	132	68.1	140	76.5	135
1943	84.9	132	68.1	140	76.5	135

Part I and Part II are not comparable. However, judged by their behavior during the interwar period, the data for the three cities are fairly representative. Between January 1924 and December 1929 the rates for skilled workers in the three cities increased by 245 percent; those in all cities by 246 percent; the corresponding

increases in the rates of unskilled workers were 232 percent and 228 percent respectively.

^a Our estimates.

^b From 1933 to 1940 for April of each year.

^c From 1941 on, for December of each year.

Notes to Table A-4

SOURCE:

1871-1908: Robert Kuczynski, *Die Entwicklung der Gewerblichen Löhne seit der Begründung des deutschen Reiches* (Berlin, 1909). pp. 38 ff. For the period 1871-79, averages for unskilled and for the total were computed by using estimates of rates for unskilled workers in Berlin. These estimates were based on the rates of skilled workers in Berlin, and on skill differentials as observed in Nuremberg and Rostock.

1909: Our estimate. Interpolated on the basis of hourly rates of masons and carpenters and unskilled building workers in Chemnitz and Halle (see Franz Thieme, "Die Entwicklung der Preise und ihre Bedeutung für die wirtschaftliche Lage der Bevölkerung in der Stadt Halle"; and Hermann Hennig, "Die Entwicklung der Preise in der Stadt Chemnitz," both published in Verein für Sozialpolitik, *Schriften*, Vol. 145 (Munich and Leipzig), 1914.

1910-13: Waldemar Zimmermann, "Die Veränderung der Einkommens- und Lebensverhältnisse der deutschen Arbeiter durch den Krieg," in *Die Einwirkung des Krieges auf Bevölkerungsbewegung, Einkommen und Lebenshaltung in Deutschland, Wirtschafts- und Sozialgeschichte des Weltkrieges* (Carnegie Foundation for International Peace, Stuttgart, Deutsche Verlags-Anstalt, 1932), pp. 398-99.

1913 and 1924-27: *Wirtschaft und Statistik, passim*. Spliced to later series in January 1928.

1928-30: *Vierteljahrshefte*, 1931, Vol. II, pp. 104-5.

1931-43: *Wirtschaft und Statistik*, and *Reichsarbeitsblatt, passim*.

TABLE A-5

Weekly Wage Rates of Building Workers, 1871-1930
Part I: Berlin, Nuremberg, and Rostock, 1871-1913

Year	SKILLED						UNSKILLED				ALL WORKERS			
	Berlin		Nuremberg		Rostock		Berlin		Nuremberg		Rostock		Average 3 Cities	
	marks (1)	marks (2)	marks (3)	marks (4)	marks (5)	marks (6)	marks (7)	marks (8)	marks (9)	marks (10)	marks (11)	marks (12)		
1871	18.00	13.44	15.00	15.48	39	12.24	9.18	10.50	10.64	36	13.1	38		
1872	25.50	16.08	17.22	19.60	50	17.34	11.04	10.50	12.96	43	16.3	47		
1873	27.00	18.72	18.00	21.24	54	18.36	12.06	12.25	14.22	48	17.7	51		
1874	27.00	20.04	18.00	21.68	55	18.36	12.66	13.50	14.84	50	18.3	53		
1875	27.00	20.46	19.50	22.32	56	18.36	12.78	13.80	14.98	50	18.7	54		
1876	25.32	20.58	22.50	22.80	58	17.22	13.20	15.00	15.14	51	19.0	55		
1877	23.55	20.16	21.00	21.57	55	16.02	12.78	13.80	14.20	47	17.9	52		
1878	21.75	20.52	21.00	21.09	53	14.70	13.32	13.50	13.84	46	17.5	50		
1879	19.50	20.04	19.20	19.58	50	13.32	13.26	12.60	13.06	44	16.3	47		
1880	19.50	20.34	19.20	19.68	50	13.32	12.72	12.30	12.78	43	16.2	47		
1881	19.50	20.46	19.20	19.72	50	13.32	12.36	12.30	12.66	42	16.2	47		
1882	18.00	19.50	19.20	18.90	48	12.24	12.18	12.00	12.14	41	15.5	45		
1883	22.50	19.08	19.20	20.26	51	15.30	12.18	12.00	13.16	44	16.7	48		
1884	22.50	19.62	19.20	20.44	52	15.30	12.00	12.00	13.10	44	16.8	48		
1885	26.82	20.82	19.20	22.28	56	16.44	12.42	12.60	13.82	46	18.1	52		
1886	29.76	20.58	21.00	23.78	60	16.98	12.54	12.00	13.84	46	18.8	54		
1887	29.76	20.70	21.00	23.82	60	17.58	12.72	13.50	14.60	49	19.2	55		
1888	30.00	20.76	22.20	24.32	62	18.60	13.02	15.00	15.54	52	19.9	57		
1889	33.78	21.90	24.00	26.56	67	20.58	13.92	15.00	16.50	55	21.5	62		
1890	33.18	21.66	25.20	26.68	68	20.40	13.44	15.60	16.48	55	21.6	62		
1891	33.12	21.84	25.20	26.72	68	20.94	13.62	15.60	16.72	56	21.7	63		
1892	32.88	21.90	25.20	26.66	67	20.34	13.80	15.60	16.58	55	21.6	62		
1893	33.00	21.84	25.20	26.68	68	20.76	13.74	15.60	16.70	56	21.7	63		
1894	33.00	22.02	25.20	26.74	68	20.34	13.68	15.60	16.54	55	21.6	62		

TABLE A-5, continued

Year	SKILLED					UNSKILLED					ALL WORKERS	
	Berlin		Nuremberg		Rosstock	Berlin		Nuremberg		Rosstock	Average 3 Cities	
	marks (1)	marks (2)	marks (3)	marks (4)	marks (5)	marks (6)	marks (7)	marks (8)	marks (9)	marks (10)	marks (11)	marks (12)
1895	30.54	22.74	25.20	26.16	66	20.04	14.22	15.60	16.62	56	21.4	62
1896	30.90	23.40	25.20	26.50	67	20.46	15.18	15.60	17.08	57	21.8	63
1897	30.42	24.60	25.20	26.74	68	19.56	16.02	15.60	17.06	57	21.9	63
1898	32.64	25.44	25.20	27.76	70	20.88	16.26	15.60	17.58	59	22.7	65
1899	32.58	25.92	26.40	28.30	72	21.66	16.26	16.80	18.24	61	23.3	67
1900	33.90	25.98	26.40	28.76	73	24.90	16.44	16.80	19.38	65	24.1	69
1901	35.40	25.80	27.00	29.40	74	23.64	16.44	17.40	19.16	64	24.3	70
1902	35.28	25.68	27.00	29.32	74	23.88	16.68	17.40	19.32	65	24.3	70
1903	36.45	25.80	27.00	29.75	75	24.30	16.80	18.00	19.70	66	24.7	71
1904	37.80	26.22	28.20	30.74	78	24.30	17.10	18.60	20.00	67	25.4	73
1905	39.42	28.50	28.20	32.04	81	25.92	18.24	18.60	20.92	70	26.5	76
1906	40.50	28.50	30.00	33.00	84	27.00	18.24	19.20	21.48	72	27.2	78
1907	40.50	31.35	30.00	33.95	86	27.00	21.66	21.60	23.42	78	28.7	83
1908	40.50	33.06	31.80	35.12	89	27.00	22.80	22.80	24.20	81	29.7	86
1909	40.50	33.63	33.00	35.71	90	27.00	22.80	24.00	24.60	82	30.2	87
1910	40.50	34.20	33.60	36.10	91	27.00	26.79	24.60	26.13	87	31.1	90
1911	42.12	35.34	34.80	37.42	95	28.62	27.93	26.40	27.65	92	32.5	94
1912	43.20	35.91	36.00	38.37	97	29.70	29.07	27.60	28.79	96	33.6	97
1913	44.28	37.05	37.20	39.51	100	30.78	30.21	28.80	29.93	100	34.7	100

TABLE A-5, continued
Part II: Selected Cities, 1913 and 1924-1930

Year	SKILLED		UNSKILLED		ALL WORKERS	
	(marks)	(1913 = 100)	(marks)	(1913 = 100)	(marks)	(1913 = 100)
1913	37.88	100	29.76	100	33.82	100
1924 ^a	34.80	92	29.59	99	32.19	95
1925	50.82	134	42.06	141	46.44	137
1926	55.16	146	44.68	150	49.92	148
1927	57.78	153	47.18	159	52.48	155
1928	62.20	164	50.89	171	56.55	167
1929	65.78	174	54.26	182	60.02	177
1930	67.25	178	55.43	186	61.34	181

^a From 1924 on, all figures are averages for April and October. The figures for 1930 refer to April only.
SOURCE: 1871-1913: Jürgen Kuczynski, *Germany 1800 to the Present Day*, pp. 178-81. For the years indicated below, estimates were derived by us as follows:

Weekly wage rates of masons in Berlin in 1878 and 1879, interpolated on basis of changes in daily rates for carpenters; in 1877 and 1880, derived by linear interpolation. Weekly wage rates of unskilled building workers in Nuremberg and Rostock from 1871 to 1902, and in Berlin from 1885 to 1902, estimated from daily

wage rates of unskilled building workers in these cities, based on a normal 6 day workweek. Wage rates of unskilled building workers in Rostock 1873 and 1875, interpolated on basis of masons' wage rates in Rostock; for Berlin 1871, rate for Hamburg substituted. For Berlin 1872-84, rates of unskilled building workers based on change in rates of skilled.

For 1913 to April 1928, *Jahrbuch* 1928, p. 371. (Refers to 23 cities.) For April 1928 to April 1930, *Jahrbuch* 1929, p. 259, and *Jahrbuch* 1930, p. 301. (Refers to 34 cities.)

TABLE A-6
Average Earnings per Shift, Hewers and Haulers, Ten Centers, 1889-1932
(marks)
Part I: 1889-1913

Year	Hard Coal					Lignite		Salt		Ore		All Mines Average, 10 centers (marks) (1913=100)
	Upper Silesia	Lower Silesia	Dortmund	Saar District	Aachen and Left Rhine	Halle	Halle	Halle	Halle	Upper Harz	Siegen- Nassau	
1889	2.31	2.40	3.42	3.44	3.05	2.60	3.26	2.98	2.30	2.60	2.84	58.2
1890	2.71	2.67	3.98	4.09	3.42	2.84	3.48	3.15	2.31	2.71	3.14	64.3
1891	2.83	2.74	4.08	4.21	3.56	2.90	3.63	3.31	2.32	2.55	3.21	65.8
1892	2.79	2.67	3.87	4.23	3.28	2.89	3.81	3.16	2.33	2.48	3.15	64.5
1893	2.74	2.60	3.71	3.83	3.18	2.83	3.69	2.74	2.33	2.41	3.01	61.7
1894	2.79	2.59	3.73	3.68	3.15	2.79	3.65	2.61	2.35	2.38	2.97	60.9
1895	2.78	2.64	3.75	3.70	3.20	2.86	3.56	2.72	2.35	2.37	2.99	61.3
1896	2.82	2.68	3.90	3.73	3.30	2.94	3.65	2.95	2.38	2.77	3.11	63.7
1897	2.91	2.80	4.32	3.80	3.57	3.05	3.81	3.09	2.40	3.04	3.28	67.2
1898	3.09	2.89	4.55	3.90	3.74	3.15	3.81	3.22	2.45	3.15	3.40	69.7
1899	3.27	3.04	4.84	3.99	3.93	3.32	3.85	3.41	2.47	3.59	3.57	73.2
1900	3.57	3.27	5.16	4.11	4.45	3.58	4.01	3.60	2.51	3.79	3.80	77.9
1901	3.52	3.15	4.98	4.09	4.34	3.56	4.07	3.50	2.58	3.44	3.72	76.2
1902	3.35	2.91	4.57	4.07	4.22	3.37	3.83	2.98	2.59	3.04	3.49	71.5
1903	3.37	2.93	4.64	4.12	4.26	3.42	3.85	3.09	2.60	3.17	3.54	72.5
1904	3.39	3.00	4.78	4.22	4.39	3.50	3.90	3.26	2.65	3.18	3.63	74.4
1905	3.50	3.15	4.84	4.29	4.60	3.66	4.03	3.41	2.72	3.44	3.76	77.0
1906	3.69	3.29	5.29	4.40	4.96	3.88	4.14	3.64	2.84	4.06	4.02	82.4
1907	4.00	3.57	5.98	4.57	5.28	4.10	4.35	3.74	3.20	4.43	4.32	88.5
1908	4.04	3.59	5.86	4.63	5.17	4.04	4.26	3.51	3.41	3.88	4.24	86.9
1909	3.97	3.47	5.33	4.51	5.01	3.97	4.18	3.55	3.52	3.66	4.12	84.4
1910	3.91	3.46	5.37	4.50	5.05	4.01	4.34	3.70	3.59	3.86	4.18	85.7
1911	3.98	3.54	5.55	4.60	5.19	4.16	4.67	3.87	3.62	4.03	4.32	88.5
1912	4.22	3.71	6.02	4.83	5.56	4.20	4.89	4.02	3.82	4.34	4.56	93.4
1913	4.71	3.99	6.47	5.18	5.99	4.31	4.83	4.50	4.27	4.56	4.88	100.0

TABLE A-6, continued

Part II: 1912-1932

Year	Hard Coal				Lignite		Salt		Ore		All Mines	
	Upper Silesia		Lower Silesia		Aachen and Left Lower Rhine		Saar District		Dortmund		Dortmund	Saar District
	Upper Silesia	Lower Silesia	Dortmund	Lower Silesia	Halle	Halle	Halle	Halle	Halle	Upper Harz	Siegen-Nassau	Average, 10 centers (marks) (1913=100)
1912	4.60	3.78	6.30	4.83	5.56	4.11	5.10	4.07	4.18	4.34	4.69	94.4
1913	5.13	4.08	6.75	5.18	5.99	4.22	5.04	4.16	4.59	4.56	4.97	100.0
1914	5.09	4.13	6.48	5.03	5.79	4.19	4.98	4.13	4.57	4.44	4.88	98.2
1915	5.74	4.40	7.10	5.16	6.37	4.59	5.14	4.95	5.53	4.97	5.40	108.7
1916	6.94	5.10	8.52	6.20	7.67	5.23	5.96	6.28	7.29	6.51	6.51	131.0
1917	8.60	6.49	10.70	8.66	9.68	6.34	7.08	7.97	8.40	7.27	8.12	163.4
1918	11.67	8.73	13.47	11.24	12.79	8.14	9.40	9.45	10.76	9.25	10.49	211.1
1919	20.56	16.02	23.06	17.86	21.78	14.82	15.99	14.38	16.94	16.13	17.75	357.1
1920	48.18	43.53	58.26	...	54.56	37.13	38.47	37.94	39.10	40.96	44.24 ^a	890.0 ^a
1921	73.86	61.91	80.68	...	77.83	58.72	60.44	55.16	58.91	59.78	65.25 ^a	1312.9 ^a
1922	658.07	551.63	704.68	...	678.12	570.53	673.53	546.07	530.36	580.56	610.39 ^a	12281.7 ^a
1923	...	...	...	...	...	...	...	...	...	...	...	...
1924	5.62	4.57	6.97	6.99 ^b	6.50	4.90	5.37	3.82	...	5.41	5.57 ^{b,c}	112.1 ^{b,c}
1925	6.41	5.26	7.98	8.00	7.61	6.00	6.61	5.19	5.37	6.33	6.48	130.4
1926	6.58	5.77	8.62	8.64	8.14	6.40	7.07	5.87	5.91	6.37	6.94	139.6
1927	7.06	6.45	9.19	9.21	8.62	6.89	7.62	6.67	6.16	6.86	7.47	150.3
1928	7.60	6.79	9.73	9.76	9.06	7.60	8.47	7.67	6.46	7.34	8.05	162.0
1929	8.15	7.06	10.08	10.11	9.36	7.78	9.47	8.54	6.83	7.57	8.50	171.0
1930	8.12	7.08	10.17	10.20	9.30	7.65	9.48	8.09	7.13	7.58	8.48	170.6
1931	7.33	6.68	9.28	9.32	8.76	7.16	9.16	7.03	6.54	6.79	7.80	156.9
1932	6.22	5.69	7.88	7.92	7.40	5.90	7.84	6.03	6.02	5.94	6.68	134.4

^a Excluding Saar District.^c Excluding Upper Harz.^b From 1924 on, Lower Rhine-Westphalia is substituted for Saar District.SOURCE: *Zeitschrift für das Berg-, Hütten- und Salinenwesen, passim.*

TABLE A-7
Average Earnings per Shift, Mine Workers above Ground, Ten Centers, 1889-1932
(marks)

Part I: 1889-1913

Year	Hard Coal					Lignite		Salt		Ore		All Mines
	Upper Silesia	Lower Silesia	Dortmund	Aachen and Left Rhine		Halle	Halle	Halle	Halle	Upper Harz	Siegen-Nassau	Average, 10 centers (marks) (1913=100)
				Saar District	Rhine							
1889	1.83	2.03	2.57	2.70	2.34	2.19	3.06	2.78	1.65	2.09	2.32	62.4
1890	2.10	2.18	2.82	2.98	2.53	2.33	3.24	2.91	1.75	2.20	2.50	67.2
1891	2.17	2.23	2.85	3.01	2.49	2.39	3.35	3.03	1.73	2.15	2.54	68.3
1892	2.16	2.23	2.76	2.98	2.46	2.39	3.35	2.93	1.73	2.15	2.51	67.5
1893	2.15	2.21	2.70	2.84	2.44	2.34	3.33	2.66	1.76	2.09	2.45	65.9
1894	2.15	2.18	2.72	2.79	2.44	2.29	3.38	2.59	1.75	2.05	2.43	65.3
1895	2.14	2.19	2.74	2.80	2.49	2.33	3.38	2.60	1.72	2.08	2.45	65.9
1896	2.16	2.24	2.81	2.76	2.54	2.38	3.43	2.73	1.77	2.26	2.51	67.5
1897	2.22	2.31	2.96	2.77	2.61	2.45	3.49	2.86	1.79	2.47	2.59	69.6
1898	2.34	2.39	3.04	2.82	2.74	2.56	3.50	2.93	1.84	2.59	2.68	72.0
1899	2.44	2.49	3.18	2.86	2.82	2.69	3.50	3.02	1.87	2.88	2.78	74.7
1900	2.66	2.66	3.32	3.00	3.03	2.88	3.64	3.17	1.93	3.09	2.94	79.0
1901	2.69	2.68	3.32	3.01	3.10	2.90	3.70	3.21	1.99	2.96	2.96	79.6
1902	2.63	2.58	3.25	3.01	3.16	2.81	3.48	2.84	2.03	2.69	2.85	76.6
1903	2.65	2.59	3.29	3.04	3.25	2.85	3.41	2.92	2.04	2.79	2.88	77.4
1904	2.64	2.62	3.35	3.16	3.30	2.93	3.40	3.00	2.08	2.78	2.93	78.8
1905	2.70	2.75	3.42	3.26	3.44	3.02	3.47	3.16	2.15	2.94	3.03	81.5
1906	2.81	2.83	3.61	3.36	3.67	3.23	3.54	3.29	2.28	3.27	3.19	85.8
1907	3.00	2.99	3.88	3.53	3.76	3.30	3.67	3.44	2.51	3.48	3.36	90.3
1908	3.07	3.03	3.91	3.59	3.74	3.31	3.71	3.31	2.58	3.33	3.36	90.3
1909	3.10	3.02	3.83	3.59	3.71	3.30	3.72	3.30	2.65	3.18	3.34	89.8
1910	3.10	3.03	3.88	3.60	3.72	3.32	3.72	3.40	2.69	3.28	3.37	90.6
1911	3.13	3.08	3.97	3.61	3.82	3.43	3.86	3.50	2.78	3.43	3.46	93.0
1912	3.26	3.19	4.15	3.64	4.00	3.50	3.95	3.64	2.88	3.60	3.58	96.2
1913	3.38	3.31	4.34	3.83	4.06	3.58	4.06	3.72	3.15	3.75	3.72	100.0

TABLE A-7, continued

Part II: 1912-1932

Year	Hard Coal						Lignite		Salt			Ore		All Mines Average, 10 centers (marks) (1913=100)					
	Upper Silesia		Lower Silesia		Aachen and Left Lower Rhine		Saar District		Dortmund		Halle		Halle		Upper Harz		Siegen-Nassau		
1912	3.27	3.14	4.38	3.65	4.01	3.39	3.97	3.73	3.17	3.60	3.63	96.0							
1913	3.38	3.26	4.56	3.84	4.21	3.47	4.08	3.81	3.43	3.75	3.78	100.0							
1914	3.42	3.33	4.58	3.84	4.23	3.48	4.08	3.82	3.47	3.72	3.80	100.5							
1915	3.77	3.54	4.85	3.98	4.52	3.75	4.17	4.20	4.10	4.07	4.10	108.5							
1916	4.39	3.93	5.49	4.65	5.08	4.31	4.83	5.31	5.35	4.78	4.81	127.2							
1917	5.54	4.72	6.80	6.47	6.08	5.32	5.70	6.45	6.04	5.61	5.87	155.3							
1918	7.58	6.48	8.80	8.42	7.84	7.03	7.88	7.86	7.79	7.06	7.67	202.9							
1919	13.96	13.37	16.54	13.51	13.34	13.84	12.82	12.51	12.49	12.45	13.48	356.6							
1920	37.19	38.36	39.89	...	35.81	34.35	30.67	32.91	29.74	32.69	34.62 ^a	915.9 ^a							
1921	56.48	54.80	63.15	...	58.26	54.65	48.45	48.23	44.66	46.59	52.81 ^a	1397.1 ^a							
1922	555.94	514.14	565.02	...	545.07	523.85	549.70	514.20	451.10	502.83	524.64 ^a	13879.4 ^a							
1923	...	...	...	...	...	...	...	...	...	...	...	...
1924	4.27	3.75	5.27	5.28 ^b	4.95	4.42	4.20	3.25	...	4.09	4.39 ^{b,c}	116.1 ^{b,c}							
1925	4.78	4.34	6.19	6.20	5.92	5.43	5.27	4.18	4.39	4.95	5.17	136.8							
1926	5.13	4.68	6.76	6.77	6.32	5.84	5.61	4.62	4.85	5.16	5.57	147.4							
1927	5.53	5.13	7.19	7.20	6.70	6.35	6.18	5.02	5.16	5.61	6.01	159.0							
1928	5.90	5.71	7.70	7.71	7.10	7.09	6.93	5.69	5.76	6.00	6.56	173.5							
1929	6.25	6.07	8.02	8.03	7.43	7.32	7.68	6.33	6.07	6.26	6.95	183.9							
1930	6.38	6.13	8.07	8.09	7.49	7.21	7.73	6.21	6.17	6.34	6.98	184.7							
1931	5.94	5.80	7.48	7.49	7.00	6.69	7.66	5.63	5.83	5.79	6.53	172.8							
1932	5.09	4.91	6.42	6.43	5.90	5.52	6.56	4.78	5.41	5.14	5.62	148.7							

^a Excluding Saar District.^c Excluding Upper Harz.^b From 1924 on, Lower Rhine-Westphalia is substituted for Saar District.SOURCE: *Zeitschrift für das Berg-, Hütten- und Salinenwesen, passim.*

TABLE A-8
Earnings of Miners and Metalworkers, 1871-1943
(1913 = 100)

Year	Shift Earnings, Dortmund Miners		Shift Earnings, Miners, 10 Districts		Daily Earnings, Metal Workers		Daily Earnings, Railroad Workers	
	Hewers and Haulers (1)	Workers above Ground (2)	Hewers and Haulers (3)	Workers above Ground (4)	Krupp (Essen) (5)	Württemberg R.R. (6)	Prussian-Hessian R.R. (7)	
1871	46 ^a	...	...	...	51	...	...
1872	70	...	...	...	57	...	...
1873	77	...	...	...	63	...	...
1874	62	...	...	...	65	...	...
1875	59	...	...	...	66	...	...
1876	46	...	...	...	62	...	...
1877	40	...	...	...	57	...	...
1878	41	52	...	...	54	...	...
1879	39	51	...	...	51	...	...
1880	42	51	...	...	54	...	...
1881	43	52	...	...	59	...	...
1882	47	53	...	...	60	...	...
1883	49	54	...	...	60	...	...
1884	48	54	...	...	60	...	...
1885	47	55	...	...	62	...	...
1886	45	54	...	...	63	...	...
1887	45	55	...	...	63	...	...
1888	46	55	...	...	63	...	...
1889	53	59	58	62	65	...	...
1890	62	65	64	67	67	...	...
1891	63	66	66	68	69	60	...	
1892	60	64	65	67	69	60	...	
1893	57	62	62	66	69	66	...	
1894	58	63	61	65	69	64	...	

TABLE A-8, continued

Year	Shift Earnings, Dortmund Miners		Shift Earnings, Miners, 10 Districts		Daily Earnings, Metal Workers		Daily Earnings, Railroad Workers	
	Hewers and Haulers (1)	Workers above Ground (2)	Hewers and Haulers (3)	Workers above Ground (4)	Krupp (Essen) (5)	Württemberg R.R. (6)	Prussian-Hessian R.R. (7)	
1895	58	63	61	66	69	64	63	
1896	60	65	64	67	72	64	63	
1897	67	68	67	70	76	64	65	
1898	70	70	70	72	77	64	67	
1899	75	73	73	75	80	67	69	
1900	80	76	78	79	81	69	71	
1901	77	76	76	80	78	71	72	
1902	71	75	72	77	76	72	72	
1903	72	76	73	77	77	71	73	
1904	74	77	74	79	83	71	74	
1905	75	79	77	81	87	73	76	
1906	82	83	82	86	91	78	80	
1907	92	89	89	90	91	85	83	
1908	91	90	87	90	91	87	85	
1909	82	88	84	90	92	88	86	
1910	83	89	86	91	93	88	89	
1911	86	91	89	93	95	96	92	
1912	93	96	93	96	96	98	97	
1913	100	100	100	100	100	100	100	
1914	96	100	98	101	...	...	105
1915	105	106	109	108	...	...	112
1916	126	120	131	127	...	...	131
1917	159	149	163	155	...	...	185
1918	200	193	211	203	...	...	304
1919	342	363	357	357	...	...	476

TABLE A-8, continued

Year	Shift Earnings, Dortmund Miners		Shift Earnings, Miners, 10 Districts		Daily Earnings, Metal Workers		Daily Earnings, Railroad Workers	
	Hewers and Haulers (1)	Workers above Ground (2)	Hewers and Haulers (3)	Workers above Ground (4)	Krupp (Essen) (5)	Württemberg R. R. (6)	Prussian-Hessian R. R. (7)	
1920	863	875	890	916	...	...	...
1921	1195	1385	1313	1397	...	...	...
1922	10440	12391	12282	13879	...	...	...
1923	...	...	...	...	...	...	...
1924	103	116	112	116	...	...	...
1925	118	136	130	137	...	...	...
1926	128	148	140	147	...	...	...
1927	136	158	150	159	...	...	...
1928	144	169	162	174	...	...	...
1929	149	176	171	184	...	...	...
1930	151	177	171	185	...	...	...
1931	137	164	157	173	...	...	...
1932	117	141	134	149	...	...	...
1933	117	141	...	...	...	...	...
1934	119	141	...	...	...	...	...
1935	119	141	...	...	...	...	...
1936	120	141	...	...	...	...	...
1937	122	141	...	...	...	...	...
1938	124	140	...	...	...	...	...
1939	141	150	...	...	...	...	...
1940	147	155	...	...	...	...	...
1941	158	160	...	...	...	...	...
1942	162	163	...	...	...	...	...
1943	165	167	...	...	...	...	...

Notes to Table A-8,

^a For the years 1871 to 1877, hewers only.

SOURCE, by column:

(1 and 2) 1871-77: Original source, Verein für die bergbaulichen Interessen im Oberbergamtsbezirk Dortmund, *Mitteilungen über den Niederrheinisch Westfälischen Steinkohlenbergbau, 1901*, p. 191. Direct source, Robert Kuczynski, *Die Entwicklung der gewerblichen Löhne seit der Begründung des Deutschen Reiches* (Berlin, 1909), p. 9.

1878-83: M. Reuss, "Mitteilungen aus der Geschichte des Königlichen Oberbergamtes zu Dortmund und des Niederrheinisch Westfälischen Bergbaues," *Zeitschrift für das Berg-, Hütten- und Salinenwesen*, 1892, p. 391.

1884-1932: Appendix Tables A-6, and A-7 with their source.

1933-43: Our estimates, based on shift earnings in Lower Rhine-Westphalia (hewers only for col. 1) as published in *Zeitschrift für das Berg-, Hütten und Salinenwesen* for 1933-37; and in *Handbuch* 1946, pp. L3a¹, L3a² for 1938-43.

(3 and 4) Appendix Tables A-6 and A-7.

(5) Jürgen Kuczynski, *Germany, 1800 to the Present Day*, pp. 183-84.

(6) Original source, *Verwaltungsberichte der Königlich-Württembergischen Verkehrsanstalten*. Direct source, *Statistisches Handbuch für Württemberg, passim*.

(7) *Statistisches Jahrbuch für den Preussischen Staat*, 1911, p. 197; 1920-21, p. 131.

TABLE A-9
Wage Rates and Earnings in the Cotton Spinning Industry in Hof, 1871-1913

Year	ANNUAL EARNINGS				WEEKLY EARNINGS				DAILY RATE	
	Skilled		Total	Spinning Department (marks) (1913 = 100)	Male		Female		Male (marks) (1913 = 100)	Female (marks) (1913 = 100)
	Male Spinners (marks) (1913 = 100)	Female Spinners (marks) (1913 = 100)	Male		Female					
1871	627	48.1	383	49.7	...	...	...	...	...	...
1872	747	57.3	438	56.8	...	...	...	...	...	...
1873	774	59.4	477	61.9	...	...	...	...	...	...
1874	774	59.4	490	63.6	...	...	...	...	...	...
1875	793	60.8	499	64.7	...	...	...	...	...	...
1876	829	63.6	520	67.4	...	...	...	...	...	...
1877	802	61.5	529	68.6	...	...	...	...	...	...
1878	...	...	...	...	...	...	...	...	...	...
1879	...	...	...	...	...	...	...	...	...	...
1880	820	62.9	493	63.9	...	...	...	...	...	...
1881	982	75.3	529	68.6	...	...	...	...	...	...
1882	1004	77.0	529	68.6	...	...	...	...	...	...
1883	1022	78.4	523	67.8	...	...	...	...	...	...
1884	1102	84.5	542	70.3	...	...	...	...	...	...
1885	1108	85.0	554	71.9	...	...	...	...	...	...
1886	1132	86.8	560	72.6	...	...	...	...	...	...
1887	1269	97.3	573	74.3	...	...	...	...	...	...
1888	1132	86.8	560	72.6	17.46	50.5	11.78	60.7	1.50	50.0
1889	1117	85.7	563	73.0	22.68	65.6	11.86	61.1	1.60	53.3
1890	1123	86.1	594	77.0	19.08	55.2	12.72	65.5	1.70	56.7
1891	1102	84.5	588	76.3	19.02	55.0	14.27	73.5	1.70	56.7
1892	1138	87.3	585	75.9	19.64	56.8	12.89	66.4	1.70	56.7
1893	1169	89.6	591	76.7	18.19	52.6	12.74	65.6	1.70	56.7
1894	1132	86.8	588	76.3	...	...	...	...	...	...
1895	1157	88.7	594	77.0	...	...	...	...	...	...
1896	1252	96.0	630	81.7	19.34	55.9	13.00	66.9	1.70	56.7
										65.8

TABLE A-9, continued

Year	ANNUAL EARNINGS				WEEKLY EARNINGS				DAILY RATE			
	Skilled		Total		Male		Female		Male		Female	
	Male Spinners (marks) (1913=100)	Spinning Department (marks) (1913=100)	Spinning Department (marks) (1913=100)	Department (marks) (1913=100)	(marks) (1913=100)	(marks) (1913=100)	(marks) (1913=100)	(marks) (1913=100)	(marks) (1913=100)	(marks) (1913=100)	(marks) (1913=100)	(marks) (1913=100)
1897	1242	95.2	646	83.8	27.20	78.6	14.85	76.5	2.00	66.7	1.30	68.4
1898	1163	89.2	630	81.7	24.25	70.1	14.60	75.2	1.90	63.3	1.40	73.7
1899	1190	91.3	649	84.2	22.05	63.7	14.60	75.2	1.90	63.3	1.40	73.7
1900	1181	90.6	655	85.0	25.56	73.9	17.39	89.5	2.00	66.7	1.50	78.9
1901	1132	86.8	652	84.6	21.67	62.6	15.12	77.9	2.00	66.7	1.45	76.3
1902	1172	89.9	667	86.5	24.10	69.7	15.65	80.6	2.00	66.7	1.50	78.9
1903	1193	91.5	667	86.5	23.92	69.2	17.27	88.9	2.00	66.7	1.50	78.9
1904	1245	95.5	676	87.7	26.33	76.1	15.65	80.6	2.30	76.7	1.50	78.9
1905	1273	97.6	685	88.8	29.37	84.9	17.24	88.8	2.35	78.3	1.50	78.9
1906	1285	98.5	695	90.1	35.56	102.8	17.88	92.1	2.50	83.3	1.55	81.6
1907	1322	101.4	744	96.5	...	...	...	...	...	...	...	...
1908	1288	98.8	753	97.7	...	...	...	...	...	...	...	...
1909	1313	100.7	750	97.3	36.96	106.9	20.79	107.1	2.57	85.7	1.62	85.3
1910	1276	97.9	750	97.3	35.55	102.8	19.02	97.9	2.86	95.3	1.85	97.4
1911	1288	98.8	756	98.1	37.51	108.4	20.47	105.4	2.86	95.3	1.85	97.4
1912	1270	97.4	756	98.1	35.35	102.2	19.04	98.0	2.90	96.7	1.90	100.0
1913	1304	100.0	771	100.0	34.59	100.0	19.42	100.0	3.00	100.0	1.90	100.0

Weekly earnings and daily rates are for operators known as "batteurs," industrie, 1432-1913," *Wirtschafts- und Verwaltungsstudien, mit besonderer Berücksichtigung Bayerns* (Leipzig, 1923).

SOURCE: Karl Schmid, "Die Entwicklung der Hofer Baumwoll-

TABLE A-10

Weekly Earnings in Eleven Hosiery Factories, Erz Mountains, 1890-1913, and 1924-1928

Year	Male Knitters		Female Helpers	
	(marks)	(1913=100)	(marks)	(1913=100)
1890	17.08	71	10.11	75
1891	15.27	63	8.85	65
1892	15.19	63	9.16	68
1893	16.28	67	8.81	65
1894	16.72	69	8.55	63
1895	16.62	69	8.76	65
1896	15.50	64	8.59	64
1897	15.18	63	8.71	64
1898	14.87	61	8.65	64
1899	15.68	65	8.91	66
1900	17.28	71	9.68	72
1901	17.81	74	10.23	76
1902	18.64	77	10.20	75
1903	18.58	77	10.53	78
1904	18.03	74	10.40	77
1905	19.76	82	11.46	85
1906	20.71	86	11.65	86
1907	21.14	87	12.49	92
1908	19.57	81	11.93	88
1909	20.63	85	12.12	90
1910	21.38	88	12.58	93
1911	21.62	89	12.38	92
1912	22.52	93	13.20	98
1913	24.22	100	13.52	100
1924	30.47	126	17.27	128
1925	39.42	163	22.33	165
1926	42.31	175	24.13	178
1927	48.09	199	26.38	195
1928	53.83	222	30.25	224

SOURCE: Rudolf Gröber, *Nominallohn und Reallohn: Untersuchung über die Löhne in der erzgebirgischen Strumpfindustrie von 1889 bis 1913, und von 1924 bis 1928*, (Greifswald, 1932).

TABLE A-11
Notes
(table is on pp. 354-55)

* For Silesia, 1865=100.

SOURCE, by column:

(1 and 2) Jürgen Kuczynski, *Germany, 1800 to the Present Day*.

(3) Carl Schwedler, "Arbeitslöhne in der schlesischen Textil-Industrie und Unterhaltsbedarf in den letzten 10 Jahren." *Der Arbeiterfreund*, 1874 (Berlin, 1874) pp. 149 ff. Weighted index of potatoes, bread, wheat flour, peas, barley, semolina, rice, butter, milk, coffee, chicory, sugar, American bacon and American fat, beef, pork, salt, soap, starch, soda, petroleum, candles, rapeseed oil, coal, wood, rent, clothing, taxes, and school expenses (1865=100).

(4) *Reichsarbeitsblatt* 1911, p. 671. Based on a series of articles by Jüngst.

(5) 1877-1900: "Consumption of Food and Cost of Living of Working Classes in the United Kingdom and Certain Foreign Countries." *British and Foreign Trade and Industry Memoranda* (London, 1903), p. 224. Index based on retail prices charged Krupp's workmen at Essen for black bread, wheat flour, potatoes, beef, veal, bacon, butter, coffee, and sugar.

1900-13: Kurt Richter, *Die Reallohnbewegung in Deutschland, England und den Vereinigten Staaten von Amerika 1890-1913, insbesondere in ihrer Beziehung zur Golderzeugung* (Würzburg, 1937), Table 9. Index based on prices charged Krupp's workmen at Essen for beef, pork, mutton, rice, beans, peas, wheat flour, prunes, potatoes, bread, butter, sugar, salt, and coffee.

(6) Gustav Brutzer, "Die Verteuerung der Lebensmittel in Berlin im Laufe der letzten 30 Jahre," Verein für Sozialpolitik, *Schriften*, Vol. 139, II, 1912, p. 44. Weighted index of 3 kinds of meat, lard, 2 kinds of bread, butter and fat, potatoes, milk, eggs, coffee, sugar, flour, and rice. (Base shifted to 1900 = 100)

(7) Waldemar Zimmermann, "Die Preisbewegung in der Stadt Braunschweig in den Jahren 1881-1910," *Bulletin de l'Institut International de Statistique*, Vol. 19 III, 1911-13, pp. 132-33. Index based on four kinds of flour, peas, beans, lentils, potatoes, straw, hay, five kinds of meat, butter. (Unweighted, base shifted to 1900 = 100)

(8) F. Zahn "Die Entwicklung der Preise in Bayern, 1881-1910," *Bulletin de l'Institut International de Statistique*, Vol. 19 III, 1911-13, p. 130-31. Index based on bread, two kinds of flour, three kinds of meat, potatoes, milk, butter, lard, eggs, and beer. (Weighted, base shifted to 1900 = 100)

(9) J. Hartwig, "Die Preisbewegung in Lübeck seit 1886," *Bulletin de l'Institut International de Statistique*, Vol. 19 III, 1911-13, p. 134-35. Index based on wholesale prices of four kinds of grain, peas, beans, lentils, two kinds of straw, hay; and retail prices of two kinds of bread, four kinds of meat, butter, eggs, five kinds of cereals, two kinds of coffee, salt, lard. (Unweighted, base shifted to 1900 = 100)

(10) Fröhlich and Schott, "Verwaltungs und Rechenschaftsbericht der Stadt Mannheim für 1912," quoted from Adam Müller, *Reallohne vor und nach dem Kriege in Südwestdeutschland* (Frankfurt a/M; 1930), p. 47. Index based on two kinds of bread, meat and sausage, fish, flour and cereals, peas, beans, lentils, butter, fat, milk, and eggs. (Weighted, base shifted to 1900 = 100)

(11) Kurt Richter, *op. cit.*, Table 12. Index based on potatoes, butter, wheat flour, beef, pork, mutton; in Gleiwitz, Breslau, Görlitz, Berlin, Halle, Osnabrück, Aachen. (Weighted, base shifted to 1900 = 100)

Continued on page 356.

TABLE
Estimates of Living

Year	<i>Entire Reich</i>		<i>Silesia*</i>	<i>4 Ruhr Cities</i>	<i>Krupp, Essen</i> <i>(Bd. of Trade</i> <i>and Richter)</i>	<i>Berlin</i> <i>(Brutzer)</i>	<i>Brunswick</i> <i>(Zimmer-</i> <i>mann)</i>
	<i>(Jürgen Kuczynski)</i> <i>Food and Rent</i> (1)	<i>Food</i> (2)	<i>(Schwedler)</i> <i>Cost of Living</i> (3)	<i>(Jüngst)</i> <i>Food</i> (4)	<i>Food</i> (5)	<i>Food</i> (6)	<i>Food</i> (7)
1871	90	99	114	...	...	...	...
1872	94	103	121	...	...	...	...
1873	104	112	132	...	...	...	...
1874	108	116	135	...	...	...	...
1875	99	103	...	104	...	...	...
1876	99	106	...	103	...	...	...
1877	100	108	...	101	117	...	...
1878	95	101	...	94	112	...	...
1879	93	98	...	93	112	...	...
1880	99	105	...	96	116	...	...
1881	100	106	...	98	113	105	101
1882	98	103	...	100	111	104	100
1883	98	102	...	102	109	105	102
1884	93	96	...	94	100	101	99
1885	91	93	...	93	100	98	105
1886	89	90	...	92	97	97	106
1887	89	90	...	92	97	94	105
1888	91	91	...	91	98	96	105
1889	95	97	...	100	106	99	109
1890	98	101	...	104	107	109	112
1891	100	104	...	102	118	114	110
1892	99	103	...	99	114	110	109
1893	97	100	...	99	99	102	109
1894	96	98	...	98	97	98	100
1895	95	96	...	96	98	96	100
1896	94	95	...	94	97	95	99
1897	96	97	...	94	103	97	100
1898	99	100	...	99	105	101	101
1899	99	100	...	100	100	99	99
1900	100	100	...	100	100	100	100
1901	101	101	...	102	102	102	101
1902	102	102	...	105	102	103	104
1903	102	101	...	103	101	102	105
1904	103	101	...	98	100	101	105
1905	107	106	...	105	106	105	113
1906	113	112	...	113	112	111	123
1907	114	113	...	107	110	115	120
1908	114	113	...	108	116	117	119
1909	117	116	...	113	118	117	123
1910	120	119	...	...	120	117	125
1911	124	123	...	...	122	...	...
1912	130	131	...	...	126	...	...
1913	130	131	...	...	130	...	...

<i>Bavaria</i>	<i>Lübeck</i>	<i>Mannheim</i>	<i>7 Cities</i>	<i>Stuttgart</i>	<i>Reich</i>	<i>Prussia</i>	
<i>(Zahn)</i>	<i>(Hartwig)</i>	<i>(Fröhlich-Schott)</i>	<i>(Richter)</i>	<i>(Tägtmeyer)</i>	<i>(Zimmermann)</i>	<i>(Tyszka)</i>	
<i>Food</i>	<i>Food</i>	<i>Food</i>	<i>Food</i>	<i>Food</i>	<i>Food</i>	<i>Food</i>	<i>Food</i>
(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
...
...
...
...
...	...	...	...	...	...	...	111 (1873-80)
...
...
...
...
...
93	...	...	...	...	...	...	...
93	...	...	...	...	...	...	...
94	...	...	...	...	...	...	105 (1881-83)
93	...	...	...	...	...	...	...
95	...	...	...	...	...	...	...
95	88	...	...	...	...	...	...
97	89	...	...	...	...	...	...
97	93	...	...	...	...	...	99 (1886-90)
98	96	...	...	...	...	...	...
100	96	96	101	106	...	...	...
101	100	100	101	108	...	...	...
102	100	100	101	107	...	...	...
100	103	97	100	101	103	...	105 (1891-95)
102	95	97	97	103	...	...	...
99	91	95	98	100	...	...	...
97	92	95	95	100	...	...	...
99	97	96	98	104	...	...	...
102	101	101	100	105	102	...	100 (1896-1900)
101	97	101	99	102	...	...	...
100	100	100	100	100	100	100	...
101	102	100	103	102	...	102	...
103	104	101	103	105	...	104	...
103	102	102	104	104	102	102	106 (1901-05)
104	102	100	106	104	...	104	...
111	104	105	114	107	...	112	...
115	107	113	117	112	...	115	...
114	112	115	116	114	112	120	...
116	112	112	116	116	116	120	121 (1905-10)
121	114	113	121	119	...	126	...
126	110	117	122	124	...	123	127 (1906-12)
...	...	120	125	125	...	128	...
...	...	124	134	130	...	138	...
...	...	116	133	...	126	...	...

Notes to Table A-11—continued

(12) F. Tägtmeyer, "Kosten der Lebenshaltung in Stuttgart 1890-1912." Verein für Sozialpolitik, *Schriften*, Vol. 145 II, 1914, p. 420. Index based on 3 kinds of meat, lard, bread, flour, butter, eggs, milk, potatoes, sugar, coffee. (Weighted)

(13) Waldemar Zimmermann, "Die Veränderungen der Einkommens- und Lebensverhältnisse der deutschen Arbeiter durch den Krieg," in *Die Einwirkung des Krieges auf Bevölkerungsbewegung, Einkommen und Lebenshaltung in Deutschland, Wirtschafts- und Sozialgeschichte des Weltkrieges* (Carnegie Foundation for International Peace, Stuttgart, Deutsche Verlags-Anstalt, 1932), p. 325. Index based on pork, beef, mutton, bacon, bread, peas, butter, lard, milk, eggs, potatoes, coffee, and sugar. Expenditure pattern based on 1907 budget inquiry by *Reichsamt*. (Base shifted to 1900 = 100)

(14 and 15) Carl von Tyszka, "Löhne und Lebenskosten in Westeuropa im 19. Jahrhundert," Verein für Sozialpolitik, *Schriften*, Vol. 145 III, 1914, p. 266. Index based on wheat, rye, potatoes, beef, pork, butter. Col. 14 contains averages centered for each period.

The only "cost-of-living index" available for the entire period 1871-1913 is that constructed by Jürgen Kuczynski (column 1). The index, which is mainly a composite of a number of indexes constructed by others, covers only food and rent. However, even the rent component gives an advantage rarely found in other measures for this period, which typically cover food only. Kuczynski's index was compared with the major available independent food cost measures—whether included in his index or not. This comparison is carried through in the above table and in Chart 7. In spite of differences in detail there is a rather striking similarity in the behavior of all these series, particularly with respect to trends. Though the similarity does not validate Kuczynski's index as a representative cost-of-living measure, it does suggest that it is realistic as an indicator at least of changes in food costs.

TABLE A-12
Real Wages in Printing, Building, and Mining, 1871-1913, and 1924-1943
(1913=100)

Year	Printing Rates		Building Rates		Shift Earnings, Dortmund Miners		Shift Earnings, Miners, 10 Centers		Daily Earnings, Metal Workers	
	Hourly (1)	Weekly (2)	Hourly (3)	Weekly (4)	Hewers and Haulers (5)	Workers above Ground (6)	Hewers and Haulers (7)	Workers above Ground (8)	Krupp (Essen) (9)	Württemberg R. R. Hessian R. R. (10) (11)
1871	66	76	48	54	67	...	...	...	74	...
1872	78	90	59	65	97	...	...	...	79	...
1873	80	88	59	64	97	...	...	...	79	...
1874	77	85	58	63	74	...	...	...	78	...
1875	84	93	67	71	77	...	...	...	87	...
1876	82	90	69	72	61	...	...	...	82	...
1877	81	89	62	67	51	...	...	...	74	...
1878	83	91	64	69	56	71	...	...	74	...
1879	84	92	61	66	55	71	...	...	71	...
1880	80	88	59	61	55	67	...	...	71	...
1881	79	86	57	61	56	67	...	...	77	...
1882	81	89	57	60	62	71	...	...	80	...
1883	81	89	60	64	65	73	...	...	80	...
1884	84	92	64	67	66	76	...	...	83	...
1885	86	95	69	74	67	79	...	...	89	...
1886	94	104	74	79	66	80	...	...	93	...
1887	94	104	76	81	67	80	...	...	93	...
1888	91	101	77	82	65	78	...	...	90	...
1889	88	96	78	85	72	81	80	85	89	...

TABLE A-12, continued

Year	Printing Rates		Building Rates		Shift Earnings, Dortmund Miners		Shift Earnings, Miners, 10 Centers		Daily Earnings, Metal Workers		Daily Earnings, Railroad Workers	
	Hourly (1)	Weekly (2)	Hourly (3)	Weekly (4)	Hewers and Haulers (5)	Workers above Ground (6)	Hewers and Haulers (7)	Workers above Ground (8)	Krupp (Essen) (9)	Württemberg R. R. (10)	Prussian R. R. (11)	
1890	89	98	80	83	82	87	86	90	89	...	...
1891	87	95	78	81	82	85	85	89	88	78	...	
1892	93	97	80	82	79	84	85	89	91	79	...	
1893	94	98	81	83	77	83	82	88	92	87	...	
1894	95	99	81	84	78	85	82	88	93	86	...	
1895	97	101	81	84	79	86	84	90	95	88	86	
1896	101	105	86	87	84	90	88	94	100	89	87	
1897	98	102	83	85	90	92	91	94	103	86	88	
1898	96	100	85	86	93	92	92	95	101	84	88	
1899	96	100	87	88	98	96	96	98	105	88	91	
1900	94	98	89	90	104	99	101	103	105	90	92	
1901	93	97	89	90	99	98	98	102	100	91	92	
1902	100	104	89	90	91	96	92	98	97	92	92	
1903	100	104	92	91	92	97	93	99	99	91	94	
1904	99	103	95	92	94	98	94	100	105	90	94	
1905	95	99	96	93	91	96	94	99	106	89	93	
1906	90	93	94	90	94	96	95	99	105	90	92	
1907	100	103	97	94	105	102	101	103	103	97	94	
1908	100	103	100	97	103	102	99	103	103	99	97	
1909	97	100	101	97	91	98	94	100	102	98	96	

TABLE A-12, continued

Year	Printing Rates ^a		Building Rates		Shift Earnings, Dortmund Miners		Shift Earnings, Miners, 10 Centers		Daily Earnings, Metal Workers		Daily Earnings, Railroad Workers	
	Hourly (1)	Weekly (2)	Hourly (3)	Weekly ^b (4)	Hewers and Haulers (5)	Workers above Ground (6)	Hewers and Haulers (7)	Workers above Ground (8)	Krupp (Essen) (9)	Württemberg R. R. (10)	Prussian R. R. (11)	
1910	95	98	102	97	90	97	93	98	101	96	97	
1911	92	95	101	99	90	96	93	98	100	101	97	
1912	100	100	98	97	93	96	93	96	96	98	97	
1913	100	100	100	100	100	100	100	100	100	100	100	
1924	78	73	80	71	79	88	86	89	...	...	...
1925	103	92	106	96	83	96	92	97	...	...	...
1926	110	99	115	104	90	104	98	104	...	...	...
1927	113	100	115	105	92	107	102	108	...	...	...
1928	119	105	120	109	95	111	107	114	...	...	...
1929	123	109	126	114	97	114	111	119	...	...	...
1930	130	115	134	121	102	120	115	125	...	...	...
1931	134	119	135	...	101	121	115	127	...	...	...
1932	130	115	121	...	97	117	111	123	...	...	...
1933	135	...	112	...	99	120	...	...	...	...	...
1934	131	...	108	...	98	116	...	...	...	...	...
1935	128	...	106	...	97	115	...	...	...	...	...
1936	126	...	104	...	96	113	...	...	...	...	...
1937	125	...	104	...	98	112	...	...	...	...	...
1938	125	...	104	...	99	112	...	...	...	...	...
1939	125	...	104	...	112	118	...	...	...	...	...

TABLE A-12, continued

Year	Printing Rates		Building Rates		Shift Earnings, Dortmund Miners		Shift Earnings, Miners, 10 Centers		Daily Earnings, Metal Workers		Daily Earnings, Railroad Workers	
	Hourly (1)	Weekly (2)	Hourly (3)	Weekly (4)	Hewers and Haulers (5)	Workers above Ground (6)	Hewers and Haulers (7)	Workers above Ground (8)	Krupp (Essen) (9)	Wuerttemberg R. R. Hessian R. R. (10)	Prussian- (11)	
1940	121	...	102	...	113	119	...	...	...	...	...
1941	118	...	101	...	119	120	...	...	...	...	...
1942	116	...	99	...	118	119	...	...	...	...	...
1943	113	...	97	...	119	120	...	...	...	...	...

^a From 1933 to 1940 real weekly printing rates and real hourly building rates are for April of each year; from 1941 on they are for December.

^b From 1924 through 1929 real weekly building rates are averages of real rates for April and October. For 1930, figure refers to April only.

SOURCE, by column:

All series deflated by cost-of-living index, Appendix Tables A-1 and A-33, applied to money wages as found in the following sources:

- (1 and 2) Appendix Table A-3.
- (3) Appendix Table A-4.
- (4) Appendix Table A-5, and its sources.
- (5 and 6) Appendix Table A-8.
- (7) Appendix Table A-6.
- (8) Appendix Table A-7.
- (9, 10, and 11) Appendix Table A-8.

TABLE A-13

Real Wages and per Capita Production, All Industry, 1871-1944
 Part I: 1871-1913
 (1913 = 100)

Year	Weekly Earnings (1)	Per Capita Production	
		Total (2)	Consumers' Goods (3)
1871	74	34	57
1872	79	37	62
1873	79	36	59
1874	78	34	55
1875	84	34	54
1876	78	37	59
1877	73	34	59
1878	77	37	57
1879	74	39	58
1880	70	37	52
1881	70	40	54
1882	75	42	56
1883	75	44	61
1884	80	45	64
1885	83	46	65
1886	85	47	64
1887	87	49	69
1888	89	50	69
1889	88	53	75
1890	87	55	76
1891	84	56	78
1892	86	53	77
1893	87	56	77
1894	88	59	81
1895	89	62	89
1896	94	67	85
1897	92	70	87
1898	93	74	92
1899	96	77	90
1900	98	77	86
1901	95	76	89
1902	95	80	92
1903	96	83	83
1904	97	87	93
1905	98	88	91
1906	97	92	96
1907	101	90	96
1908	100	84	93
1909	99	85	95
1910	99	92	92
1911	98	98	99
1912	96	100	98
1913	100	100	100

TABLE A-13, continued

Part II: 1913-1923

(1913=100)

Year	Weekly Earnings of Ruhr Miners (1)	Per Capita Production
		Total (2)
1913	100	100
1914	93	82
1915	81	66
1916	74	63
1917	63	62
1918	64	57
1919	82	40
1920	78	60
1921	89	70
1922	70	76
1923	70	50

Part III: 1913-14, and 1924-1944

Year	Hourly Wages		Weekly Wages		Per Capita Production	
	Rates (1)	Earnings (2)	Rates (3)	Earnings (4)	Total (5)	Consumers' Goods (6)
1913-14	100	100	100	100	100	100
1924	82	86	75	70	74	92
1925	95	103	88	87	88	96
1926	102	109	94	90	82	82
1927	104	114	95	97	104	104
1928	110	125	100	108	106	104
1929	115	130	103	110	106	101
1930	122	131	...	105	92	97
1931	125	132	...	100	76	92
1932	120	125	...	94	61	79
1933	119	124	...	98	68	84
1934	116	124	...	102	85	94
1935	114	124	...	103	95	90
1936	112	124	...	106	105	96
1937	112	126	...	109	115	100
1938	112	130	...	114	122	103
1939	112	133	...	117	127	110
1940 ^a	109	132	...	117	...	...
1941	107	135	...	122	...	...
1942	105	134	...	120	...	...
1943	104	133	...	119	...	...
1944	102	130	...	115	...	...

^a From 1940 on, including Ostmark; see, however, Table A-20.

SOURCE:

Part I, 1871-1913—Money wages: Appendix Table A-2. Cost of living: Appendix Table A-11. Production data: *IKF Sonderheft* 31, p. 58. (Shifted to base 1913=100.) Population: *Jahrbuch* 1939-40, p. 9.

Part II, 1913-1923—Real Wages: *Wirtschaft und Statistik*, 1925, "Zahlen zur Geldentwertung in Deutschland, 1913 bis 1923," p. 41. Production data: *IKF Sonderheft* 31, pp. 23 and 56. (Shifted to base 1913=100. For adjustment to postwar area in base year, see also source to Table 2.) Population: *Jahrbuch* 1939-40, p. 9.

Part III, 1924-1944—Money wages: Appendix Table A-2. Cost of living: Appendix Table A-33. Production data: Table 4.

TABLE A-14
Skill Differentials, 1871-1943
(differences between wages of skilled and wages of unskilled, expressed in percent of the former)
Part I: Building, Textiles, and Mining, 1871-1913

<i>Year</i>	<i>Building, Based on Hourly Rates (1)</i>	<i>Cotton Spinning, Based on Annual Earnings (2)</i>	<i>Mining, Based on Shift Earnings Dortmund (3)</i>	<i>10 Centers (4)</i>
1871	30.6	38.9	...	...
1872	34.4	41.4	...	...
1873	30.9	38.4	...	...
1874	30.3	36.7	...	...
1875	31.8	37.1	...	...
1876	34.7	37.3	...	...
1877	36.1	34.0	...	...
1878	36.7	...	15.8	...
1879	35.3	...	13.7	...
1880	34.4	39.9	18.5	...
1881	37.0	46.1	19.7	...
1882	30.7	47.3	23.6	...
1883	36.0	48.8	25.1	...
1884	38.6	50.8	23.4	...
1885	39.4	50.0	21.4	...
1886	43.6	50.5	19.5	...
1887	39.7	54.8	19.1	...
1888	37.0	50.5	19.9	...
1889	38.4	49.6	24.9	18.3
1890	37.5	47.1	29.1	20.4
1891	37.5	46.6	30.1	20.9
1892	37.4	48.6	28.7	20.3
1893	37.4	49.4	27.2	18.6
1894	36.8	48.1	27.1	18.2
1895	36.5	48.7	26.9	18.1
1896	36.6	49.7	27.9	19.3
1897	38.3	48.0	31.5	21.0
1898	37.5	45.8	33.2	21.2
1899	38.8	45.5	34.3	22.1
1900	35.7	44.5	35.7	22.6
1901	37.3	42.4	33.3	20.4
1902	36.7	43.1	28.9	18.3
1903	33.8	44.1	29.1	18.6
1904	35.5	45.7	29.9	19.3
1905	34.6	46.2	29.3	19.4
1906	34.7	45.9	31.8	20.6
1907	30.3	43.7	35.1	22.2
1908	29.9	41.5	33.3	20.8
1909	30.0	42.9	28.1	18.9
1910	27.0	41.2	27.7	19.4
1911	26.8	41.3	28.5	19.9
1912	26.9	40.5	31.1	21.5
1913	26.8	40.9	32.9	23.8

SOURCE, by column, Part I, 1871-1913:

(1) Computed from data in Appendix Table A-4.

(2) Computed from data in Appendix Table A-9. Note that skill differentials were derived by comparing average earnings of skilled male spinners with those of the total spinning department—which consisted mainly of unskilled women, but also included unskilled and skilled men. Thus the differential is particularly “impure.”

(3) Computed from data in Appendix Tables A-6 and A-7. For early years, based on data from same source.

(4) Computed from data in Appendix Table A-6 and A-7.

TABLE A-14, *continued*
 Part II: Railway and Building Workers, 1913-1924

WEEKLY RATES OF RAILWAY WORKERS			
<i>Year</i>	<i>Skilled Workers</i> (marks) (1)	<i>Unskilled Workers</i> (marks) (2)	<i>Differentials</i> (3)
1913	34.56	23.70	31.4
1914	34.56	23.70	31.4
1915	35.64	24.78	30.5
1916	40.56	29.70	26.8
1917	55.85	44.45	20.4
1918	90.20	74.06	17.9
1919	139.23	124.83	10.3
1920	235.60	215.60	8.5
1921	349.00	321.25	8.0
1922	3,257.00	3,075.00	5.6
1923	2,923.00 ^{ab}	2,370.00 ^{ab}	18.9 ^c
1924	30.08	23.54	21.7

HOURLY RATES OF BUILDING WORKERS, BERLIN, HAMBURG AND STETTIN			
<i>Year</i>	<i>Masons</i> (marks) (1)	<i>Unskilled Workers</i> (marks) (2)	<i>Differentials</i> (3)
1913-14	.80	.60	25
1914 Apr.	.79	.63	20
1915 Apr.	.80	.63	21
1916 May	.87	.71	18
1917 May	1.10	.95	14
1918 Apr.	1.34	1.20	11
1919 Dec.	3.05	2.92	4
1920 Dec.	6.62	6.48	2
1921 Dec.	12.23	11.73	4
1922 Dec.	360	342	5
1923 Dec.	632 ^a	570 ^a	10

^a Billions of marks.

^b December 1923 is computed by using the conversion rate of one trillion marks = one Rentenmark. The figure given is the average for the year.

^c Differential of annual averages. During the year 1923 those averages are dominated by the high December levels. Averaging of the monthly differentials would result in a figure of 7.3.

SOURCE, Part II, 1913-1924:

1913-23: Railway workers, *Wirtschaft und Statistik*, 1925, "Zahlen zur Geldentwertung in Deutschland 1914 bis 1923," p. 40. Building workers, Allgemeiner Deutscher Gewerkschaftsbund, *Jahrbuch, passim*; and Waldemar Zimmermann, "Die Veränderung der Einkommens- und Lebensverhältnisse der deutschen Arbeiter durch den Krieg," in *Die Einwirkung des Krieges auf Bevölkerungsbewegung, Einkommen und Lebenshaltung in Deutschland, Wirtschafts- und Sozialgeschichte des Weltkrieges* (Carnegie Foundation for International Peace, Stuttgart, Deutsche Verlags-Anstalt, 1932), p. 398.

1924: Average of first nine months, International Labour Office, *Studies and Reports*, Series D, No. 15, p. 148-149.

TABLE A-14, *continued*
 Part III: Building, Mining, and All Industry, 1913, and 1924-1943

Year	<i>Building Based on Hourly Rates</i>	<i>Mining Based on Shift Earnings</i>		<i>12 Industries Based on Hourly Rates</i>	<i>17 Industries Based on Hourly Rates</i>	
	(1)	<i>Dortmund</i> (2)	<i>Centers</i> (3)	(4)	<i>Male</i> (5)	<i>Female</i> (6)
1913	24.8	32.4	23.9	39.3	...	...
1924	18.8	24.4	21.2	28.7 ^d	...	...
1925	20.2	22.4	20.2	27.9 ^d	23.4	...
1926	22.3	21.6	19.7	28.2 ^d	23.6	...
1927	22.4	21.8	19.5	27.4 ^d	22.6	...
1928	21.6	20.9	18.5	25.2 ^d	21.6	17.4
1929	21.3	20.4	18.2	24.7 ^e	21.5	16.9
1930	21.3	20.6	17.7	...	21.5	17.0
1931	21.6	19.4	16.3	...	21.4	17.1
1932	21.3	18.5	15.9	...	21.1	17.3
1933	20.0	18.8	...	...	20.6	16.1
1934	20.1	19.6	...	...	20.6	16.1
1935	20.0	20.0	...	...	20.6	15.9
1936	20.0	20.6	...	...	20.6	15.9
1937	19.6	22.4	...	...	20.6	15.7
1938	19.7	23.5	...	...	20.7	15.1
1939	19.8	28.3	...	...	20.6	14.6
1940	19.2	28.8	...	...	20.6	14.4
1941	19.8	31.5	...	...	20.2	14.1
1942	19.8	32.1	...	...	20.2	14.7
1943	19.8	31.7	...	...	20.8	14.7

^d Average of differentials for April and October.

^e April only.

SOURCE, by column, Part III, 1913 and 1924-43:

(1) Computed from data in Appendix Table A-4.

(2) Computed from data in Appendix Tables A-6 and A-7, and from data underlying cols. 1 and 2 of Appendix Table A-8.

(3) Computed from data in Appendix Table A-6 and A-7.

(4) Computed from data in *Jahrbuch* 1928, p. 371, and *Jahrbuch* 1929, pp. 266-67.

(5 and 6) Computed from data in *Wirtschaft und Statistik, passim*, and in *Handbuch* 1928-1944, p. 472. Differentials are based on comprehensive wage averages which, from 1928 on, cover 17 industries. Because systematic wage information is not available for five of these industries before 1928, wage rates 1925-28 for column 5 were estimated by us on the basis of a 12-industry sample and linked to the later segment in 1928. Thus, even for the early period the level of the differentials given in column 5 reflects the conditions in all 17 industries.

TABLE
Earnings of Men and Women in

Year	WEEKLY EARNINGS, PRINTING					
	Nuremberg				Berlin	
	Job Printing		Newspaper Printing		Book Printing	
	Male Compositors (1)	Female Helpers (2)	Male Compositors (3)	Female Helpers (4)	Male Compositors (5)	Female Helpers (6)
1880	...	...	...	...	...	...
1881	...	...	...	...	...	...
1882	...	...	...	...	...	...
1883	...	...	...	...	...	...
1884	...	...	...	...	...	...
1885	...	...	...	...	...	...
1886	...	...	...	...	...	...
1887	...	...	...	...	...	...
1888	...	...	...	...	...	...
1889	...	...	...	...	...	...
1890	40.3	14.4	50.5	16.7	...	...
1891	39.0	14.4	52.6	16.7	...	...
1892	40.1	14.8	54.6	18.1	...	...
1893	40.6	15.1	55.7	18.1	46.4	25.2
1894	40.4	15.2	53.6	17.8	46.4	27.8
1895	40.5	15.2	58.8	20.2	49.4	25.1
1896	41.0	14.8	57.5	20.8	51.3	25.7
1897	45.7	17.0	59.5	19.6	52.8	24.3
1898	45.7	17.3	58.5	21.5	53.4	24.1
1899	45.6	18.7	61.2	22.2	53.4	25.9
1900	45.7	18.0	62.3	22.7	51.0	24.3
1901	45.2	18.7	65.8	24.6	52.3	26.1
1902	48.5	18.4	67.9	24.7	54.6	27.0
1903	48.9	18.6	70.2	26.0	56.0	28.9

SOURCE, by column:

(1 to 6): Robert Kuczynski, *Arbeitslohn und Arbeitszeit in Europe und Amerika, 1870-1909* (Berlin, 1913), pp. 328 and 363.

A-15

Selected Industries, 1880-1903 (marks)

Year	DAILY EARNINGS, VELVET WEAVING <i>Krefeld</i>		WEEKLY EARNINGS, AWNING MANUFACTURE <i>Berlin</i>		
	<i>Male Weavers</i> (7)	<i>Female Reelers</i> (8)	<i>Male Awning Makers</i> (9)	<i>Male Awning Painters</i> (10)	<i>Seamstresses</i> (11)
1880	...	...	26.94	16.66	11.81
1881	...	...	...	...	...
1882	...	...	26.14	20.44	11.11
1883	...	...	...	...	...
1884	...	...	27.82	21.55	12.57
1885	...	...	...	...	...
1886	...	...	31.97	22.66	11.70
1887	...	...	...	...	...
1888	...	...	26.42	22.31	10.98
1889	3.02	1.78	...	...	...
1890	3.03	2.05	28.63	21.75	14.54
1891	3.21	2.04	...	...	...
1892	2.77	1.57	28.60	21.58	13.03
1893	3.35	1.94	...	...	...
1894	2.47	1.37	27.16	20.51	11.05
1895	2.99	2.06	...	...	...
1896	2.89	1.78	29.43	23.87	12.68
1897	2.89	1.78	...	...	...
1898	3.15	2.14	31.25	19.82	11.50
1899	3.56	2.15	...	...	...
1900	3.62	2.13	31.23	21.97	12.42
1901	3.60	2.16	...	...	...
1902	3.73	2.32	31.79	20.08	12.87
1903	3.37	2.10	34.93	20.31	13.12

(7 and 8): Jürgen Kuczynski, *Löhne und Ernährungskosten in Deutschland, 1820-1937* (Libau, 1937), p. 21.

(9, 10 and 11): Robert Kuczynski, *Die Entwicklung der gewerblichen Löhne seit der Begründung des deutschen Reiches* (Berlin, 1909), p. 85.

TABLE A-16

Sex Differentials, Based on Wages in Selected Industries, 1880-1913
(differences between wages of men and wages of women, expressed in percent of the former)

Year	Cotton Spinning, Hof		Hosiery, Erz Mountains		Job Printing, Nuremberg		Newspaper Printing, Nuremberg		Book Printing, Berlin		Awning Manufacture, Berlin		Velvet Weaving, Krefeld	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1880	...	...	...	...	...	...	...	...	...	...	56.2	29.1	...	...
1881	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1882	...	...	...	...	...	...	...	...	...	...	57.5	45.6	...	...
1883	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1884	...	...	...	...	...	...	...	...	...	...	54.8	41.7	...	...
1885	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1886	...	...	...	...	...	...	...	...	...	...	63.4	48.4	...	...
1887	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1888	26.7	...	...	...	...	...	...	...	...	...	58.4	50.8	...	...
1889	31.2	...	...	...	...	...	...	...	...	...	...	...	...	41.1
1890	29.4	40.8	64.3	66.9	...	49.2	33.1	...	...	...	32.3	...	...	32.3
1891	29.4	42.0	63.1	68.3	...	...	...	...	...	...	36.4	...	...	36.4
1892	35.3	39.7	63.1	66.8	...	54.4	39.6	...	...	...	43.3	...	...	43.3
1893	29.4	45.9	62.8	67.5	...	...	...	45.7	...	...	42.1	...	...	42.1
1894	...	48.9	62.4	66.8	...	59.3	46.1	...	...	...	44.5	...	...	44.5
1895	...	47.3	62.5	65.6	...	...	...	49.2	...	...	31.1	...	...	31.1
1896	26.5	44.6	63.9	63.8	...	56.9	46.9	...	...	...	38.4	...	...	38.4
1897	35.0	42.6	62.8	67.1	...	...	...	54.0	...	...	38.4	...	...	38.4
1898	26.3	41.8	62.1	63.2	...	...	...	54.9	...	...	32.1	...	...	32.1
1899	26.3	43.2	59.0	63.7	...	...	...	51.5	...	...	39.6	...	...	39.6

TABLE A-16, continued

Year	Cotton Spinning, Hof	Hosiery, Erz Mountains	Job Printing, Nuremberg	Newspaper Printing, Nuremberg	Book Printing, Berlin	Awning Manufacture, Berlin	Velvet Weaving, Krefeld
	Daily Rates, Male & Female Weavers (1)	Weekly Earnings, Male Knitters & Female Helpers (2)	Male Compositors & Female Helpers (3)	Weekly Earnings, Compositors & Female Helpers (4)	(5)	Awning Makers & Seamstresses (6)	Daily Earnings, Male Weavers & Female Reelers (8)
1900	25.0	44.0	60.6	63.6	52.4	60.2	41.2
1901	27.5	42.6	58.6	62.6	50.1	...	40.0
1902	25.0	45.3	62.1	63.6	50.5	59.5	37.8
1903	25.0	43.3	62.0	63.0	48.4	62.4	37.7
1904	34.8	42.3	...	...	...	...	...
1905	36.2	42.0	...	...	...	...	...
1906	38.0	43.7	...	...	...	...	...
1907	...	40.9	...	...	...	...	...
1908	...	39.0	...	...	...	...	...
1909	37.0	41.3	...	...	...	...	...
1910	35.3	41.2	...	...	...	...	...
1911	35.3	42.7	...	...	...	...	...
1912	34.5	41.4	...	...	...	...	...
1913	36.7	44.2	...	...	...	...	...

SOURCE: Columns 1 and 2 computed from data given in Appendix Table A-9 and A-10; columns 3 to 8 computed from data given in Appendix Table A-15.

TABLE A-17

Sex Differentials in the Mining Industry, Workers above Ground, 1886-1913
(differences between wages of men and wages of women, expressed in
percent of the former)

Year	COAL MINING		ORE MINING		
	Upper Silesia	Lower Silesia	Siegen- Nassau	Right Bank of Rhine	Left Bank of Rhine
1886	51.9	41.1	...	...	...
1887	51.9	41.8	...	...	...
1888	54.2	41.3	...	...	...
1889	55.2	41.4	48.8	46.4	56.7
1890	57.1	40.8	48.6	50.5	57.3
1891	58.1	40.8	49.3	52.1	56.7
1892	58.8	41.7	48.4	53.3	54.1
1893	58.6	43.4	45.9	52.1	51.0
1894	58.6	43.6	46.3	50.2	47.5
1895	57.9	44.3	46.6	50.7	47.3
1896	58.3	44.2	49.6	50.2	47.6
1897	58.6	45.5	51.0	51.1	49.1
1898	58.5	43.5	50.6	51.0	50.2
1899	58.2	42.6	52.1	49.6	48.3
1900	58.3	42.9	52.1	50.2	47.3
1901	57.6	41.8	52.4	50.2	45.8
1902	57.8	43.0	51.3	47.6	42.5
1903	58.5	44.0	50.2	48.2	42.8
1904	58.0	44.7	50.0	49.2	41.3
1905	58.1	44.0	51.7	46.8	43.1
1906	58.4	44.9	52.9	53.6	41.4
1907	58.7	46.5	53.2	53.7	40.1
1908	59.3	46.2	...	54.8	43.5
1909	59.4	46.7	...	53.2	45.5
1910	59.7	47.2	...	52.6	45.0
1911	60.1	48.1	...	54.0	44.2
1912	60.7	49.5	...	52.9	44.8
1913	61.5	48.9	...	54.3	47.1

SOURCE: 1886-1907, Robert Kuczynski, *Die Entwicklung der gewerblichen Löhne seit der Begründung des Deutschen Reiches* (Berlin, 1909), pp. 5, 7, 23, 25, and 27.

1908-1910, *Reichsarbeitsblatt* 1910, p. 187-88.

1909-1912, *Jahrbuch* 1911, p. 89; 1912, p. 71; 1913, p. 79.

1913, *Jahrbuch* 1914, p. 89. Spliced to earlier series in 1912.

TABLE A-18
Average Hourly Earnings by Regions, Masons, 1885, 1905, and 1925, and
Unskilled Workers, All Industry, 1941
(pfennigs)

	<i>Masons</i>			<i>Unskilled Workers</i>		
	1885	1905	1929		1941	
<i>East</i>						
Pomerania	23.9	37.5	Pomerania	125	Pomerania	69
Mecklenburg	24.1	36.8	Mecklenburg	109		
Silesia	21.0	34.8	Upper Silesia	103	Upper Silesia	61
			Lower Silesia	111	Lower Silesia	65
Posen, East and West Prussia	26.5	40.5	Posen and West Prussia	109	West Prussia	53
			East Prussia	125	East Prussia	66
Average	23.9	37.4		114		63
<i>Central</i>						
Brandenburg	35.1	58.0	Brandenburg	113	Brandenburg	79
Saxony (kingdom)	27.5	41.5	Saxony E. and W.	145	Saxony	78
Saxony and Anhalt	25.6	38.0	Saxony and Anhalt	127	Lower Saxony	82
Hesse-Nassau and Hesse-Darmstadt	26.6	43.0	Hesse and Hesse-Nassau	134	Hesse	78
			Siegerland	113		
Thuringia	22.0	36.0	Thuringia	116	Thuringia	79
			East Thuringia	117		
Average	27.4	43.3		124		79
<i>South</i>						
Bavaria excl. Palatinate	27.3	39.5	Bavaria, E. of Rhine	141	Bavaria	74
Württemberg	28.2	39.8	Württemberg and Hohenzollern	130	Upper Danube	78
Average	27.8	39.6		136		76
<i>Southwest</i>						
Baden, Alsace- Lorraine and Palatinate	28.0	42.8	Baden and Bavaria W. of Rhine	134	Southwest Germany	79
			Palatinate	125		
			Nahe	130		
Rhineland	30.6	45.0	Rhineland	138	Rhineland	82
Average	29.3	43.9		132		80
<i>Northwest</i>						
Westphalia and Lippe	28.6	46.5	Westphalia (East) and Lippe	120	Westphalia and lower Rhine	81
			Northwest Germany	129		
			West Germany	132	Nordmark	82
Schleswig-Holstein, Hamburg, Lübeck	39.8	62.2	North Germany	192	Mittelbe	82
Hanover, Oldenburg, Braunschweig,			North-Weser-Ems	138		
Bremen	27.6	45.2	Braunschweig	124		
Average	32.0	51.3		139		82

Regional averages are unweighted. They may be affected by the differences in the available area breakdown within the major regions.

SOURCE: 1885 and 1905, Robert Kuczynski, *Die Entwicklung der Gewerblichen Löhne seit der Begründung des Deutschen Reiches* (Berlin, 1909), p. 53. For 1929, *Wirtschaft und Statistik*, 1931, Vol. 4, p. 149. For 1941, *Wirtschaft und Statistik*, 1942, pp. 282-85.

TABLE A-19
 Union Rates and Average Hourly Earnings for Time and Piece Workers,
 Selected Industries, 1928-1929

	TIME WORKERS				PIECE WORKERS				Monthly Sample, Rates (pfennings) (9)
	Union Rates		Average Earnings		Union Rates		Average Earnings		
	(1) (pfennings)	(2) (rank)	(3) (pfennings)	(4) (rank)	(5) (pfennings)	(6) (rank)	(7) (pfennings)	(8) (rank)	
<i>Skilled Workers</i>									
Iron and steel, foundries	74.5	1	92.0	2	85.7	2	109.4	2	...
Iron and steel, mechanical and electrical repair shops	75.6	2	90.3	1	82.8	1	98.3	1	...
Metals, hardware	79.3	3	98.0	4	89.8	3	117.8	5	86.5
Metals, engineering	83.5	4	105.6	5	93.3	4	116.8	4	90.0
Boots and shoes	83.6	5	97.7	3	94.5	5	114.4	3	86.5
Metals, electrical products	96.2	6	113.2	6	109.8	6	124.0	6	97.9
Chemicals	98.5	7	122.3	9	109.8	7	132.0	7	107.8
Woodworking, musical instruments	107.8	8	120.2	8	128.5	9	141.1	9	...
Woodworking, furniture making	107.9	9	117.2	7	121.9	8	137.2	8	...
<i>Semiskilled Workers</i>									
Iron and steel, mechanical and electrical repair shops	66.7	1	78.3	2	74.7	1	89.5	2	...
Boots and shoes	66.8	2	70.9	1	75.4	2	85.0	1	...
Iron and steel, foundries	70.1	3	84.1	3	76.1	3	100.9	3	...
Metals, hardware	71.7	4	87.7	5	83.8	4	108.1	5	...
Metals, engineering	74.7	5	85.5	4	85.0	5	106.3	4	77.4
Metals, electrical products	79.9	6	89.3	6	92.9	6	108.3	6	78.7
Chemicals	81.0	7	96.9	8	95.6	7	113.0	7	...
Woodworking, musical instruments	91.9	8	90.6	7	...	...	...	...	98.3
Woodworking, furniture making	95.4	9	98.1	9	...	...	...	...	...

TABLE A-19, continued

	TIME WORKERS				PIECE WORKERS				Monthly Sample, Rates (pennings) (9)
	Union Rates (1) (pennings)	Union Rates (2) (rank)	Average Earnings (3) (pennings)	Average Earnings (4) (rank)	Union Rates (5) (pennings)	Union Rates (6) (rank)	Average Earnings (7) (pennings)	Average Earnings (8) (rank)	
<i>Unskilled Workers.</i>									
Iron and steel, mechanical, and electrical repair shops	61.6	1	69.0	1	67.8	2	90.0	1	...
Iron and steel, foundries	63.7	2	74.5	2	67.1	1	95.7	4	...
Metals, engineering	67.6	3	76.6	3	79.1	3	92.7	2	...
Metals, hardware	68.6	4	82.0	5	79.9	4	104.3	5	70.2
Metals, electrical products	77.8	5	81.5	4	89.6	5	95.3	3	
Woodworking, musical instruments	94.1	6	97.1	7	...	...	...	...	...
Woodworking, furniture making	94.5	7	94.7	6	...	...	...	...	88.3

Industries were investigated at the following dates: woodworking, March 1928; chemicals, June 1928; iron and steel, and metals, October 1928; boots and shoes, March 1929.

SOURCE, by columns:

Cols. 1 to 8. Dora Straube, *Die Veränderung von Lohn und Preis*

nach der Stabilisierung in Deutschland, (Kallmünz, 1935), Appendix. That author consolidated the results of the special triannual earnings inquiries of the Statistische Reichsamt.

Col. 9. *Jahrbuch* 1931, pp. 284-92. Monthly union rate statistics, all manufacturing, April 1928, based on smaller sample than special inquiries.

TABLE
Amplitudes and Conformity Indexes of Wage Rates

	AVERAGE ANNUAL CHANGE									
	(1) <i>Expansion^a</i> 1870- 1872	(2) <i>Con- traction</i> 1872- 1878	(3) <i>Expansion</i> 1878- 1882	(4) <i>Con- traction</i> 1882- 1886	(5) <i>Expansion</i> 1886- 1890	(6) <i>Con- traction</i> 1890- 1894	(7) <i>Expansion</i> 1894- 1900	(8) <i>Con- traction</i> 1900- 1902	(9) <i>Expansion</i> 1902- 1903	(10) <i>Con- traction</i> 1903- 1904
Number of Years	1 ^a	6	4	4	4	4	6	2	1	1
<i>Union Rates</i>										
<i>Hourly Rates</i>										
<i>Comprehensive series</i>										
Printing	+17	+1	0	+1	+1	+1	+0 ^c	+4	0	0
Building	+20	+2	-2	+4	+4	-0 ^c	+2	+1	+3	+4
<i>Weekly Rates</i>										
Printing	+18	+0 ^c	0	+1	+1	0	+1	+4	0	0
Building	+18	+1	-3	+5	+3	0	+2	+0 ^c	+2	+3
<i>Effective Rates</i>										
Printing	...	...	...	...	...	+2 ^d	+2	+3	+5 ^d	...
Building	...	...	...	...	+3	+0 ^c	+3	+1	+4 ^e	...
Machinery	...	...	...	...	+6	-2	+3	-2	+4 ^e	...
Wood	...	...	...	...	...	+1 ^d	+3	+1	+1 ^d	...

^a Measures based on incomplete expansion; data start in 1871.

^b Based on inverted cycle, 1907-08-13. Not included in average.

^c Less than 0.5 of 1 percent.

^d Based on inverted cycle 1925-26-29.

^e Based on inverted cycle. Not included in average.

^f Based on incomplete reference expansion. Data start in 1924.

SOURCE: Table 33 and Appendix Tables A-2, A-3, A-4, and A-5.

Conformity indexes are computed according to National Bureau methods. They vary between +100 (perfect positive conformity) and -100 (perfect inverse conformity).

Col. 20 indicates the conformity during reference expansions. It is computed as: (a) number of times the series goes up during expansions, less (b) number of times the series goes down during expansions—the difference being expressed in percent of the total number of expansions included in the series.

Col. 21 indicates the conformity during reference contractions, similarly computed.

A-20

during Reference Cycles, Annual Series, 1871-1913 and 1924-1932

OF CYCLE RELATIVES									INDEXES OF CONFORMITY		
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
<i>Expan- sion</i>	<i>Con- traction</i>	<i>Expan- sion^b</i>	<i>Expan- sion^c</i>	<i>Con- traction</i>	<i>Expan- sion</i>	<i>Con- traction</i>	<i>Expan- sions</i>	<i>Con- tractions</i>	<i>Expan- sions</i>	<i>Con- tractions</i>	<i>Full Cycles</i>
1904- 1907	1907- 1908	1908- 1913	1923- 1925	1925- 1926	1926- 1929	1929- 1932	<i>(average)</i>				
3	1	5	1 ^e	1	3	3					
...	...	...	+22	+9	+6	-7	+14	+1	+100	0	+33
+4	0	+3	+34	+9	+6	-6	+7	+1	+78	-50	-13
+4	+4	+2	+33	+10	+7	-11	+8	+2	+78	-50	+33
+4	0	+2	+31	+7	+6	-6	+7	+1	+78	-38	+27
+4	+4	+3	+34	+8	+6 ^d	...	+8	+3	+78	-86	+14
...	...	...	...	...	...	...	+4	+2	+100	-100	+33
...	...	...	...	...	...	...	+3	+1	+100	-100	+100
...	...	...	...	...	...	...	+4	-2	+100	+100	+100
...	...	...	...	...	...	...	+2	+1	+100	-100	+67

Col. 22 indicates the conformity of a series to entire business cycles (measured from trough to trough and from peak to peak). It is computed as: (a) the number of times the series falls faster (or rises more slowly) in contraction than in the preceding expansion, plus (b) the number of times the series falls faster (or rises more slowly) in contraction than in the following expansion, less (c) the number of times the series falls more slowly (or rises faster) in contraction than (i) in the preceding expansion and (ii) in the following expansion—the algebraic sum being expressed in percent of the total number of observations.

A value of +100 for this index means that the annual rate of change during reference contractions is without exception algebraically lower than the rate of change during the nearest preceding and following reference expansions.

All conformity indexes used in these tables are indexes "ignoring timing differences," i.e., they do not take account of typical lags or leads.

For a detailed explanation of the computation of these indexes see Arthur F. Burns and Wesley C. Mitchell, *Measuring Business Cycles*, (National Bureau of Economic Research, 1946), pp. 176-85.

TABLE
Union Wage Rates of Skilled Male
(pfennigs)

<i>Year and Month</i>	<i>Building (1)</i>	<i>Woodworking (2)</i>	<i>Metal Products (3)</i>	<i>Textiles (4)</i>
1924				
Jan.	51	51	47	40
Feb.	51	...	...	...
Mar.	52	...	...	...
Apr.	57	52	53	44
May	65	...	...	...
June	67	...	...	...
July	68	64	60	47
Aug.	71	...	...	...
Sept.	73	68	59	50
Oct.	76	67	61	49
Nov.	77	73	61	53
Dec.	77	70	63	51
Average	65	58 ^b	55 ^b	45 ^b
1925				
Jan.	77.5	70.4	59.7	53.9
Feb.	78.9	72.0	61.9	53.3
Mar.	78.9	77.2	65.6	55.0
Apr.	87.2	79.5	68.2	55.0
May	93.0	80.6	68.9	55.2
June	97.5	83.1	69.3	55.7
July	99.3	86.8	73.5	57.3
Aug.	100.1	91.1	75.1	59.0
Sept.	103.7	93.0	76.2	59.4
Oct.	104.0	93.0	77.2	59.7
Nov.	104.1	93.1	77.4	60.2
Dec.	104.1	93.1	77.4	60.2
Average	94.0	84.4	70.9	57.0
1926				
Jan.	104.1	93.1	77.4	60.2
Feb.	104.1	93.1	77.4	60.2
Mar.	104.1	93.1	77.4	60.2
Apr.	104.0	92.5	77.4	60.2
May	104.0	92.4	77.4	60.2
June	103.6	92.2	77.0	60.2
July	103.6	92.1	77.0	60.2
Aug.	103.6	91.7	77.1	60.0
Sept.	103.6	91.7	77.1	60.0
Oct.	103.6	91.7	77.1	59.9
Nov.	103.6	91.7	77.1	59.9
Dec.	103.6	92.1	76.5	60.5
Average	103.8	92.3	77.2	60.1

A-21

Workers by Industry, Monthly, 1924-1932
per hour)

<i>Chemicals</i> (5)	<i>Papermaking</i> (6)	<i>Printing</i> (7)	<i>Baking</i> (8)	<i>Brewing</i> (9)	<i>Hard-Coal Mining</i> (10)
55	46	54	44.7	58.0	71
...
...
60	48	60	50.7	63.0	72
...
...
63	54	67	62.7	72.6	83
...
63	54	67	64.0 ^a	73.7 ^a	82
67	55	67	65.4	74.9	83
69	57	80	66.7 ^a	76.8 ^a	83
69	57	80	68.0 ^a	78.7 ^a	90
61 ^b	51 ^b	62 ^b	55.9 ^b	67.1 ^b	77 ^b
72.3	59.4	79.9	69.2	80.5	90.4
75.0	61.3	80.1	71.0 ^a	82.5 ^a	90.4
75.3	63.3 ^a	82.0 ^a	72.8 ^a	84.5 ^a	90.4
77.2	65.3	83.9	74.6	86.5	92.1
79.9	66.7	84.3	74.6	88.0	95.5
81.1	69.5	91.9	74.6	88.6	95.5
81.1	71.0	95.5	74.6	91.0	95.5
81.1	71.1	95.9	78.5	91.9	95.5
83.3	72.4	95.9	78.5	91.5	95.9
85.3	72.9	95.9	81.7	95.2	95.9
85.6	73.0	95.9	82.4	95.7	102.0
86.1	73.1	95.9	82.4	95.8	102.1
80.3	68.2	89.8	76.2	89.3	95.1
86.1	73.1	95.9	82.4	95.8	102.1
86.1	73.1	95.9	82.4	95.8	102.1
86.1	73.1	95.9	82.4	95.9	102.1
86.1	73.1	95.9	82.4	96.4	102.1
86.1	73.1	95.9	82.4	96.4	102.1
86.1	73.1	95.9	82.4	96.4	102.1
86.1	73.1	95.9	82.4	96.9	102.1
86.1	73.1	95.9	81.2	97.2	105.6
86.1	73.2	95.9	81.2	97.6	106.1
86.1	73.2	95.9	81.2	97.6	106.1
86.1	73.2	95.9	81.2	98.2	106.3
86.1	73.1	95.9	82.0	96.7	103.4

TABLE

<i>Year and Month</i>	<i>Building (1)</i>	<i>Woodworking (2)</i>	<i>Metal Products (3)</i>	<i>Textiles (4)</i>
1927				
Jan.	103.6	92.1	76.5	63.8
Feb.	103.6	92.7	76.3	63.9
Mar.	103.6	93.5	78.1	64.1
Apr.	106.8	95.6	80.3	64.3
May	109.0	97.4	80.4	64.2
June	109.0	97.8	81.3	64.4
July	109.0	97.8	81.3	64.4
Aug.	109.0	97.9	81.3	64.4
Sept.	109.1	97.9	81.3	64.7
Oct.	110.8	101.8	81.7	66.4
Nov.	110.8	101.8	81.7	70.6
Dec.	111.3	101.8	82.0	70.9
Average	108.0	97.3	80.2	65.5

A-21, continued

<i>Chemicals</i> (5)	<i>Papermaking</i> (6)	<i>Printing</i> (7)	<i>Baking</i> (8)	<i>Brewing</i> (9)	<i>Hard-Coal Mining</i> (10)
86.1	73.2	95.9	81.2	99.0	106.3
86.6	73.4	95.9	81.2	100.3	106.6
89.5	74.1	95.9	81.2	100.5	106.6
93.3	78.7	102.9	85.3	101.0	106.6
93.3	78.8	102.9	85.3	101.8	112.3
93.3	78.8	102.9	85.3	102.5	112.5
93.3	78.8	102.9	85.3	103.1	112.5
93.3	79.2	102.9	85.3	103.2	112.5
93.3	80.2	102.9	85.3	105.5	112.5
93.3	80.8	104.9	86.9	108.0	112.5
93.3	80.8	104.9	86.9	108.0	112.5
93.3	81.0	104.9	86.9	109.7	112.5
91.8	78.2	101.6	84.7	103.6	110.5

TABLE

<i>Year and Month</i>	<i>Building</i> (1)	<i>Wood-working</i> (2)	<i>Metal Products</i> (3)	<i>Textiles</i> (4)	<i>Chemicals</i> (5)	<i>Paper-making</i> (6)	<i>Printing</i> (7)	<i>Baking</i> (8)
1928								
Jan.	111.3	102.5	83.3	70.9	93.3	81.0	104.9	86.9
Feb.	111.3	102.5	83.3	70.9	93.3	81.4	104.9	92.1
Mar.	111.3	107.1	83.9	70.9	93.3	81.4	104.9	92.1
Apr.	111.9	107.8	86.5	71.5	97.9	87.0	112.5	92.1
May	116.5	107.8	87.2	72.9	102.3	88.6	112.5	92.1
June	116.5	108.3	87.5	72.9	102.3	88.6	112.5	92.1
July	116.5	108.3	88.3	72.9	102.3	88.6	112.5	92.1
Aug.	116.5	108.3	90.8	72.9	102.3	88.6	112.5	92.1
Sept.	116.5	108.3	90.8	72.9	102.3	88.9	112.5	92.1
Oct.	119.4	111.4	91.0	73.1	102.3	88.9	112.5	96.9
Nov.	119.4	111.4	91.0	73.1	102.3	88.9	112.5	96.9
Dec.	119.4	111.4	91.3	73.9	102.3	88.9	112.5	96.9
Average	115.5	107.9	87.9	72.4	99.7	86.7	110.6	92.9
1929								
Jan.	119.4	111.4	92.2	73.9	102.3	88.9	112.5	96.9
Feb.	119.5	111.4	92.5	74.1	102.3	88.9	112.5	96.9
Mar.	119.5	111.4	92.6	74.2	102.3	88.9	112.5	96.9
Apr.	119.5	111.4	93.4	74.6	102.3	89.4	117.3	96.9
May	124.8	111.5	94.5	74.8	104.8	92.4	117.3	96.9
June	124.8	114.6	94.6	74.9	107.5	92.7	117.3	96.9
July	124.8	114.8	95.0	75.3	107.5	93.2	117.3	96.9
Aug.	124.9	115.3	95.1	75.6	107.5	93.2	117.3	96.9
Sept.	124.9	115.4	95.1	75.6	107.5	93.3	117.3	96.9
Oct.	125.2	115.5	95.1	75.6	107.5	93.4	117.3	101.0
Nov.	125.2	117.1	95.1	75.6	107.5	93.4	117.3	101.0
Dec.	125.2	117.2	95.4	75.6	107.5	93.4	117.3	101.0
Average	123.1	113.9	94.2	75.0	105.5	91.8	116.1	97.9
1930								
Jan.	125.2	117.3	95.4	75.7	107.5	93.4	117.3	101.0
Feb.	125.2	117.3	95.4	75.7	107.5	93.4	117.3	101.0
Mar.	125.2	117.3	95.4	75.7	107.5	93.5	117.3	101.0
Apr.	125.2	117.3	95.4	76.0	107.5	93.5	117.3	101.0
May	125.2	117.3	95.4	76.1	107.5	93.5	117.3	101.0
June	125.2	117.3	95.4	76.1	107.5	93.5	117.3	101.0
July	125.2	117.3	95.4	76.1	107.5	93.5	117.3	101.0
Aug.	125.2	117.3	95.4	76.1	107.5	93.5	117.3	101.0
Sept.	125.2	117.3	95.4	76.1	107.5	93.5	117.3	101.0
Oct.	125.2	117.3	95.4	76.1	107.5	93.5	117.3	101.0
Nov.	125.2	117.3	95.4	76.1	107.5	93.5	117.3	101.0
Dec.	125.2	117.3	94.8	76.1	107.5	93.5	117.3	101.0
Average	125.2	117.3	95.4	76.0	107.5	93.5	117.3	101.0

A-21, continued

Brewing (9)	Paper Products (10)	Pottery (11)	Clothing (12)	Shoes (13)	Railroads (14)	Postal Service (15)	Mining	
							Hard Coal (16)	Soft Coal (17)
110.4	101.7	74.1	87.1	85.91	87.1	78.7	110.1	83.5
110.5	101.7	74.1	87.1	85.91	87.1	78.7	110.1	83.5
110.6	101.7	74.1	87.1	85.91	87.1	78.7	110.1	83.5
113.1	102.9	82.3	92.4	90.05	92.2	86.2	110.2	83.5
113.5	109.5	82.3	92.4	90.05	92.2	86.2	117.4	83.5
115.0	109.5	82.3	92.4	90.05	92.2	86.2	118.0	83.5
115.0	110.3	82.3	92.4	90.05	92.2	86.2	118.0	83.5
116.0	110.3	82.3	92.4	90.05	92.2	86.2	118.0	83.5
116.1	110.3	82.3	92.4	90.05	92.2	86.2	118.0	84.8
118.5	110.3	82.3	96.0	90.05	92.2	86.2	118.0	87.5
118.3	110.3	82.3	96.1	90.05	92.2	86.2	118.2	87.5
118.3	110.3	82.3	96.1	90.05	92.2	86.2	118.2	87.5
114.6	107.4	80.2	92.0	89.02	90.9	84.3	115.4	84.6
118.5	110.3	82.3	96.1	90.05	92.2	86.2	118.2	87.5
118.5	110.3	82.3	96.1	90.05	92.2	86.2	118.2	87.5
119.3	110.3	82.3	96.1	90.05	92.2	86.2	118.2	87.5
119.9	110.5	82.3	96.1	90.05	96.3	89.9	118.3	87.5
120.8	115.5	85.5	96.2	90.05	96.3	89.9	120.3	87.5
120.9	115.5	85.5	96.2	90.05	96.3	89.9	120.7	87.5
121.8	115.5	85.5	96.2	90.05	96.3	89.9	120.7	87.5
122.1	115.5	85.5	96.2	90.05	96.3	89.9	120.7	87.5
122.1	115.5	85.5	96.2	90.05	96.3	89.9	120.8	87.5
122.6	115.5	85.5	96.2	90.05	96.3	89.9	120.8	88.4
123.3	115.5	85.5	96.2	90.05	96.3	89.9	120.8	88.4
123.4	115.5	85.5	96.2	95.23	96.3	89.9	120.8	90.7
121.1	113.8	84.4	96.2	90.48	95.3	89.0	119.9	87.9
123.5	115.5	85.5	96.2	95.23	96.3	89.9	120.8	90.7
123.5	115.5	85.5	96.2	95.23	96.3	89.9	120.8	90.7
123.5	115.5	85.5	96.2	95.23	96.3	89.9	120.8	90.7
123.5	115.5	87.4	96.2	98.33	96.3	89.9	120.8	90.7
124.0	115.5	87.4	97.8	98.33	96.3	89.9	120.8	90.7
124.1	115.5	87.4	97.8	98.33	96.3	89.9	120.8	90.7
124.1	115.5	87.4	97.8	98.33	96.3	89.9	120.8	90.7
124.1	115.5	87.4	97.8	98.33	96.3	89.9	120.8	90.7
124.1	115.5	87.4	97.8	98.33	96.3	89.9	120.8	90.7
124.1	115.5	87.4	97.8	98.33	96.3	89.9	120.8	90.7
124.1	115.5	87.4	97.7	98.33	96.3	89.9	120.8	92.7
123.9	115.5	86.9	97.3	97.56	96.3	89.9	120.8	90.9

TABLE

<i>Year and Month</i>	<i>Building</i> (1)	<i>Wood-working</i> (2)	<i>Metal Products</i> (3)	<i>Textiles</i> (4)	<i>Chemicals</i> (5)	<i>Paper-making</i> (6)	<i>Printing</i> (7)	<i>Baking</i> (8)
1931								
Jan.	125.2	117.3	93.5	76.1	107.5	93.0	117.3	101.0
Feb.	125.2	116.8	91.5	74.6	107.5	87.9	117.3	101.0
Mar.	125.2	115.7	91.2	73.2	107.5	87.8	110.3	101.0
Apr.	118.8	114.6	90.9	71.8	106.5	87.8	110.3	96.0
May	114.4	114.4	90.8	71.8	102.2	87.8	110.3	96.0
June	114.4	114.4	90.6	71.8	102.1	87.7	110.3	96.0
July	113.2	114.4	90.6	71.8	102.1	87.7	110.3	96.0
Aug.	112.9	114.4	90.1	71.8	102.1	87.7	110.3	96.0
Sept.	112.9	113.9	90.1	71.8	102.1	87.7	110.3	96.0
Oct.	112.9	113.5	90.1	71.8	102.1	87.7	110.3	96.0
Nov.	112.9	105.5	88.8	71.8	102.1	89.3	110.3	96.0
Dec.	112.9	105.4	87.4	70.9	102.1	86.0	110.3	92.5
Average	116.7	113.4	90.5	72.4	103.8	88.2	111.5	97.0
1932								
Jan.	103.2	94.9	78.5	65.6	87.4	79.3	96.1	83.2
Feb.	103.2	94.9	78.5	65.4	87.4	78.4	96.1	83.2
Mar.	102.9	94.7	78.5	65.4	87.4	78.4	96.1	83.2
Apr.	102.9	94.1	78.5	65.4	87.4	78.4	96.1	83.2
May	92.1	94.0	78.5	65.4	87.4	76.5	96.1	83.2
June	85.7	92.5	78.5	65.4	87.4	76.5	96.1	83.2
July	85.6	90.4	78.1	65.2	87.4	76.1	96.1	83.2
Aug.	85.6	88.6	78.1	64.6	87.4	76.1	96.1	83.2
Sept.	85.6	87.9	78.1	64.1	87.4	76.0	96.1	82.0
Oct.	85.6	...	78.0	63.9	87.1	76.0	96.1	81.1
Nov.	85.6	...	78.0	63.9	87.1	75.9	96.1	80.3
Dec.	85.6	...	78.0	63.9	87.1	75.9	96.1	80.3
Average	92.0	91.3 ^c	78.3	64.8	87.3	77.0	96.1	82.4

^a Estimated by linear interpolation.

^b Average of January, April, June, and October.

^c In computation of average, stability of rates between September and December 1932 was assumed.

A-21, continued

Brewing (9)	Paper Products (10)	Pottery (11)	Clothing (12)	Shoes (13)	Railroads (14)	Postal Service (15)	Mining	
							Hard Coal (16)	Soft Coal (17)
124.1	115.5	87.4	97.7	98.33	96.3	89.9	114.3	92.7
124.1	115.5	82.1	97.7	98.33	96.3	89.9	114.1	92.7
124.1	108.2	82.1	94.3	98.33	96.3	89.9	114.1	92.7
124.1	108.2	82.1	94.3	93.16	90.4	89.9	113.9	92.7
123.3	108.2	82.1	92.3	93.16	90.4	85.1	113.9	92.7
122.4	108.2	82.1	92.3	93.16	90.4	85.1	113.9	87.9
122.0	108.2	82.1	92.2	93.2	90.4	85.1	113.4	87.9
121.2	108.2	82.1	92.2	93.2	90.4	85.1	113.4	87.9
122.0	108.2	82.1	92.1	93.2	90.4	85.1	113.4	87.9
122.0	108.2	82.1	92.1	93.2	90.4	85.1	106.6	87.9
122.4	108.2	79.0	92.1	93.2	90.4	85.1	105.8	87.1
122.3	108.2	79.0	92.1	93.2	87.0	81.1	105.8	87.1
122.8	109.4	82.0	93.4	94.5	91.6	86.4	111.9	89.8
106.5	92.9	70.9	83.5	79.2	78.3	73.0	95.5	75.2
106.5	92.9	70.9	83.5	79.2	78.3	73.0	95.5	75.2
106.5	92.9	70.9	83.5	79.2	78.3	73.0	95.5	75.2
106.5	92.9	70.9	83.5	79.2	78.3	73.0	95.5	75.2
106.5	92.9	70.9	83.5	79.2	78.3	73.0	95.5	75.2
106.4	92.9	70.9	83.5	79.2	78.3	73.0	95.5	75.2
106.5	92.9	70.9	83.5	79.2	78.3	73.0	95.5	75.2
106.5	92.9	70.9	83.5	79.2	78.3	73.0	95.5	75.2
106.3	92.9	70.9	77.7	79.2	78.3	73.0	95.5	75.2
106.3	92.9	70.9	76.2	79.2	78.3	73.0	95.5	75.2
105.9	92.9	70.9	74.6	79.2	78.3	73.0	95.5	75.2
105.9	92.9	70.9	74.4	79.2	78.3	73.0	95.5	75.2
106.4	92.9	70.9	80.9	79.2	78.3	73.0	95.5	75.2

SOURCE: *Wirtschaft und Statistik, passim*. Data for 1924-27 were linked to later segment, using January 1928 ratios as adjustment factors.

TABLE A-22
Amplitudes and Conformity Indexes of Hourly Wage Rates, Reference Cycles, Monthly Series,
January 1924 to August 1932

	AVERAGE ANNUAL CHANGE OF CYCLE RELATIVES						INDEXES OF CONFORMITY		
	Expansion ^a		Contraction		Average		Average		Average
	Nov. 23- Mar. 25	Mar. 25- Mar. 26	Expansion Mar. 26- Apr. 29	Contraction Apr. 29- Aug. 32	Expansion Apr. 29- Aug. 32	Contraction Apr. 29- Aug. 32	Expansion	Contraction	Full Cycles
Number of Years	1.08	1.0	3.08	3.3					
All industries	+23	+16	+6	-6	+14	+5	+100	0	+33
Building	+34	+27	+5	-9	+20	+9	+100	0	+33
Woodworking	+32	+23	+6	-6	+19	+8	+100	0	+33
Metal	+26	+19	+6	-5	+16	+7	+100	0	+33
Textiles	+26	+11	+7	-4	+16	+4	+100	0	+33
Chemicals	+27	+14	+6	-5	+16	+4	+100	0	+33
Papermaking	+26	+16	+7	-5	+16	+6	+100	0	+33
Printing	+33	+18	+6	-5	+20	+6	+100	0	+33
Baking	+38	+14	+5	-5	+22	+4	+100	0	+33
Mining, hard-coal	+21	+13	+5	-6	+13	+4	+100	0	+33
Brewing	+31	+14	+7	-4	+19	+5	+100	0	+33

^a Amplitude measures based on incomplete reference expansion, starting January 1924.

SOURCE: Appendix Table A-21.

For definition of conformity indexes see notes to Table A-20.

TABLE A-23

Amplitudes and Conformity Indexes of Earnings, Reference Cycles, Annual Series,
1871-1913 and 1924-1932

	AVERAGE ANNUAL CHANGE OF CYCLE RELATIVES					
	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Expansion^a</i> 1870-1872	<i>Contraction</i> 1872-1878	<i>Expansion</i> 1878-1882	<i>Contraction</i> 1882-1886	<i>Expansion</i> 1886-1890	<i>Contraction</i> 1890-1894
Number of years	1 ^a	6	4	4	4	4
Hourly earnings						
Comprehensive series	...	...	...	...	...	...
Daily earnings						
Krupp, Essen	+10	-1	+3	+1	+2	+1
Weekly earnings						
Comprehensive series	+10	-0 ^t	0	+1	+3	0
Miners' shift earnings						
Hewers and haulers						
Hard coal						
Upper Silesia	...	...	...	...	...	+1 ^d
Lower Silesia	...	...	...	...	...	-1 ^d
Dortmund	+43 ^e	-9 ^e	+3 ^e	-1 ^e	+9 ^e	-2
Saar District ^e	...	...	...	...	...	-3 ^d
Aachen District	...	...	...	...	...	-2 ^d
Lignite, Halle	...	...	...	...	...	-0 ^{dt}
Salt, Halle	...	...	...	...	...	+1 ^d
Ore						
Halle	...	...	...	...	...	-4 ^d
Upper Harz	...	...	...	...	...	+0 ^{dt}
Siegen-Nassau	...	...	...	...	...	-3 ^d
Ten centers	...	...	...	...	...	-1 ^d
Surface workers						
Hard coal						
Dortmund	...	...	+0 ^{et}	+0 ^{et}	+5 ^e	-1
Ten centers	...	...	...	...	...	-1 ^d

(continued on next page)

TABLE A-23, *continued*

	AVERAGE ANNUAL CHANGE OF CYCLE RELATIVES					
	(7)	(8)	(9)	(10)	(11)	(12)
	<i>Expansion</i> 1894-1900	<i>Contraction</i> 1900-1902	<i>Expansion</i> 1902-1903	<i>Contraction</i> 1903-1904	<i>Expansion</i> 1904-1907	<i>Contraction</i> 1907-1908
Number of years	6	2	1	1	3	1
Hourly earnings						
Comprehensive series	...	...	...	...	...	...
Daily earnings						
Krupp, Essen	+3	-3	+1	+8	+3	0
Weekly earnings						
Comprehensive series	+2	-1	+1	+3	+5	-1
Miners' shift earnings						
Hewers and haulers						
Hard coal						
Upper Silesia	+4	-4	+1	+1	+5	+1
Lower Silesia	+4	-6	+1	+2	+6	+1
Dortmund	+5	-7	+2	+3	+7	-2
Saar District ^o	+2	-1	+1	+2	+3	+1
Aachen District	+6	-3	+1	+3	+6	-2
Lignite, Halle	+4	-3	+1	+2	+5	-2
Salt, Halle	+2	-2	+1	+1	+4	-2
Ore						
Halle	+5	-10	+4	+6	+4	-6
Upper Harz	+1	+2	+0 ^t	+2	+6	+7
Siegen-Nassau	+8	-12	+4	+0 ^t	+11	-14
Ten centers	+4	-5	+1	+3	+6	-2
Surface workers						
Hard coal						
Dortmund	+3	-1	+1	+2	+5	+1
Ten centers	+3	-2	+1	+2	+4	0

(continued on next page)

TABLE A-23, *continued*

	AVERAGE ANNUAL CHANGE OF CYCLE RELATIVES				
	(13)	(14)	(15)	(16)	(17)
	<i>Expansion^b</i> <i>1908-1913</i>	<i>Expansion^g</i> <i>1923-1925</i>	<i>Contraction^g</i> <i>1925-1926</i>	<i>Expansion</i> <i>1926-1929</i>	<i>Contraction</i> <i>1929-1932</i>
Number of years	5	1 ^d	1	3	3
Hourly earnings					
Comprehensive series	...	+25	+7	+8	-9
Daily earnings					
Krupp, Essen	+2 ^e	...	...	...	...
Weekly earnings					
Comprehensive series	+3 ^e	+29	+4	+9	-13
Miners' shift earnings					
Hewers and haulers					
Hard coal					
Upper Silesia	+3	+13	+3	+7	-9
Lower Silesia	+2	+14	+10	+6	-7
Dortmund	+2	+13	+8	+5	-8
Saar District ^g	+2	...	...	...	...
Aachen District	+3	+15	+7	+5	-7
Lignite, Halle	+1	+20	+7	+6	-9
Salt, Halle	+3	+20	+7	+9	-6
Ore					
Halle	+5	+29	+14	+12	-11
Upper Harz	+5	...	+9	+5	-4
Siegen-Nassau	+3	+15	+1	+6	-8
Ten centers	+3	+15	+7	+7	-8
Surface workers					
Hard coal					
Dortmund	+2 ^e	+16	+10	+6	-7
Ten centers	+2	+16	+8	+7	-7

(continued on next page)

TABLE A-23, *continued*

	AVERAGE ANNUAL CHANGE OF CYCLE RELATIVES		INDEXES OF CONFORMITY		
	(18)	(19)	(20)	(21)	(22)
	<i>Expansions</i>	<i>Contractions</i>	<i>Expansions</i>	<i>Contractions</i>	<i>Full Cycles</i>
	<i>(average)</i>				
Number of years	...	...	...	...	...
Hourly earnings					
Comprehensive series	+16	-1	+100	0	+100
Daily earnings					
Krupp, Essen	+4	+1	+100	-17	+67
Weekly earnings					
Comprehensive series	+7	-1	+89	+12	+73
Miners' shift earnings					
Hewers and haulers					
Hard coal					
Upper Silesia	+6	-1	+100	-33	+90
Lower Silesia	+6	0	+100	0	+60
Dortmund	+6	-1	+100	+50	+73
Saar District ^e	+2	0	+100	0	+71
Aachen District	+6	-1	+100	+33	+60
Lignite, Halle	+6	-1	+100	+33	+80
Salt, Halle	+6	0	+100	0	+80
Ore					
Halle	+10	-2	+100	+33	+60
Upper Harz	+3	+3	+100	-67	-33
Siegen-Nassau	+8	-6	+100	+33	+100
Ten centers	+6	-1	+100	+33	+80
Surface workers					
Hard coal					
Dortmund	+6	+1	+100	-14	+62
Ten centers	+6	0	+100	+17	+80

^a Measures based on incomplete expansion; data start in 1871.

^b Based on inverted cycle, 1907-08-13.

^c Not included in average.

^d Based on inverted cycle, 1890-94-1900.

^e Excluded from average (cols. 18 and 19). Amplitude averages based on all available cycles are:

	<i>Expansions</i>	<i>Contractions</i>
Dortmund; Hewers, haulers (excl. 1908-13 expansion)	+11	-2
Dortmund; Surface workers (excl. 1908-13 expansion)	+5	+1

^f Less than 0.5 of 1 percent.

^g Based on incomplete cycle; data not available before 1924.

SOURCE: Appendix Tables A-2, and A-6 to A-8.

For definition of conformity indexes see notes to Table A-20.

TABLE A-24
Shift Earnings of Miners, Selected Centers, by Quarters
1889-1914 and 1924-1932
(marks)

<i>Year and Quarter</i>	<i>Hard Coal, Dortmund</i>		<i>Hard Coal, Upper Silesia</i>	<i>Hard Coal, Saarbrücken</i>	<i>Lignite, Halle</i>	<i>Copper Ore, Halle</i>
	<i>Hewers, Haulers</i>	<i>Surface Workers</i>	<i>Hewers, Haulers</i>	<i>Hewers, Haulers</i>	<i>Hewers, Haulers</i>	<i>Hewers, Haulers</i>
1889						
I	3.06	2.40	2.06	3.06	2.50	2.89
II	3.31	2.54	2.24	3.30	2.50	2.89
III	3.57	2.63	2.43	3.64	2.70	2.92
IV	3.69	2.69	2.46	3.69	2.70	3.22
1890						
I	4.00	2.79	2.62	3.89	2.65	3.27
II	4.06	2.83	2.71	4.06	2.91	3.08
III	3.94	2.82	2.75	4.14	2.91	3.08
IV	3.93	2.82	2.77	4.24	2.89	3.17
1891						
I	4.00	2.82	2.76	4.26	2.82	3.12
II	4.05	2.84	2.84	4.28	2.89	3.35
III	4.06	2.87	2.87	4.16	2.94	3.39
IV	4.23	2.85	2.86	4.16	2.92	3.38
1892						
I	4.08	2.80	2.80	4.22	2.85	3.47
II	3.92	2.78	2.78	4.32	2.89	3.17
III	3.80	2.76	2.81	4.15	2.91	3.05
IV	3.71	2.71	2.77	4.02	2.89	2.90
1893						
I	3.76	2.67	2.78	3.88	2.80	2.72
II	3.71	2.71	2.77	3.86	2.84	2.85
III	3.69	2.71	2.79	3.82	2.86	2.72
IV	3.72	2.71	2.64	3.79	2.84	2.67
1894						
I	3.72	2.71	2.74	3.70	2.74	2.65
II	3.70	2.72	2.79	3.69	2.79	2.57
III	3.75	2.74	2.82	3.66	2.80	2.59
IV	3.75	2.72	2.80	3.65	2.84	2.62
1895						
I	3.72	2.72	2.78	3.69	2.81	2.61
II	3.72	2.73	2.78	3.67	2.84	2.53
III	3.75	2.74	2.80	3.69	2.91	2.79
IV	3.79	2.75	2.79	3.74	2.87	2.93
1896						
I	3.82	2.77	2.78	3.76	2.81	2.86
II	3.85	2.81	2.81	3.70	2.92	2.78
III	3.91	2.81	2.85	3.72	2.98	3.00
IV	4.01	2.84	2.82	3.73	3.02	3.16

(continued on next page)

TABLE A-24, *continued*

<i>Year and Quarter</i>	<i>Hard Coal, Dortmund</i>		<i>Hard Coal, Upper Silesia</i>	<i>Hard Coal, Saarbrücken</i>	<i>Lignite, Halle</i>	<i>Copper Ore, Halle</i>
	<i>Hewers, Haulers</i>	<i>Surface Workers</i>	<i>Hewers, Haulers</i>	<i>Hewers, Haulers</i>	<i>Hewers, Haulers</i>	<i>Hewers, Haulers</i>
1897						
I	4.14	2.88	2.82	3.77	2.93	3.16
II	4.26	2.91	2.85	3.75	3.05	2.93
III	4.41	2.99	2.95	3.81	3.10	2.99
IV	4.46	3.00	3.01	3.87	3.13	3.27
1898						
I	4.44	2.99	3.03	3.91	3.03	3.10
II	4.49	3.01	3.03	3.85	3.11	3.07
III	4.60	3.06	3.12	3.88	3.21	3.32
IV	4.67	3.07	3.18	3.95	3.23	3.38
1899						
I	4.72	3.12	3.17	3.95	3.18	3.30
II	4.78	3.15	3.21	3.97	3.28	3.36
III	4.90	3.21	3.30	4.00	3.38	3.45
IV	4.95	3.24	3.39	4.04	3.46	3.51
1900						
I	5.04	3.26	3.50	4.09	3.41	3.48
II	5.14	3.32	3.54	4.08	3.56	3.53
III	5.25	3.35	3.62	4.11	3.67	3.59
IV	5.27	3.35	3.62	4.16	3.67	3.81
1901						
I	5.08	3.34	3.57	4.13	3.55	3.50
II	5.02	3.33	3.52	4.05	3.58	3.44
III	4.97	3.32	3.54	4.08	3.61	3.54
IV	4.84	3.31	3.46	4.08	3.52	3.52
1902						
I	4.66	3.26	3.36	4.07	3.24	3.05
II	4.52	3.22	3.34	4.06	3.40	3.07
III	4.55	3.24	3.36	4.07	3.42	2.91
IV	4.54	3.26	3.34	4.08	3.43	2.90
1903						
I	4.55	3.25	3.35	4.09	3.30	2.87
II	4.58	3.29	3.32	4.08	3.40	3.67
III	4.70	3.31	3.41	4.12	3.47	3.11
IV	4.74	3.32	3.40	4.16	3.49	3.29
1904						
I	4.76	3.33	3.37	4.19	3.39	3.21
II	4.76	3.35	3.38	4.18	3.49	3.25
III	4.79	3.37	3.42	4.24	3.56	3.31
IV	4.79	3.37	3.39	4.25	3.57	3.27
1905						
I	4.77	3.41	3.48	4.31	3.52	3.46
II	4.81	3.41	3.47	4.25	3.60	3.38
III	4.86	3.43	3.53	4.29	3.66	3.39
IV	4.88	3.45	3.53	4.32	3.84	3.41

(continued on next page)

TABLE A-24, *continued*

<i>Year and Quarter</i>	<i>Hard Coal, Dortmund</i>		<i>Hard Coal, Upper Silesia</i>	<i>Hard Coal, Saarbrücken</i>	<i>Lignite, Halle</i>	<i>Copper Ore, Halle</i>
	<i>Hewers, Haulers</i>	<i>Surface Workers</i>	<i>Hewers, Haulers</i>	<i>Hewers, Haulers</i>	<i>Hewers, Haulers</i>	<i>Hewers, Haulers</i>
1906						
I	5.02	3.50	3.59	4.37	3.72	3.55
II	5.14	3.57	3.59	4.35	3.78	3.56
III	5.38	3.63	3.74	4.39	3.96	3.68
IV	5.60	3.72	3.81	4.49	4.07	3.76
1907						
I	5.74	3.77	3.87	4.54	3.88	3.78
II	5.90	3.86	3.95	4.49	4.10	3.72
III	6.09	3.90	4.09	4.60	4.18	3.74
IV	6.14	3.96	4.10	4.65	4.24	3.73
1908						
I	5.94	3.89	4.04	4.65	4.02	3.53
II	5.85	3.93	4.04	4.61	4.03	3.39
III	5.89	3.90	4.09	4.62	4.09	3.56
IV	5.77	3.92	4.02	4.64	4.01	3.56
1909						
I	5.42	3.83	3.96	4.59	3.87	3.57
II	5.28	3.81	3.94	4.48	3.98	3.54
III	5.31	3.83	4.01	4.45	4.03	3.49
IV	5.30	3.83	3.97	4.50	4.00	3.64
1910						
I	5.29	3.84	3.90	4.46	3.87	3.70
II	5.33	3.87	3.90	4.47	3.96	3.66
III	5.40	3.91	3.95	4.49	4.07	3.67
IV	5.45	3.91	3.91	4.57	4.16	3.77
1911						
I	5.49	3.92	3.91	4.60	4.05	3.73
II	5.51	3.96	3.96	4.52	4.17	3.75
III	5.58	3.99	4.04	4.59	4.21	3.91
IV	5.63	4.02	4.01	4.69	4.21	4.05
1912						
I	5.74	4.04	4.03	4.73	4.09	3.99
II	5.97	4.16	4.22	4.79	4.16	3.95
III	6.12	4.17	4.29	4.82	4.21	4.04
IV	6.21	4.23	4.32	4.95	4.34	4.08
1913						
I	6.35	4.28	4.61 ^a	5.20 ^a	4.29 ^a	4.08 ^a
II	6.50	4.33	4.63	5.18	4.29	4.06
III	6.56	4.36	4.79	5.16	4.33	4.08
IV	6.47	4.40	4.78	5.20	4.32	4.16
1914						
I	6.25	...	4.72	5.57	4.25	4.13
II	6.19	...	4.72	5.08	4.26	4.02
III	6.08	...	4.57	4.84	4.26	3.97
IV	6.13	...	4.51	4.94	4.31	4.12

(continued on next page)

TABLE A-24, continued

Year and Quarter	Hard Coal, Dortmund		Hard Coal, Upper Silesia	Hard Coal, Saarbrücken	Lignite, Halle	Copper Ore, Halle
	Hewers, Haulers	Surface Workers	Hewers, Haulers	Hewers, Haulers	Hewers, Haulers	Hewers, Haulers
1924						
I	6.02	4.67	5.41	...	5.06	3.48
II	6.77	5.29	5.51	...	5.45	3.66
III	7.39	5.44	5.63	...	5.54	3.97
IV	7.51	5.64	5.89	...	5.68	4.31
1925						
I	7.75	5.89	6.09	...	5.96	4.61
II	7.91	6.18	6.42	...	6.45	5.00
III	8.03	6.19	6.53	...	6.80	5.51
IV	8.27	6.51	6.54	...	7.18	5.67
1926						
I	8.45	6.64	6.53	...	6.70	5.59
II	8.48	6.69	6.50	...	6.68	5.75
III	8.62	6.74	6.56	...	6.60	5.98
IV	8.87	6.96	6.73	...	6.81	6.17
1927						
I	8.90	6.94	6.86	...	6.84	6.40
II	9.10	7.23	6.96	...	6.90	6.44
III	9.34	7.27	7.18	...	6.96	6.80
IV	9.42	7.34	7.26	...	7.37	7.07
1928						
I	9.41	7.31	7.26	...	7.54	7.29
II	9.70	7.76	7.45	...	7.71	7.42
III	9.92	7.87	7.77	...	7.76	7.86
IV	9.94	7.91	7.88	...	8.04	8.12
1929						
I	9.95	7.92	7.97	...	8.00	8.18
II	10.04	8.04	8.09	...	8.13	8.67
III	10.12	8.03	8.24	...	8.26	8.59
IV	10.20	8.09	8.27	...	8.37	8.68
1930						
I	10.19	8.04	8.19	...	8.38	8.76
II	10.18	8.13	8.12	...	8.24	8.51
III	10.16	8.04	8.12	...	8.20	7.37
IV	10.14	8.09	8.03	...	8.13	7.63
1931						
I	9.46	7.59	7.49	...	7.86	7.24
II	9.45	7.67	7.47	...	7.55	7.15
III	9.39	7.55	7.41	...	7.66	7.18
IV	8.76	7.08	6.96	...	7.63	6.55
1932						
I	7.90	6.43	6.22	...	6.20	5.99
II	7.88	6.44	6.25	...	6.14	6.04
III	7.87	6.41	6.22	...	6.31	6.08
IV	8.04	6.40	6.17	...	6.30	6.01

* 1913 and 1914 spliced to old series in 1912.

SOURCE: *Zeitschrift für das Berg-, Hütten- und Salinenwesen, passim*. Quarterly data may not average exactly to annual figures shown on Appendix Tables A-6 and A-7.

TABLE A-25

Average Wage Rates and Earnings of German Coal Miners, by Quarters,
1924-1938

Year and Quarter	HEWERS AND HAULERS				SURFACE WORKERS			
	Hard Coal		Soft Coal		Hard Coal		Soft Coal	
	Rates per Hour (pfennigs) (1)	Earnings per Shift (marks) (2)	Rates per Hour (pfennigs) (3)	Earnings per Shift (marks) (4)	Rates per Hour (pfennigs) (5)	Earnings per Shift (marks) (6)	Rates per Hour (pfennigs) (7)	Earnings per Shift (marks) (8)
1924								
I	69	5.89	...	5.31	46.5	4.26	...	4.22
II	70	6.63	...	5.62	42.6	4.78	...	4.34
III	81	7.20	...	5.57	48.9	4.86	...	4.39
IV	83	7.35	...	5.88	49.9	5.04	...	4.63
1925								
I	88.0	7.59	...	6.18	51.9	5.25	...	4.89
II	91.9	7.78	...	6.62	53.3	5.53	...	5.23
III	93.0	7.91	...	7.11	53.7	5.54	...	5.57
IV	97.3	8.11	...	7.40	55.5	5.78	...	5.75
1926								
I	99.4	8.25	...	7.20	56.4	5.86	...	5.67
II	99.4	8.28	...	7.22	56.4	5.89	...	5.77
III	100.5	8.44	...	7.22	57.0	5.91	...	5.77
IV	103.4	8.69	...	7.46	58.8	6.13	...	5.98
1927								
I	103.6	8.75	...	7.52	59.5	6.15	...	5.97
II	107.5	8.95	...	7.59	65.1	6.37	...	6.15
III	109.5	9.18	...	7.76	68.0	6.43	...	6.18
IV	109.5	9.25	...	8.31	68.0	6.49	...	6.66
1928								
I	110.1	9.24	83.5	8.55	68.4	6.47	71.7	6.68
II	115.2	9.52	83.5	8.63	71.9	6.86	71.7	6.77
III	118.0	9.71	83.9	8.67	73.8	6.96	72.3	6.82
IV	118.1	9.73	87.5	8.96	73.9	7.00	75.6	7.13
1929								
I	118.2	9.75	87.5	8.89	73.9	7.01	75.6	7.08
II	119.8	9.84	87.5	9.08	75.1	7.10	75.6	7.13
III	120.7	9.93	87.5	9.14	75.7	7.11	75.6	7.17
IV	120.8	10.00	89.2	9.14	75.7	7.18	77.7	7.26
1930								
I	120.8	9.97	90.7	9.14	75.7	7.14	78.9	7.22
II	120.8	9.94	90.7	9.14	75.7	7.23	78.9	7.32
III	120.8	9.90	90.7	9.06	75.7	7.14	78.9	7.23
IV	120.8	9.86	91.6	8.83	75.7	7.16	79.7	7.27
1931								
I	114.2	9.26	92.7	8.71	71.8	6.73	80.6	7.28
II	113.9	9.19	91.1	8.63	71.5	6.76	79.4	7.07
III	113.4	9.14	87.9	8.45	71.2	6.66	77.0	6.73
IV	106.1	8.52	87.4	8.35	66.7	6.25	76.3	6.56
1932								
I	95.5	7.68	75.2	7.10	60.0	5.66	66.0	5.77
II	95.5	7.66	75.2	7.18	60.0	5.67	66.0	5.80
III	95.5	7.65	75.2	7.21	59.9	5.65	66.0	5.71
IV	95.5	7.66	75.2	7.12	59.9	5.65	66.0	5.71

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TABLE A-25, continued

Year and Quarter	HEWERS AND HAULERS				SURFACE WORKERS			
	Hard Coal		Soft Coal		Hard Coal		Soft Coal	
	Rates per Hour (pfennigs) (1)	Earnings per Shift (marks) (2)	Rates per Hour (pfennigs) (3)	Earnings per Shift (marks) (4)	Rates per Hour (pfennigs) (5)	Earnings per Shift (marks) (6)	Rates per Hour (pfennigs) (7)	Earnings per Shift (marks) (8)
1933								
I	95.5	7.68	75.2	7.07	59.9	5.65	66.0	5.70
II	95.5	7.71	75.2	7.25	59.9	5.72	66.0	5.79
III	95.5	7.72	75.2	7.21	59.9	5.65	66.0	...
IV	95.5	7.76	75.2	7.19	59.9	5.69	66.0	...
1934								
I	95.5	7.79	75.2	7.21	59.9	5.65	66.0	...
II	95.5	7.81	75.2	7.42	59.9	5.74	66.0	...
III	95.5	7.83	75.2	7.40	59.9	5.69	66.0	...
IV	95.5	7.87	75.2	7.35	59.9	5.71	66.0	...
1935								
I	95.5	7.86	75.2	7.33	59.9	5.67	66.0	...
II	95.5	7.87	75.2	7.59	59.9	5.77	66.0	...
III	95.5	7.87	75.2	7.59	59.9	5.72	66.0	...
IV	95.5	7.87	75.2	7.49	59.9	5.75	66.0	...
1936								
I	95.5	7.88	75.2	7.80	59.9	5.69	66.0	...
II	95.5	7.89	75.2	8.12	59.9	5.79	66.0	...
III	95.5	7.89	75.2	8.15	59.9	5.69	66.0	...
IV	95.5	7.95	75.2	7.99	59.9	5.74	66.0	...
1937								
I	95.5	8.01	75.2	7.98	59.9	5.72	66.0	...
II	95.5	8.05	75.2	8.32	59.9	5.76	66.0	...
III	95.5	8.06	75.2	8.34	59.9	5.69	66.0	...
IV	95.5	8.16	75.2	8.23	59.9	5.71	66.0	...
1938								
I	95.5	8.19	75.2	8.09	59.9	5.65	66.0	...
II	95.5	8.23	75.2	8.61	59.9	5.78	66.0	...
III	95.5	8.23	75.2	8.66	59.9	5.69	66.0	...
IV	95.5	8.34	75.2	8.48	59.9	5.73	66.0	...

SOURCE: Rates, *Wirtschaft und Statistik, passim*. Earnings, 1924-28, *Jahrbuch 1934*, p. 272; 1929-38, *Wirtschaft und Statistik, passim*, and *Reichsarbeitsblatt, passim*.

TABLE A-26

Amplitudes and Conformity Indexes of Miners' Shift Earnings, Reference Cycles, Quarterly Series, 1890-1913 and 1924-1932

		AVERAGE ANNUAL CHANGE OF CYCLE RELATIVES								
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Contraction ^a 1890 ^I -95 ^I	Expansion 1895 ^I -1900 ^{II}	Contraction 1900 ^{II} -02 ^I	Expansion 1902 ^I -03 ^{III}	Contraction 1903 ^{III} -05 ^I	Expansion 1905 ^I -07 ^{II}	Contraction 1907 ^{II} -08 ^V	Expansion 1908 ^V -13 ^I	Contraction 1913 ^I -14 ^{III}
Number of years	5		5.25	1.75	1.5	1.5	2.25	1.5	4.25	1.5
<i>Underground Miners</i>										
Hard coal, Upper Silesia	+1	+5	-3	+1	+1	+1	+5	+1	+3	-1
Hard coal, Dortmund	-1	+6	-6	+1	+1	+1	+9	-2	+2	-3
Hard coal, Saarbrücken	-1	+2	-0.2	+1	+3	+2	+2	+2	+3	-5
Lignite, Halle	+1	+4	-6	+4	+1	+1	+7	-2	+2	-0.5
Copper ore, Halle	-4	+5	-9	+1	+7	+3	+3	-3	+3	-2
<i>Surface Workers</i>										
Hard coal, Dortmund	-0.5	+4	-1	+1	+2	+5	+5	+1	+2 ^e	...

TABLE A-26, continued

	AVERAGE ANNUAL CHANGE OF CYCLE RELATIVES							INDEXES OF CONFORMITY		
	(10) Expansion ^b 1923 ^v -25 ⁱⁱ	(11) Contraction ^b 1925 ⁱⁱ -26 ⁱⁱ	(12) Expansion 1926 ⁱⁱ -29 ⁱⁱ	(13) Contraction 1929 ⁱⁱ -32 ⁱⁱⁱ	(14) Expansions (average)	(15) Contractions (average)	(16) Expansions	(17) Contractions	(18) Full Cycles	
Number of years	1.38	1	3	3.25						
<i>Underground Miners</i>										
Hard coal, Upper Silesia	+12	+1	+7	-8	+6	-1	+100	-14	+82	
Hard coal, Dortmund	+18	+8	+6	-7	+7	-1	+100	+43	+64	
Hard coal, Saarbrücken	...	...	...	...	+2	0	+100	+20	+25
Lignite, Halle	+17	+4	+6	-7	+7	-1	+100	+14	+100	
Copper ore, Halle	+23	+16	+13	-11	+8	-1	+100	+43	+64	
<i>Surface Workers</i>										
Hard coal, Dortmund	+19	+9	+6	-7	+6	+1	+100	0	+60	

Roman numerals after dates denote quarters.

For definition of conformity indexes see notes to Table A-20.

^a Based on inverted cycle.

^b Based on incomplete cycle; data start in first quarter of 1924.

^c Based on inverted cycle 1907-1913; data not available after fourth quarter of 1913.

SOURCE: Appendix Table A-24.

TABLE A-28

Employment Indicators, Adjusted for Seasonal Variation, by Months,
1925-1934

Year and Month	Employed Members of Sickness Insurance Associations		Employment, Ratio to Capacity ^a	Unemployment	
	Series I (Dec.1924=100) (1)	Series II (millions) (2)	(percent) (3)	At Employment Exchanges (thousands) (4)	Trade Union Membership (percent) (5)
1925 Jan.	107.8	...	...	552	6.0
Feb.	109.2	...	...	522	5.5
Mar.	105.9	...	...	531	5.0
Apr.	105.3	...	...	523	4.4
May	105.5	...	...	479	4.1
June	104.5	...	...	501	4.2
July	103.6	...	...	527	4.6
Aug.	104.3	...	...	629	5.3
Sept.	104.5	...	...	689	5.6
Oct.	103.3	...	...	795	7.1
Nov.	101.7	...	...	1,049	11.1
Dec.	100.5	...	...	1,370	14.9
Average	104.7	...	...	681	6.5
1926 Jan.	99.6	...	...	1,532	16.7
Feb.	99.6	...	...	1,621	16.7
Mar.	96.4	...	...	1,839	18.4
Apr.	95.9	...	...	2,113	19.2
May	95.1	...	...	2,322	20.8
June	94.3	...	...	2,601	21.8
July	94.5	...	...	2,603	22.1
Aug.	96.0	...	...	2,618	20.6
Sept.	96.6	...	...	2,440	19.0
Oct.	97.4	...	...	2,136	17.3
Nov.	99.3	...	...	1,880	14.8
Dec.	100.5	...	...	1,702	12.8
Average	97.1	...	...	2,117	18.4
1927 Jan.	101.4	...	...	1,557	9.4
Feb.	102.9	...	...	1,548	9.2
Mar.	104.4	...	...	1,400	8.5
Apr.	104.3	...	...	1,462	9.5
May	105.2	...	...	1,348	9.7
June	105.2	...	...	1,326	10.0

(continued on next page)

TABLE A-28, continued

Year and Month	Employed Members of Sickness Insurance Associations		Employment, Ratio to Capacity ^a	Unemployment	
	Series I (Dec.1924=100) (1)	Series II (millions) (2)	(percent) (3)	At Employment Exchanges (thousands) (4)	Trade Union Membership (percent) (5)
1927 July	105.8	...	...	1,204	9.6
Aug.	107.3	...	...	1,152	8.5
Sept.	107.7	...	...	1,058	8.1
Oct.	108.1	...	...	984	7.4
Nov.	107.6	...	...	1,176	8.1
Dec.	108.3	...	...	1,371	7.8
Average	105.7	...	...	1,299	8.8
1928 Jan.	111.2	17.47	...	1,235	7.6
Feb.	112.0	17.56	...	1,227	7.3
Mar.	109.1	17.21	...	1,220	7.5
Apr.	108.4	17.47	...	1,234	7.2
May	108.5	17.45	...	1,236	7.6
June	108.0	17.46	...	1,344	8.1
July	108.1	17.28	72.3	1,335	8.6
Aug.	109.1	17.58	72.4	1,416	8.8
Sept.	108.8	17.67	72.1	1,411	9.1
Oct.	108.1	17.57	70.7	1,455	9.6
Nov.	107.5	17.40	68.6	1,652	10.0
Dec.	107.4	17.36	69.9	1,812	11.9
Average	108.8	17.46	...	1,381	8.6
1929 Jan.	106.1	17.04	71.4	1,966	12.2
Feb.	103.4	16.63	69.5	2,179	14.5
Mar.	105.4	17.19	71.0	2,036	13.3
Apr.	108.5	17.88	71.6	1,712	11.7
May	108.9	17.95	72.3	1,500	11.7
June	108.4	17.92	71.0	1,575	12.0
July	108.2	17.83	71.1	1,626	13.0
Aug.	109.0	18.00	71.0	1,742	13.1
Sept.	108.4	17.89	70.3	1,814	14.5
Oct.	107.6	17.70	68.6	1,946	15.6
Nov.	107.0	17.53	68.8	2,143	14.7
Dec.	107.2	17.41	68.2	2,281	13.3
Average	107.3	17.58	70.4	1,877	13.3

(continued on next page)

TABLE A-28, *continued*

<i>Year and Month</i>	<i>Employed Members of Sickness Insurance Associations</i>		<i>Employment, Ratio to Capacity^a</i>	<i>Unemployment</i>	
	<i>Series I (Dec.1924=100)</i> (1)	<i>Series II (millions)</i> (2)	(percent) (3)	<i>At Employment Exchanges (thousands)</i> (4)	<i>Trade Union Membership (percent)</i> (5)
1930 Jan.	107.5	17.38	69.1	2,219	19.1
Feb.	106.3	17.13	67.8	2,404	20.4
Mar.	103.9	16.79	65.9	2,493	20.1
Apr.	102.7	16.62	64.0	2,787	20.5
May	102.5	16.62	62.6	2,928	21.4
June	101.2	16.38	61.7	3,301	22.3
July	100.3	16.19	60.1	3,591	23.0
Aug.	100.4	16.20	58.9	3,949	23.3
Sept.	99.8	16.06	58.1	4,115	24.2
Oct.	98.2	15.76	56.6	4,065	24.8
Nov.	97.4	15.53	55.8	3,894	26.0
Dec.	97.7	15.39	55.3	3,507	28.1
Average	101.5	16.34	61.3	3,271	22.8
1931 Jan.	96.2	15.02	53.6	4,072	29.7
Feb.	95.3	14.80	53.5	4,361	30.0
Mar.	93.3	14.53	52.7	4,393	31.1
Apr.	93.7	14.66	52.7	4,358	32.1
May	94.0	14.76	52.9	4,266	32.9
June	93.4	14.66	52.7	4,162	33.7
July	92.3	14.44	51.6	4,433	34.8
Aug.	91.4	14.19	49.9	4,683	36.1
Sept.	90.2	13.95	48.6	4,839	37.6
Oct.	88.3	13.57	47.5	5,137	38.5
Nov.	87.4	13.30	47.0	5,060	38.9
Dec.	87.4	13.09	45.6	5,248	37.3
Average	91.9	14.25	50.7	4,584	34.4
1932 Jan.	...	12.99	44.3	5,035	37.9
Feb.	...	12.83	43.8	5,375	38.3
Mar.	...	12.34	42.5	5,587	41.3
Apr.	...	12.42	41.7	5,739	44.3
May	...	12.37	41.1	5,877	47.6
June	...	12.29	41.0	5,764	49.0

(continued on next page)

Notes to Table A-28

* This is a measure presented by the IKF. Employment capacity is estimated on the basis of theoretical employment opportunities offered by existing equipment, and of actual peak employment figures.

SOURCE, by column:

- (1) *Reichsarbeitsblatt* 1928 II, pp. 135 ff., and *passim*.
- (2) *Reichsarbeitsblatt* 1932, Supplement No. 10, p. 6 ff., and *passim*.
- (3) *IKF Handbuch* 1936, p. 17.
- (4) *IKF Handbuch* 1936, p. 16.
- (5) *Reichsarbeitsblatt*, *passim*.

Data on unemployed registered at employment exchanges (col. 4) are available for 1924 in *IKF Handbuch* 1933, p. 15. The seasonally adjusted data are (in thousands):

Jan.	1,314	July	982
Feb.	1,152	Aug.	1,079
Mar.	905	Sept.	1,025
Apr.	745	Oct.	838
May	643	Nov.	701
June	803	Dec.	574

All series adjusted for seasonal variation. Averages of adjusted figures are not necessarily equal to annual data given elsewhere.

TABLE A-28, *continued*

<i>Year and Month</i>	<i>Employed Members of Sickness Insurance Associations</i>		<i>Employment, Ratio to Capacity^a</i>	<i>Unemployment</i>	
	<i>Series I (Dec.1924=100)</i> (1)	<i>Series II (millions)</i> (2)	(percent) (3)	<i>At Employment Exchanges (thousands)</i> (4)	<i>Trade Union Membership (percent)</i> (5)
1932 July	...	12.27	40.2	5,991	49.3
Aug.	...	12.39	40.1	5,804	47.3
Sept.	...	12.46	40.6	5,670	46.9
Oct.	...	12.54	41.7	5,677	45.2
Nov.	...	12.57	42.9	5,355	43.2
Dec.	...	12.61	43.0	5,345	39.9
Average	...	12.51	41.9	5,602	44.2
1933 Jan.	...	12.35	42.9	5,012	40.2
Feb.	...	12.40	42.9	5,264	...
Mar.	...	12.37	43.4	5,184	...
Apr.	...	12.57	43.8	5,331	...
May	...	12.80	44.6	5,304	...
June	...	12.80	45.6	5,113	...
July	...	12.92	45.9	4,960	...
Aug.	...	13.32	46.9	4,582	28.3
Sept.	...	13.51	48.3	4,277	24.0
Oct.	...	13.65	49.2	4,161	22.0
Nov.	...	13.88	50.7	3,715	20.3
Dec.	...	13.99	50.7	3,758	21.9
Average	...	13.05	46.2	4,722	...
1934 Jan.	...	14.54	53.0	3,144	22.1
Feb.	...	15.02	54.9	2,959	17.5
Mar.	...	15.14	56.1	2,591	15.1
Apr.	...	15.17	57.1	2,609	15.6
May	...	15.11	57.5	2,662	16.4
June	...	14.93	58.4	2,612	17.7
July	...	14.93	58.5	2,696	17.2
Aug.	...	15.11	59.2	2,664	16.3
Sept.	...	15.17	60.3	2,536	16.3
Oct.	...	15.18	60.8	2,520	...
Nov.	62.2	2,353	...
Dec.	63.0	2,412	...
Average	58.4	2,646	...

(notes on next page)

TABLE A-29.

Production, Prices, and Other Variables Related to Earnings of Dortmund Hard Coal Miners, 1871-1913 and 1924-1932

Year	PRODUCTION				PRICES				SHIFTS WORKED PER YEAR				EMPLOYMENT	
	Total		Per Man-shift		Per Worker		Rhineland (1913=100)		Total		Per Worker		Below Ground	Above Ground
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(10)	(11)	
1871	15.5	...	...	...	82	...	...	...	...	...	...	...	...
1872	17.5	...	...	...	94	...	...	...	...	...	...	...	...
1873	19.1	...	...	...	123	...	...	...	...	...	...	...	...
1874	18.9	...	...	...	130	...	...	...	...	...	...	...	...
1875	19.7	...	...	...	64	...	...	...	...	...	...	...	...
1876	20.3	...	...	...	54	...	...	...	...	...	...	...	...
1877	19.7	...	...	...	44	...	...	...	...	...	...	...	...
1878	20.8	...	...	...	41	...	...	...	...	...	...	...	...
1879	22.1	...	...	...	39	...	...	...	...	...	...	...	...
1880	24.7	...	...	...	54	...	...	...	...	...	...	...	...
1881	25.6	...	...	...	45	...	...	...	...	...	...	...	...
1882	27.4	...	...	...	47	...	...	...	...	...	...	...	...
1883	29.4	...	...	...	48	...	...	...	...	...	...	...	...
1884	30.1	...	...	...	43	26.3	23.3	...	...	...	...	...	...
1885	30.7	...	...	...	46	26.6	23.2	...	...	...	...	...	...
1886	30.6	...	...	...	46	25.8	22.4	290	324	27.8	23.9	27.8	23.9
1887	31.7	...	...	...	46	26.3	22.3	302	326	27.3	23.8	27.3	23.8
1888	34.4	30.0	1.015	325	50	33.1	23.0	316	337	32.9	23.5	32.9	23.5	
1889	35.4	30.6	.981	302	70	34.6	24.9	301	333	36.0	25.8	36.0	25.8	

(continued on next page)

TABLE A-29, continued

Year	PRODUCTION				PRICES				SHIFTS WORKED PER YEAR				EMPLOYMENT		
	Total	Per Man-shift		Per Worker	Total	Rhineland (1913=100)		Total	Per Worker		Total	Below Ground (1913=100)	Above Ground (1913=100)		
		Reich (1913=100)	Dortmund (1913=100)			Dortmund (tons)	Dortmund (tons)		Dortmund (1913=100)	Dortmund (1913=100)				Below Ground (number)	Above Ground (number)
1890	36.9	32.0	.935	286	88	36.9	27.7	297	333	39.0	28.8				
1891	38.8	33.8	.906	278	81	39.3	30.1	298	334	41.2	31.2				
1892	37.6	33.3	.895	267	70	34.9	30.6	289	325	37.7	32.5				
1893	38.9	34.8	.900	271	60	35.0	32.4	292	325	37.5	34.4				
1894	40.3	36.6	.900	274	66	36.6	33.8	295	327	38.8	35.8				
1895	41.7	37.2	.898	274	66	36.9	34.8	297	326	38.9	37.0				
1896	45.1	40.5	.908	286	68	40.1	37.5	308	333	40.8	38.8				
1897	47.9	43.7	.897	283	73	43.5	40.7	307	335	44.3	41.9				
1898	50.7	46.0	.873	274	74	47.0	43.7	304	337	48.2	44.9				
1899	53.4	49.3	.865	274	77	50.8	46.7	308	338	51.7	47.7				
1900	57.5	53.8	.851	271	84	55.4	52.1	309	339	56.3	53.2				
1901	57.1	52.7	.821	247	84	55.1	53.5	291	325	59.4	56.9				
1902	56.5	52.3	.828	245	79	54.6	53.4	288	322	59.3	57.3				
1903	61.3	58.4	.839	261	77	59.9	58.9	304	332	61.6	61.3				
1904	63.5	60.9	.848	258	77	61.8	62.1	296	333	65.2	64.5				
1905	63.8	59.0	.855	252	78	58.4	62.3	283	334	64.6	64.5				
1906	72.1	69.3	.885	284	84	67.8	68.8	315	348	67.3	68.3				
1907	75.3	72.4	.849	273	91	73.4	76.3	313	350	73.3	75.3				
1908	77.7	74.6	.820	254	92	77.5	81.8	301	341	80.6	82.9				
1909	77.3	74.7	.834	251	90	76.3	80.7	292	332	81.7	84.0				

(continued on next page)

TABLE A-29, continued

Year	PRODUCTION			PRICES		SHIFTS WORKED PER YEAR				EMPLOYMENT		
	Total	Per Man-shift		Dortmund (1913=100) (2)	Dortmund (tons) (3)	Dortmund (tons) (4)	Rhineland (1913=100) (5)	Total		Per Worker		Above Ground (1913=100) (11)
		Dortmund (1913=100) (1)	Dortmund (tons) (3)					Dortmund (tons) (4)	Below Ground (1913=100) (6)	Above Ground (1913=100) (7)	Below Ground (number) (8)		Above Ground (number) (9)
1910	79.5	78.4	.854	260	88	82.7	296	335	83.0	85.4		
1911	83.4	82.4	.868	267	88	85.9	300	337	85.8	88.0		
1912	92.0	90.5	.883	286	94	92.8	309	344	90.7	93.1		
1913	100.0	100.0	.884	289	100	100.0	313	346	100.0	100.0		
1924	84.4	82.4	.860	268	147	83.8	261	283	87.9	111.8		
1925	94.2	91.2	.946	296	121	84.7	276	306	88.5	111.0		
1926	103.2	98.2	1.114	356	121	79.9	285	311	80.9	96.5		
1927	109.1	103.3	1.132	354	121	84.1	279	311	87.6	98.8		
1928	107.2	100.3	1.191	369	131	78.2	273	309	82.5	93.4		
1929	116.1	108.2	1.271	395	137	79.8	282	315	83.9	90.9		
1930	101.3	93.9	1.353	419	136	64.5	259	298	68.0	80.2		
1931	84.2	75.0	1.487	461	125	45.9	251	291	48.1	64.0		
1932	74.4	64.2	1.625	507	115	35.7	243	282	37.2	52.5		

SOURCE, by column:

(1) 1871-1913, *IKF Sonderheft* 31, p. 58. For 1924-1932, *Jahrbuch* 1925, p. 10; 1930, p. 104; 1933, p. 103; 1939-40, p. 165; *Handbuch* 1928-44, p. 279. Put on basis 1913=100 (post-Versailles territory).

(2) *Zeitschrift für das Berg-, Hütten- und Salinenwesen*, 1914, p. 43; 1928, p. ST 19; 1932, p. ST 6; 1935, p. ST 32. Index numbers 1924-32 based on production in Lower Rhine-Westphalia.

(3 and 4) *Zeitschrift für das Berg-, Hütten- und Salinenwesen*, 1914, p. 43; 1928, p. ST 71; 1932, p. ST 17; 1933, p. ST 17. Figures for 1924-32 our estimates, based on data in Lower Rhine-Westphalia.

(5) *IKF Sonderheft* 37, p. 63. Quotations are wholesale prices for "Essen Fettkohle" and "Rheinisch-Westfälische Fet-Förderkohle."

(6 to 11) *Zeitschrift für das Berg-, Hütten- und Salinenwesen, passim*. Employment figures refer to "full-time" workers. That is, part-shifts and extra shifts are reported in form of full-time equivalents. Put on basis 1913=100. Figures for 1931 and 1932 our estimates, based on data in Lower Rhine-Westphalia.

The mining district of Lower Rhine-Westphalia, on which the 1924-32 data in cols. 2 to 4 and 6 to 11 were based, covers almost the same territory as the district of Dortmund. In case of cols. 3 and 4, which show tonnages, the 1913 figures comparable to the later segment are 0.945 tons and 309 tons, respectively.

TABLE A-30

Average Hourly Wage Rates, Cost of Living, and Wholesale Prices, by Months, 1924-1939
(1925=100)^a

Year and Month	AVERAGE HOURLY WAGE RATES	COST OF LIVING	WHOLESALE PRICES										
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
			All Commodities	Manufactures, Raw and Semifinished	Manufactures, Finished	Consumers' Goods	Producers' Goods	Sensitive Prices	Free Prices (1926=100)	Administered Prices			
1924													
Jan.	70.5	91.9	99.2	106.7	103.5	106.6	98.4	89.5	...	...	...	...	...
Feb.	69.7	87.5	96.4	103.0	100.9	105.8	92.6	97.5	...	...	...	...	...
Mar.	68.9	88.7	97.0	103.6	100.8	106.0	92.1	108.9	...	...	...	...	...
Apr.	73.6	90.9	98.4	106.2	103.9	108.9	95.6	109.1	...	...	...	...	...
May	78.9	92.0	97.3	104.9	106.4	111.5	97.9	94.1	...	...	...	...	...
June	82.3	89.5	92.0	100.9	102.6	105.6	97.5	84.6	...	...	...	...	...
July	82.6	91.0	90.2	95.6	96.8	97.8	95.1	82.2	...	...	...	...	...
Aug.	83.0	91.2	93.7	95.9	95.6	96.7	93.8	92.0	...	...	...	...	...
Sept.	83.1	93.0	98.0	97.1	96.7	98.4	94.0	99.7	...	...	...	...	...
Oct.	84.5	96.8	99.9	95.9	96.9	99.4	92.7	101.4	...	...	...	...	...
Nov.	86.7	97.1	99.1	98.1	96.3	98.5	92.6	110.3	...	...	...	...	...
Dec.	89.1	97.2	100.5	100.6	95.7	97.4	92.9	114.4	...	...	...	...	...
Average	79.4	92.2	96.8	100.7	99.7	102.7	94.6	98.6	...	...	...	...	...
1925													
Jan.	90.2	97.2	101.2	102.9	96.2	97.1	94.6	118.4	...	...	...	...	100.5
Feb.	91.2	97.3	100.6	102.8	97.4	98.0	96.4	111.5	...	...	...	...	102.6
Mar.	93.5	97.6	99.6	102.3	98.5	99.1	97.4	106.5	...	...	...	...	103.1
Apr.	95.8	97.9	97.7	100.7	98.9	99.1	98.3	104.7	...	...	...	...	102.4
May	98.0	97.0	98.0	99.0	99.9	99.7	100.1	99.7	...	...	...	...	99.4
June	100.4	98.9	99.4	99.1	100.3	100.0	100.8	97.5	...	...	...	...	99.9

July	101.7	102.4	100.7	100.1	100.6	100.2	101.4	99.4	...	100.4
Aug.	103.9	103.5	101.8	99.9	101.3	100.9	102.1	97.1	...	99.2
Sept.	105.0	103.5	101.8	99.6	102.0	101.6	102.5	96.6	...	99.2
Oct.	105.8	102.5	100.9	99.1	101.9	101.7	102.2	93.6	...	97.8
Nov.	107.3	101.0	99.9	98.2	101.8	101.5	102.3	90.4	...	97.6
Dec.	107.5	100.8	98.6	96.8	101.6	101.2	102.3	85.0	...	97.4
Average	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	...	100.0
<i>1926</i>										
Jan.	107.8	99.7	95.8	95.3	100.8	100.9	100.7	83.6	107.1	97.4
Feb.	108.0	99.0	94.7	94.1	100.3	100.2	100.2	82.6	103.8	97.3
Mar.	108.0	98.5	93.9	93.0	99.6	99.5	99.7	81.0	101.2	97.1
Apr.	107.8	99.2	93.6	91.9	98.5	97.9	99.5	78.5	99.6	96.9
May	107.8	99.4	93.3	91.2	97.3	96.6	98.4	77.3	98.6	96.5
June	107.5	99.7	93.0	90.5	95.7	94.6	97.4	77.8	98.1	96.2
July	107.6	100.8	93.9	91.1	93.5	91.8	96.2	78.8	98.5	96.3
Aug.	107.6	100.8	94.5	91.4	92.6	90.8	95.7	82.2	99.6	96.8
Sept.	108.6	100.5	95.1	92.1	92.2	90.0	95.7	84.5	100.5	98.6
Oct.	108.5	100.6	96.1	91.1	91.8	89.7	95.5	84.1	98.0	98.5
Nov.	108.6	101.6	96.7	91.0	91.6	89.2	95.7	84.6	97.8	97.9
Dec.	108.7	102.1	96.7	91.1	90.8	88.0	95.4	85.6	97.6	98.0
Average	108.0	100.2	94.8	92.0	95.4	94.1	97.5	81.7	100.0	97.3

(continued on next page)

TABLE A-30, continued

Year and Month	AVERAGE HOURLY WAGE RATES (1)	COST OF LIVING (2)	WHOLESALE PRICES							
			All Commodities (3)	Manufactures, Raw and Semifinished (4)	Manufactures, Finished (5)	Consumers' Goods (6)	Producers' Goods (7)	Sensitive Prices (1926=100) (8)	Free Prices (1926=100) (9)	Administered Prices (10)
<i>1927</i>										
Jan.	108.7	102.3	95.8	91.3	90.4	87.5	95.1	85.0	98.5	98.6
Feb.	108.8	102.8	95.6	91.7	90.4	87.6	95.0	86.0	99.3	99.2
Mar.	109.7	102.5	95.2	92.4	90.6	88.2	94.8	87.6	100.9	99.7
Apr.	111.8	103.3	95.1	92.1	91.3	89.1	94.9	90.5	101.8	98.7
May	115.5	103.4	96.7	93.0	92.1	90.2	95.2	91.8	104.4	99.1
June	116.3	104.2	97.2	93.3	93.2	91.8	95.6	92.6	104.8	99.5
July	116.3	105.8	97.0	93.8	93.9	92.8	95.7	92.9	106.3	99.6
Aug.	116.4	103.5	97.2	94.3	94.6	94.0	95.9	92.4	107.5	99.8
Sept.	116.5	103.9	98.5	95.1	96.2	96.2	96.1	93.3	109.6	97.3
Oct.	117.7	105.8	98.6	95.0	97.6	98.3	96.3	95.1	109.3	97.6
Nov.	118.3	106.2	98.8	95.0	98.7	99.6	97.1	96.3	109.8	97.1
Dec.	118.4	106.7	98.4	95.0	99.3	99.9	98.3	96.9	109.1	97.1
Average	114.5	104.2	97.0	93.5	94.0	92.9	95.8	91.7	105.1	98.6
<i>1928</i>										
Jan.	119.0	106.5	97.8	95.3	99.6	100.1	98.9	100.7	110.0	98.2
Feb.	119.2	106.2	97.2	94.8	100.1	100.3	99.6	99.2	108.3	98.0
Mar.	119.8	105.9	97.7	94.7	100.4	100.6	100.0	98.1	108.4	97.6
Apr.	122.5	105.8	98.4	94.9	100.6	100.9	100.1	97.9	109.4	96.3
May	125.0	105.8	99.6	96.0	101.1	101.5	100.4	95.4	109.8	99.4
June	125.1	106.4	99.6	95.7	101.5	102.0	100.8	93.6	108.2	99.6

July	125.5	107.3	99.9	95.8	101.9	102.1	101.3	94.5	108.4	99.6
Aug.	126.4	108.0	99.8	95.2	101.8	102.0	101.5	93.7	105.9	100.1
Sept.	126.4	107.5	98.7	94.7	101.8	101.9	101.7	92.4	104.2	100.1
Oct.	127.6	107.6	98.8	94.6	102.1	102.1	102.0	90.5	103.0	101.2
Nov.	127.7	107.8	98.9	94.7	102.0	102.1	101.9	89.3	102.5	101.3
Dec.	128.1	108.1	98.7	95.1	101.8	101.9	101.7	91.2	102.9	101.5
Average	124.4	106.9	98.8	95.1	101.2	101.5	100.8	94.7	106.8	99.4
<i>1929</i>										
Jan.	128.2	108.2	98.0	95.0	101.3	101.3	101.3	90.3	101.9	101.8
Feb.	128.4	108.9	98.2	94.8	101.0	100.9	101.2	88.2	100.9	102.0
Mar.	128.6	110.1	98.4	95.2	100.8	100.7	101.1	91.2	100.9	102.2
Apr.	129.4	108.0	96.7	94.4	100.7	100.3	101.3	89.3	99.4	101.1
May	131.5	107.9	95.6	93.1	100.5	99.9	101.5	82.6	97.2	101.4
June	132.0	107.8	95.3	93.3	100.5	99.7	101.8	84.5	96.9	102.1
July	132.2	108.7	97.2	93.1	100.4	99.4	102.1	82.8	96.9	103.0
Aug.	132.6	108.7	97.4	93.3	100.5	99.2	102.7	82.2	97.1	103.6
Sept.	132.6	108.5	97.4	93.3	100.3	98.8	102.8	84.0	96.6	104.3
Oct.	132.7	108.7	96.8	92.8	99.9	98.3	102.7	81.6	95.1	104.9
Nov.	132.8	108.6	95.6	92.1	99.9	98.1	102.7	79.4	93.2	104.9
Dec.	133.2	108.2	94.7	91.7	99.7	97.9	102.7	78.4	92.2	104.6
Average	131.2	108.5	96.8	93.5	100.5	99.5	102.0	84.5	97.4	103.0

(continued on next page)

TABLE A-30, continued

Year and Month	AVERAGE GOURLY WAGE RATES	COST OF LIVING	WHOLESALE PRICES									
			(1)	(2)	(3)	Manufactures, Raw and Manufactures, Consumers' Goods			(7)	(8)	(9)	(10)
			All Commodities	Semifinished	Finished	Consumers' Goods	Producers' Goods	Sensitive Prices	Free Prices (1926=100)	Administered Prices		
<i>1930</i>												
Jan.	133.2	107.4	93.3	91.0	99.6	97.7	102.6	77.3	90.4	104.3		
Feb.	133.2	106.6	91.2	89.9	98.7	96.3	102.6	73.8	87.2	104.0		
Mar.	133.2	105.4	89.1	89.0	97.6	94.7	102.4	72.0	84.9	103.8		
Apr.	133.5	104.4	89.4	88.5	96.9	93.9	102.1	71.1	85.2	102.6		
May	133.6	104.0	88.6	87.8	96.7	93.6	102.0	69.7	84.7	101.8		
June	133.6	104.4	87.8	86.5	96.5	93.3	101.8	68.3	82.6	101.1		
July	133.6	105.6	88.2	84.7	96.0	92.7	101.5	64.9	78.9	100.3		
Aug.	133.6	105.3	87.9	83.5	95.3	91.8	101.3	63.9	76.8	99.4		
Sept.	133.6	104.1	86.6	82.5	94.7	90.9	101.2	63.2	74.8	99.0		
Oct.	133.6	103.0	84.8	81.0	93.7	89.6	100.8	60.7	72.2	98.9		
Nov.	133.6	101.9	84.7	80.1	92.5	87.9	100.1	58.3	70.6	97.9		
Dec.	133.5	100.5	83.1	77.9	91.2	86.3	99.4	55.7	68.3	94.0		
Average	133.5	104.4	87.9	85.2	95.8	92.4	101.5	66.6	79.7	100.6		
<i>1931</i>												
Jan.	132.7	99.4	81.2	76.2	90.3	85.3	98.7	53.1	66.2	91.7		
Feb.	131.0	98.2	80.4	75.5	89.2	84.1	97.8	51.1	65.6	91.6		
Mar.	129.6	97.3	80.3	75.3	88.5	83.3	97.3	51.2	65.6	91.4		
Apr.	127.0	96.8	80.2	74.4	87.9	82.6	96.8	50.6	65.0	89.6		
May	126.0	96.5	79.9	73.3	87.6	82.2	96.5	47.2	62.8	89.0		
June	125.7	96.8	79.2	73.0	87.2	81.8	96.3	44.4	61.4	89.4		

July	125.6	96.7	78.8	73.1	87.0	81.6	96.2	46.4	62.0	89.7
Aug.	125.5	95.1	77.7	72.0	86.7	81.0	96.2	43.2	59.1	89.5
Sept.	125.4	94.7	76.6	71.0	85.9	79.9	96.0	38.7	56.6	89.4
Oct.	124.5	94.1	75.5	70.5	85.1	78.8	95.8	38.9	55.6	89.7
Nov.	123.8	93.3	75.2	70.3	84.3	77.8	95.1	39.4	55.7	89.3
Dec.	122.9	92.2	73.1	68.4	83.2	76.8	94.0	38.0	54.0	86.1
Average	126.6	95.9	78.2	72.8	86.9	81.3	96.4	45.2	60.8	89.7
<i>1932</i>										
Jan.	110.4	88.2	70.5	65.4	79.9	73.6	90.4	36.1	51.2	81.4
Feb.	110.4	86.4	70.4	64.6	78.0	71.7	88.5	35.2	50.5	80.9
Mar.	110.2	86.1	70.4	64.1	77.0	70.5	88.1	34.0	49.7	80.9
Apr.	110.2	85.4	69.4	63.3	76.4	69.5	87.9	33.2	47.9	80.2
May	107.6	85.0	68.5	62.3	75.8	68.9	87.4	32.5	46.7	80.1
June	106.1	84.9	67.8	61.8	75.1	68.0	87.0	30.7	45.2	79.9
July	106.0	85.1	67.6	61.4	74.6	67.3	86.9	30.8	45.1	79.9
Aug.	105.8	84.2	67.3	62.1	73.9	66.3	86.6	33.1	46.6	79.8
Sept.	105.2	83.9	67.1	63.0	73.5	66.0	86.2	36.8	48.2	79.6
Oct.	104.9	83.7	66.5	62.6	73.2	65.5	86.0	36.8	47.2	80.0
Nov.	104.9	83.5	66.2	62.3	72.9	65.3	85.7	36.2	46.5	78.0
Dec.	104.7	83.3	65.2	61.9	72.5	65.0	85.1	35.3	45.7	78.1
Average	107.2	85.0	68.1	62.9	75.2	68.1	87.2	34.2	47.5	79.9

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TABLE A-30, continued

Year and Month	AVERAGE HOURLY WAGE RATES	COST OF LIVING	WHOLESALE PRICES									
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
			All Commodities	Manufactures, Raw and Semifinished	Manufactures, Finished	Consumers' Goods	Producers' Goods	Sensitive Prices	Free Prices (1926=100)	Administered Prices		
<i>1933</i>												
Jan.	104.7	82.6	64.2	61.9	72.1	64.6	84.7	36.1	45.7	78.0		
Feb.	104.6	82.1	64.3	61.7	71.7	64.1	84.3	37.2	45.4	77.8		
Mar.	104.0	81.8	64.2	61.8	71.2	63.5	84.2	36.3	45.6	77.6		
Apr.	104.0	81.7	64.0	61.7	71.0	63.3	84.0	36.6	46.1	76.3		
May	104.0	82.9	64.8	62.3	71.2	63.7	83.8	38.4	48.1	76.4		
June	103.9	83.2	65.5	63.3	71.5	64.3	83.8	42.3	50.7	76.5		
July	103.9	83.2	66.2	63.8	72.1	65.1	83.9	42.4	52.1	77.6		
Aug.	103.9	83.0	66.4	63.5	72.4	65.4	84.0	40.2	50.8	78.7		
Sept.	103.9	83.5	66.9	63.3	72.5	65.7	84.0	40.6	49.8	78.7		
Oct.	103.9	84.1	67.5	63.0	72.6	66.0	83.9	39.8	48.7	79.2		
Nov.	103.9	84.7	67.7	62.9	72.6	66.0	83.8	38.7	...	79.1		
Dec.	103.9	85.0	67.8	63.2	72.7	66.1	83.8	39.4	...	79.1		
Average	104.0	83.2	65.8	62.7	72.0	64.8	84.0	39.0	...	77.9		
<i>1934</i>												
Jan.	103.9	84.8	67.9	63.8	72.8	66.2	83.8	40.6	...	79.2		
Feb.	103.9	84.7	67.8	64.2	73.1	66.7	83.7	41.1	...	79.2		
Mar.	103.9	84.5	67.6	64.4	73.1	66.8	83.7	41.0	...	79.0		
Apr.	103.9	84.4	67.6	64.3	73.2	66.9	83.7	42.7	...	77.9		
May	103.9	84.3	67.8	64.1	73.3	67.1	83.8	42.8	...	77.6		
June	103.9	84.9	68.5	64.4	73.3	67.1	83.8	43.4	...	76.9		

July	103.9	85.8	69.7	65.2	73.4	67.2	83.8	44.7	...	77.1
Aug.	103.9	86.2	70.6	65.5	73.7	67.7	83.8	44.7	...	77.3
Sept.	104.0	85.7	70.8	65.5	74.3	68.7	83.9	44.8	...	77.2
Oct.	104.0	86.0	71.2	65.3	75.2	70.1	83.9	43.8	...	77.5
Nov.	103.9	86.2	71.4	65.2	75.7	70.8	83.9	43.7	...	77.2
Dec.	103.9	86.1	71.2	65.2	75.8	71.1	83.9	44.4	...	77.5
Average	103.9	85.3	69.3	64.8	73.9	68.0	83.8	43.1	...	77.8
1935										
Jan.	103.9	86.3	71.3	65.1	76.1	71.6	83.7	44.7	...	77.7
Feb.	103.9	86.3	71.2	65.0	76.5	72.2	83.5	44.5	...	78.0
Mar.	103.9	86.1	71.0	64.8	76.4	72.2	83.5	44.0	...	78.1
Apr.	103.9	86.2	71.1	64.5	76.3	72.0	83.5	45.5	...	77.3
May	103.9	86.5	71.1	64.3	76.2	71.9	83.5	46.8	...	77.0
June	103.9	86.7	71.4	64.3	76.1	71.8	83.2	47.1	...	77.1
July	103.9	87.6	71.8	64.5	76.1	71.9	83.1	46.7	...	77.6
Aug.	103.9	87.7	72.2	64.8	76.1	72.0	83.1	47.2	...	77.6
Sept.	103.9	87.0	72.1	65.1	76.1	71.8	83.1	47.9	...	77.6
Oct.	103.9	86.5	72.5	65.6	76.1	71.9	83.1	50.0	...	78.2
Nov.	103.9	86.6	72.7	65.8	76.1	71.9	83.2	50.2	...	78.1
Dec.	103.9	87.0	72.9	66.1	76.2	72.0	83.2	49.9	...	78.2
Average	103.9	86.7	71.8	65.0	76.2	71.9	83.3	47.0	...	77.7

(continued on next page)

TABLE A-30, continued

Year and Month	AVERAGE HOURLY WAGE RATES	COST OF LIVING	WHOLESALE PRICES											
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
			All Commodities			Manufactures, Raw and		Manufactures, Consumers'		Producers' Goods		Sensitive Prices	Free Prices (1926=100)	Administered Prices
<i>1936</i>														
Jan.	103.9	87.6	73.1	66.2	76.4	72.3	83.2	50.0	...	...	...	...	...	78.3
Feb.	103.9	87.6	73.1	66.5	76.5	72.6	83.1	50.4	...	...	...	...	...	78.4
Mar.	103.9	87.5	73.1	66.5	76.6	72.9	83.1	50.6	...	...	...	...	...	78.5
Apr.	103.9	87.6	73.1	66.3	76.8	73.0	83.1	50.9	...	...	...	...	...	77.7
May	103.9	87.6	73.2	66.1	76.9	73.2	83.1	50.7	...	...	...	...	...	77.6
June	103.9	87.7	73.3	66.2	77.1	73.5	83.1	50.6	...	...	...	...	...	77.8
July	103.9	88.3	73.5	66.1	77.3	73.9	83.1	50.8	...	...	...	...	...	78.0
Aug.	103.9	88.4	73.8	66.5	77.5	74.1	83.1	50.9	...	...	...	...	...	78.0
Sept.	103.9	87.7	73.6	66.8	77.7	74.5	83.2	51.6	...	...	...	...	...	78.1
Oct.	103.9	87.7	73.6	67.2	78.1	75.1	83.3	51.3	...	...	...	...	...	78.3
Nov.	103.9	87.6	73.6	67.5	78.4	75.4	83.3	52.0	...	...	...	...	...	78.1
Dec.	103.9	87.6	74.0	68.2	78.6	75.7	83.3	53.3	...	...	...	...	...	78.2
Average	103.9	87.7	73.4	66.7	77.3	73.8	83.2	51.1	...	...	...	...	...	78.1
<i>1937</i>														
Jan.	104.0	87.7	74.3	68.7	78.6	75.8	83.3	54.5	...	...	...	...	...	78.3
Feb.	104.0	87.9	74.4	69.0	78.6	75.8	83.3	55.1	...	...	...	...	...	78.5
Mar.	104.0	88.1	74.8	69.6	78.9	76.2	83.3	56.6	...	...	...	...	...	78.5
Apr.	104.0	88.2	74.6	68.8	79.0	76.5	83.3	54.9	...	...	...	...	...	78.4
May	104.0	88.2	74.7	68.5	79.3	76.9	83.3	54.5	...	...	...	...	...	78.1
June	104.0	88.3	74.8	68.5	79.4	77.1	83.3	54.0	...	...	...	...	...	78.0

July	104.0	88.9	75.0	68.4	79.5	77.3	83.3	54.3	78.0
Aug.	104.0	88.8	75.2	68.2	79.6	77.5	83.2	54.2	78.1
Sept.	104.0	88.2	74.9	67.8	80.1	78.2	83.2	53.6	78.1
Oct.	104.0	87.9	74.7	67.2	80.3	78.7	83.2	52.1	78.0
Nov.	104.0	88.0	74.4	66.7	80.4	78.8	83.2	51.1	77.9
Dec.	104.0	87.9	74.4	66.9	80.4	78.8	83.2	50.7	78.0
Average	104.0	88.2	74.7	68.2	79.5	77.3	83.3	53.8	78.2
<i>1938</i>									
Jan.	104.0	88.0	74.5	67.0	80.3	78.6	83.2	50.8	78.1
Feb.	104.0	88.2	74.5	67.0	80.4	78.7	83.2	50.3	78.1
Mar.	104.0	88.4	74.6	67.0	80.4	78.7	83.1	50.5	78.1
Apr.	104.5	88.5	74.5	66.6	80.4	78.7	83.1	50.3	78.2
May	104.5	88.7	74.3	66.2	80.3	78.7	83.1	49.7	78.0
June	104.6	88.8	74.5	66.5	80.3	78.7	83.1	49.3	78.1
July	104.6	89.4	74.5	66.5	80.3	78.7	83.1	50.0	78.2
Aug.	104.6	89.1	74.7	66.7	80.3	78.6	83.1	50.0	78.7
Sept.	104.6	88.2	74.5	66.7	80.2	78.4	83.1	50.4	78.9
Oct.	104.6	88.0	74.5	66.8	80.2	78.4	83.1	51.1	78.9
Nov.	104.6	88.1	74.8	66.8	80.1	78.3	83.1	51.1	78.7
Dec.	104.6	88.3	75.0	66.9	80.2	78.4	83.1	50.4	78.9
Average	104.4	88.5	74.6	66.7	80.3	78.6	83.1	50.3	78.4

(continued on next page)

TABLE A-30, continued

Year and Month	AVERAGE HOURLY WAGE RATES (1)	COST OF LIVING (2)	WHOLESALE PRICES									
			All Commodities (3)	Manufactures, Raw and Semifinished (4)	Manufactures, Finished (5)	Consumers' Goods (6)	Producers' Goods (7)	Sensitive Prices (1926=100) (8)	Free Prices (1926=100) (9)	Administered Prices (10)		
1939												
Jan.	104.6	88.7	75.1	66.9	80.1	78.3	83.0	83.0	50.3	...	...	79.4
Feb.	104.6	88.6	75.1	67.0	80.1	78.3	83.0	83.0	50.1	...	...	79.5
Mar.	104.6	88.8	75.2	67.0	80.2	78.5	83.1	83.1	51.5	...	...	79.5
Apr.	104.7	88.7	75.0	67.0	80.3	78.7	83.1	83.1	52.2	...	...	79.5
May	104.7	88.9	75.1	66.8	80.3	78.6	83.1	83.1	52.6	...	...	79.3
June	104.7	89.1	75.3	66.8	80.3	78.7	83.0	83.0	52.8	...	...	79.4
July	104.7	89.7	75.5	67.1	80.3	78.8	83.0	83.0	53.0	...	...	79.5
Aug.	104.7	89.7	75.5	67.3	80.4	78.9	83.0	83.0	53.5	...	...	79.8
Sept.	104.7	88.6	75.4	67.6	80.5	79.0	83.0	83.0	n.a.	...	...	79.8
Oct.	104.9	88.7	75.5	68.1	80.5	79.1	83.1	83.1	n.a.	...	...	79.7
Nov.	104.9	88.9	75.7	68.6	80.7	79.3	83.0	83.0	n.a.	...	...	79.8
Dec.	104.9	89.1	75.9	68.7	80.7	79.5	83.0	83.0	n.a.	...	...	79.9
Average	104.7	89.0	75.4	67.4	80.4	78.8	83.0	83.0	...	...	...	79.6

^a Base shifted to 1925; for col. 9, shifted to 1926=100.

SOURCE: *Wirtschaft und Statistik; Jahrbuch; I.K.F. Handbuch 1933*

and 1936; *I.K.F. Statistik des In- und Auslands; I.K.F. Beilage zum Wochenbericht; Reichsarbeitsblatt; all passim.*

TABLE A-31

Amplitudes and Conformity Indexes of Wage Rates, Cost of Living, and Wholesale Prices
Reference Cycles, Monthly Series, January 1924 to August 1932

	AVERAGE ANNUAL CHANGE OF CYCLE RELATIVES						INDEXES OF CONFORMITY					
	Expansion ^a		Contraction		Average		Expansion		Contraction		Average	
	Nov. 1923- Mar. 1925	Mar. 1925- Mar. 1926	Apr. 1926- Apr. 1929	Apr. 1929- Apr. 1932	Apr. 1929- Apr. 1932	Apr. 1929- Apr. 1932	Expansion	Contraction	Expansion	Contraction	Average	Full Cycles
Number of years	1.08	1.00	3.08	3.33								
Hourly wage rates	+23	+16	+6	-6	+14	+5	+100	0	+100	0	+33	+33
Cost of living	+6	+1	+3	-7	+4	-3	+100	0	+100	0	+100	+100
Wholesale prices												
All commodities	+0 ^b	-5	+1	-10	+1	-8	+100	+100	+100	+100	+100	+100
Manufactures, raw and semifinished	-4	-9	+0 ^b	-11	-2	-10	0	+100	0	+100	+100	+100
Manufactures, finished	-5	+1	+0 ^b	-9	-2	-4	0	0	0	0	0	-33
Producers' goods	-1	+2	+0 ^b	-5	-1	-1	0	0	0	0	0	-33
Consumers' goods	-7	+0 ^b	+0 ^b	-11	-3	-5	0	0	0	0	0	-33
Sensitive prices	+17	-28	+3	-22	+10	-25	+100	+100	+100	+100	+100	+100
Free prices	...	...	-1	-18	...	...	...	...	...	...	...	...
Administered prices	...	...	+2	-7	...	...	...	...	...	...	...	...

^a Amplitude measures based on incomplete reference expansion,
starting January 1924.

^b Less than 0.5 of 1 percent.

^c Measures based on inverted cycle, 1925-29.

SOURCE: Appendix Table A-30.

For definition of conformity indexes see notes to Table A-20

TABLE A-32
Wage Rates, Prices, and Production in Selected Industries, 1924-1934

TEXTILES AND CLOTHING						
Year	Hourly Wage Rates		Wholesale Prices		Production	
	Textiles (pfennigs)	Clothing	Textiles (1928=100)	Clothing (1928=100)	Textiles and Clothing (1928=100)	Clothing (1928=100)
1924	45*	...	131	104	81	...
1925	57	...	120	104	90	88
1926	60	...	94	94	83	79
1927	66	...	96	92	108	110
1928	72	92	100	100	100	100
1929	75	96	88	99	92	93
1930	76	97	66	91	90	89
1931	72	93	48	80	87	84
1932	65	81	39	68	79	77
1933	64	74	41	66	91	86
1934	64	74	48	70	99	100

BUILDING					
Year	Hourly	Wholesale	Building	Production	Building
	Wage Rates (pfennigs)	Prices, Raw Materials (1928=100)	Costs (1928=100)	of Building Materials (1928=100)	Activity (1928=100)
1924	65	90	79	...	49
1925	94	96	97	94	67
1926	104	91	95	84	70
1927	108	99	96	100	88
1928	116	100	100	100	100
1929	123	100	102	100	98
1930	125	94	97	88	82
1931	117	79	89	56	54
1932	92	68	75	38	33
1933	85	65	72	46	...
1934	84	69	75	76	...

(continued on next page)

TABLE A-32, *continued*

PAPERMAKING			
<i>Year</i>	<i>Hourly Wage Rates (pfennigs)</i>	<i>Wholesale Prices, Paper and Products (1928=100)</i>	<i>Production (1928=100)</i>
1924	51 ^a	93	65
1925	68	105	80
1926	73	101	78
1927	78	100	95
1928	87	100	100
1929	92	101	101
1930	94	95	95
1931	88	78	88
1932	77	63	79
1933	76	64	83
1934	76	67	92
HARD COAL MINING			
<i>Year</i>	<i>Hourly Wage Rates (pfennigs)</i>	<i>Wholesale Prices, Hard Coal (1928=100)</i>	<i>Production (1928=100)</i>
1924	77 ^a	112	77
1925	95	95	86
1926	103	96	92
1927	110	98	99
1928	115	100	100
1929	120	104	109
1930	121	100	94
1931	112	94	78
1932	96	88	69
1933	96	87	73
1934	96	80	82

(continued on next page)

TABLE A-32, *continued*

CHEMICALS				
<i>Year</i>	<i>Hourly Wage Rates (pfennigs)</i>	<i>Wholesale Prices (1928=100)</i>	<i>Production (1928=100)</i>	
1924	61 ^a	103	...	
1925	80	101	81	
1926	86	97	76	
1927	92	98	90	
1928	100	100	100	
1929	106	100	92	
1930	108	99	66	
1931	104	94	54	
1932	87	83	51	
1933	87	81	58	
1934	87	80	66	

BOOTS AND SHOES				
<i>Year</i>	<i>Hourly Wage Rates (pfennigs)</i>	<i>Wholesale Prices</i>		<i>Production (1928=100)</i>
		<i>Leather and Shoes (1929=100)</i>	<i>Hides and Leather</i>	
1924	...	84	82	67
1925	...	86	82	79
1926	...	83	75	68
1927	...	86	87	108
1928	89	100	100	100
1929	90	89	81	104
1930	98	85	72	101
1931	94	73	57	94
1932	79	60	40	85
1933	79	57	39	92
1934	79	58	40	104

(continued on next page)

TABLE A-32, continued

METAL PRODUCTS			
<i>Year</i>	<i>Hourly Wage Rates (pfennigs)</i>	<i>Wholesale Prices, Machinery (1928=100)</i>	<i>Production of Machinery (1928=100)</i>
1924	55 ^a	91	65
1925	71	96	71
1926	77	97	61
1927	80	96	80
1928	88	100	100
1929	94	102	101
1930	95	103	83
1931	90	100	60
1932	78	91	38
1933	78	87	42
1934	78	87	64

^a Average of January, April, June, and October.

SOURCE: Wage rates, *Wirtschaft und Statistik*, *passim*. All data apply to skilled men.

Price and production indexes, *IKF Handbuch* 1933, *passim*; *IKF Handbuch* 1936, *passim*; and *IKF Sonderheft* 37, *passim*. (Indexes shifted to 1928=100.)

TABLE A-33
 Cost of Living by Months, 1924-1945,
 (1913-14 = 100)

<i>Year and Month</i>	<i>Total</i>	<i>Food</i>	<i>Housing</i>	<i>Fuel and Light</i>	<i>Clothing</i>	<i>Miscellaneous</i>
<i>1923</i>						
Dec.	147.6	167.2	21.6	164.8	194.1	180.4
<i>1924</i>						
Jan.	130.4	142.2	26.1	153.0	175.8	166.3
Feb.	124.1	131.2	31.3	146.5	171.8	162.8
Mar.	125.8	132.6	35.4	143.0	174.3	164.0
Apr.	128.9	132.9	49.5	140.2	179.7	164.7
May	130.5	134.6	50.6	138.6	184.7	164.9
June	127.0	128.7	52.8	138.4	181.1	162.6
July	129.1	132.6	63.1	135.8	168.9	162.1
Aug.	129.3	133.5	64.2	133.6	166.3	161.2
Sept.	131.9	138.0	64.5	132.7	168.2	161.3
Oct.	137.3	146.9	68.0	129.2	170.2	161.0
Nov.	137.8	147.3	68.8	127.9	172.8	160.8
Dec.	137.9	147.2	68.8	127.9	173.4	160.7
Average	130.8	137.3	53.6	137.2	173.9	162.7
<i>1925</i>						
Jan.	137.9	146.5	71.0	128.5	173.1	161.5
Feb.	138.0	146.4	71.5	128.5	172.6	162.2
Mar.	138.5	147.0	72.2	128.4	172.6	162.8
Apr.	138.9	145.3	78.5	128.5	173.7	163.4
May	137.7	142.5	79.4	128.4	173.7	164.8
June	140.4	147.2	79.6	128.8	173.6	166.2
July	145.3	155.0	81.8	129.4	173.9	168.6
Aug.	146.9	155.6	87.7	130.4	173.6	170.7
Sept.	146.8	154.4	89.0	132.4	174.1	171.8
Oct.	145.4	151.7	89.0	132.1	174.1	172.3
Nov.	143.3	147.9	89.2	132.1	173.4	172.3
Dec.	143.1	147.5	89.3	132.4	172.7	172.7
Average	141.8	148.9	81.5	130.0	173.4	167.4
<i>1926</i>						
Jan.	141.5	144.5	91.1	132.5	171.3	172.3
Feb.	140.5	143.0	91.4	132.6	169.5	171.6
Mar.	139.8	142.1	91.4	132.6	168.3	170.8
Apr.	140.8	142.7	97.4	131.7	167.2	170.0
May	141.0	143.4	98.6	130.6	165.4	169.1
June	141.5	144.4	99.9	130.4	164.4	168.5
July	143.1	146.4	104.4	131.2	162.9	167.4
Aug.	143.1	146.8	104.9	131.3	161.0	166.9
Sept.	142.6	146.0	104.9	132.8	159.7	166.6
Oct.	142.8	146.6	104.9	133.4	159.7	165.8
Nov.	144.2	149.3	104.9	133.9	158.6	165.5
Dec.	144.9	150.7	104.9	134.2	157.7	165.6
Average	142.2	145.5	99.9	132.3	163.8	168.3

(continued on next page)

TABLE A-33, *continued*

<i>Year and Month</i>	<i>Total</i>	<i>Food</i>	<i>Housing</i>	<i>Fuel and Light</i>	<i>Clothing</i>	<i>Miscellaneous</i>
<i>1927</i>						
Jan.	145.2	151.8	104.9	134.6	156.9	163.9
Feb.	145.9	153.5	104.9	134.3	156.6	163.5
Mar.	145.4	152.4	104.9	134.5	156.6	163.7
Apr.	146.6	151.5	115.1	133.0	156.1	164.3
May	146.7	152.0	115.1	130.7	155.9	164.5
June	147.9	154.0	115.1	130.6	156.6	164.6
July	150.1	158.0	115.1	131.6	156.6	164.8
Aug.	146.8	151.5	115.1	132.8	157.8	165.1
Sept.	147.4	151.7	115.1	134.3	159.8	165.7
Oct.	150.2	152.8	125.4	135.9	162.5	167.0
Nov.	150.7	153.2	125.4	135.9	164.4	168.0
Dec.	151.4	154.0	125.4	136.1	165.9	168.0
Average	147.9	153.0	115.1	133.7	158.8	165.3
<i>1928</i>						
Jan.	151.1	153.1	125.5	135.8	166.7	168.4
Feb.	150.7	152.0	125.6	136.0	168.1	168.6
Mar.	150.3	151.2	125.6	135.8	168.8	168.7
Apr.	150.1	150.7	125.5	134.3	170.1	169.0
May	150.1	150.4	125.5	133.7	170.4	169.4
June	151.0	152.0	125.6	134.2	170.6	169.8
July	152.2	154.1	125.7	134.8	170.6	170.3
Aug.	153.3	155.9	125.9	135.4	170.6	170.3
Sept.	152.6	154.4	125.9	137.0	170.9	170.6
Oct.	152.7	153.7	125.9	139.6	171.6	171.8
Nov.	152.9	154.0	125.9	140.3	172.1	172.0
Dec.	153.4	154.6	125.9	140.7	172.7	172.2
Average	151.7	153.0	125.7	136.5	170.3	170.1
<i>1929</i>						
Jan.	153.5	154.8	125.9	140.9	172.7	172.2
Feb.	154.6	156.7	125.9	141.8	172.7	172.2
Mar.	156.3	159.7	125.9	142.7	172.8	172.3
Apr.	153.3	154.3	126.0	141.2	172.8	172.3
May	153.1	154.1	126.0	139.4	172.7	172.5
June	153.0	154.1	126.0	139.1	172.6	172.5
July	154.2	156.3	126.0	139.5	172.4	172.6
Aug.	154.2	156.1	126.2	139.8	172.1	172.7
Sept.	154.0	155.8	126.3	141.1	171.3	172.7
Oct.	154.2	156.0	126.5	142.5	171.0	172.7
Nov.	154.1	155.8	126.5	142.6	170.7	172.8
Dec.	153.6	154.9	126.7	143.0	170.5	172.8
Average	154.0	155.7	126.2	141.1	172.0	172.5

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TABLE A-33, *continued*

<i>Year and Month</i>	<i>Total</i>	<i>Food</i>	<i>Housing</i>	<i>Fuel and Light</i>	<i>Clothing</i>	<i>Miscellaneous</i>
<i>1930</i>						
Jan.	152.4	152.8	126.7	143.0	170.1	172.9
Feb.	151.2	150.5	126.7	143.4	169.7	173.0
Mar.	149.5	147.6	126.8	143.3	168.7	173.0
Apr.	148.2	145.3	127.4	142.0	167.8	173.1
May	147.6	144.4	127.7	139.8	167.4	173.0
June	148.2	144.9	129.8	140.0	167.1	173.3
July	149.8	148.0	130.0	140.5	165.6	173.2
Aug.	149.4	147.8	130.2	140.7	163.4	172.8
Sept.	147.7	144.7	130.5	142.2	160.9	173.6
Oct.	146.2	142.8	130.6	143.1	158.7	171.1
Nov.	144.6	141.3	130.6	142.5	154.6	168.8
Dec.	142.6	138.9	131.3	141.2	149.9	167.9
Average	148.1	145.7	129.0	141.8	163.7	172.1
<i>1931</i>						
Jan.	141.1	136.9	131.8	140.5	147.3	166.4
Feb.	139.4	134.3	131.8	140.7	145.3	165.8
Mar.	138.1	132.5	131.8	140.8	143.4	165.0
Apr.	137.4	131.7	131.6	139.4	142.2	164.5
May	137.0	132.1	131.6	136.4	139.2	164.1
June	137.4	133.2	131.6	136.3	137.6	163.7
July	137.2	133.1	131.6	136.9	136.2	163.5
Aug.	135.0	129.7	131.6	137.0	133.5	163.0
Sept.	134.4	129.2	131.6	138.2	131.9	162.1
Oct.	133.5	128.0	131.6	139.4	129.6	161.4
Nov.	132.4	126.5	131.6	139.6	127.5	160.7
Dec.	130.8	124.5	131.6	139.4	125.0	159.4
Average	136.1	131.0	131.6	138.7	136.6	163.3
<i>1932</i>						
Jan.	125.1	120.4	121.5	131.7	120.0	152.7
Feb.	122.6	117.4	121.5	128.6	117.2	149.2
Mar.	122.2	117.3	121.5	128.0	115.9	148.4
Apr.	121.2	115.9	121.4	127.3	114.2	148.0
May	120.6	115.2	121.4	125.5	113.4	147.6
June	120.5	115.6	121.4	125.4	112.0	146.9
July	120.7	116.2	121.3	125.8	111.1	146.5
Aug.	119.5	114.5	121.2	125.6	109.6	145.8
Sept.	119.0	113.6	121.2	126.6	109.3	145.3
Oct.	118.7	113.3	121.6	127.3	108.7	144.5
Nov.	118.5	113.3	121.4	127.6	107.9	143.9
Dec.	118.2	112.9	121.4	128.0	107.3	143.2
Average	120.6	115.5	121.4	127.3	112.2	146.8

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TABLE A-33, *continued*

<i>Year and Month</i>	<i>Total</i>	<i>Food</i>	<i>Housing</i>	<i>Fuel and Light</i>	<i>Clothing</i>	<i>Miscellaneous</i>
<i>1933</i>						
Jan.	117.2	111.3	121.4	128.0	106.9	142.5
Feb.	116.5	110.3	121.4	128.0	106.4	142.0
Mar.	116.1	109.7	121.3	128.0	106.0	141.6
Apr.	115.9	109.5	121.3	127.2	105.6	141.5
May	117.6	112.8	121.3	125.4	105.7	141.5
June	118.0	113.7	121.3	125.1	105.8	141.2
July	118.0	113.5	121.3	125.1	106.1	141.5
Aug.	117.8	113.4	121.3	125.5	106.6	139.7
Sept.	118.5	114.4	121.3	126.3	107.2	140.0
Oct.	119.4	115.9	121.3	127.6	107.9	140.0
Nov.	120.2	117.1	121.3	127.8	108.2	140.2
Dec.	120.6	117.8	121.3	128.0	108.2	140.0
Average	118.0	113.3	121.3	126.8	106.7	141.0
<i>1934</i>						
Jan.	120.4	117.6	121.3	127.8	108.5	139.9
Feb.	120.2	117.2	121.3	127.8	108.9	139.9
Mar.	119.9	116.5	121.3	127.8	109.3	140.0
Apr.	119.8	116.4	121.3	127.1	109.5	139.9
May	119.6	116.1	121.3	125.0	109.6	139.9
June	120.5	117.8	121.3	124.6	109.8	140.0
July	121.8	120.0	121.3	125.1	110.2	140.0
Aug.	122.3	120.7	121.3	125.4	110.7	139.9
Sept.	121.6	119.2	121.3	126.3	111.9	140.0
Oct.	122.0	119.3	121.3	127.2	114.0	140.2
Nov.	122.3	119.5	121.2	127.5	115.5	140.3
Dec.	122.2	119.1	121.2	127.5	116.1	140.4
Average	121.1	118.3	121.3	126.6	111.2	140.0
<i>1935</i>						
Jan.	122.4	119.4	121.2	127.6	116.8	140.4
Feb.	122.5	119.5	121.2	127.5	117.1	140.4
Mar.	122.2	118.8	121.2	127.6	117.2	140.3
Apr.	122.3	119.0	121.2	126.8	117.5	140.4
May	122.8	120.2	121.2	124.7	117.7	140.5
June	123.0	120.6	121.2	124.2	117.8	140.5
July	124.3	122.9	121.2	124.6	117.8	140.6
Aug.	124.5	123.2	121.2	125.0	118.0	140.8
Sept.	123.4	120.9	121.2	125.9	118.1	140.9
Oct.	122.8	119.6	121.3	126.8	118.4	140.9
Nov.	122.9	119.9	121.3	127.1	118.3	141.0
Dec.	123.4	120.9	121.3	126.9	118.4	141.0
Average	123.0	124.4	121.2	126.2	117.8	140.6

(continued on next page)

TABLE A-33, *continued*

<i>Year and Month</i>	<i>Total</i>	<i>Food</i>	<i>Housing</i>	<i>Fuel and Light</i>	<i>Clothing</i>	<i>Miscellaneous</i>
<i>1936</i>						
Jan.	124.3	122.3	121.3	127.1	118.5	141.1
Feb.	124.3	122.3	121.3	127.1	118.6	141.3
Mar.	124.2	122.2	121.3	127.1	118.7	141.3
Apr.	124.3	122.4	121.3	126.3	118.7	141.3
May	124.3	122.4	121.3	125.1	119.0	141.3
June	124.5	122.8	121.3	124.1	119.5	141.3
July	125.3	124.0	121.3	124.5	119.9	141.4
Aug.	125.4	124.2	121.3	124.9	120.3	141.4
Sept.	124.4	122.0	121.3	125.5	121.3	141.6
Oct.	124.4	121.7	121.3	126.6	122.2	141.6
Nov.	124.3	121.3	121.3	126.8	123.3	141.6
Dec.	124.3	121.0	121.3	126.8	124.2	141.7
Average	124.5	122.4	121.3	126.0	120.3	141.4
<i>1937</i>						
Jan.	124.5	121.4	121.3	126.6	124.2	141.8
Feb.	124.8	121.9	121.3	126.6	124.4	141.8
Mar.	125.0	122.3	121.3	126.6	124.5	141.9
Apr.	125.1	122.3	121.3	125.8	124.8	142.0
May	125.1	122.4	121.3	124.6	125.1	142.0
June	125.3	122.9	121.3	123.7	124.2	142.4
July	126.2	124.5	121.3	123.7	125.5	142.5
Aug.	126.0	124.0	121.3	124.0	125.8	142.6
Sept.	125.1	122.0	121.3	125.0	126.6	142.7
Oct.	124.8	121.3	121.3	125.6	127.2	142.8
Nov.	124.9	121.2	121.3	125.8	127.6	142.8
Dec.	124.8	121.1	121.3	125.9	127.9	142.4
Average	125.1	122.3	121.3	125.3	125.7	142.3
<i>1938</i>						
Jan.	124.9	121.2	121.3	125.9	128.3	142.6
Feb.	125.2	121.5	121.3	125.9	128.6	142.7
Mar.	125.5	122.2	121.3	125.8	128.9	142.7
Apr.	125.6	122.3	121.2	125.5	129.4	142.5
May	125.9	122.8	121.2	124.1	129.9	142.5
June	126.0	123.0	121.2	123.1	130.9	142.6
July	126.8	124.3	121.2	123.2	131.4	142.0
Aug.	126.5	123.9	121.2	123.6	131.4	142.0
Sept.	125.2	121.3	121.2	124.5	131.4	142.0
Oct.	124.9	120.7	121.2	125.1	131.6	142.0
Nov.	125.0	120.8	121.2	125.5	131.7	142.2
Dec.	125.3	121.3	121.2	125.6	131.9	142.1
Average	125.6	122.2	121.2	124.8	130.5	142.3

(continued on next page)

TABLE A-33, *continued*

<i>Year and Month</i>	<i>Total</i>	<i>Food</i>	<i>Housing</i>	<i>Fuel and Light</i>	<i>Clothing</i>	<i>Miscellaneous</i>
<i>1939</i>						
Jan.	125.8	122.0	121.2	125.6	132.1	142.1
Feb.	125.7	121.9	121.2	125.6	137.3	142.1
Mar.	126.0	122.5	121.2	125.6	132.7	141.9
Apr.	125.9	122.2	121.2	125.3	132.9	142.0
May	126.1	122.6	121.2	124.1	133.0	141.9
June	126.5	123.6	121.2	122.9	133.1	141.9
July	127.3	124.9	121.2	123.1	133.4	142.0
Aug.	127.3	124.9	121.2	123.3	133.6	142.0
Sept.	125.7	121.7	121.2	124.2	133.7	142.0
Oct.	125.8	121.7	121.2	125.3	133.7	142.0
Nov.	126.1	122.2	121.2	125.4	134.1	142.1
Dec.	126.4	122.8	121.2	125.4	134.4	142.2
Average	126.2	122.8	121.2	124.7	133.3	142.0
<i>1940</i>						
Jan.	127.0	123.5	121.2	125.5	135.1	142.7
Feb.	127.2	123.7	121.2	125.4	135.8	143.1
Mar.	128.6	126.1	121.2	125.4	136.5	143.4
Apr.	129.4	127.3	121.2	125.0	137.2	143.8
May	130.4	128.9	121.2	124.2	138.0	144.6
June	130.8	129.1	121.2	124.0	138.9	146.4
July	131.7	130.7	121.2	124.0	139.1	146.7
Aug.	133.1	133.0	121.2	124.0	140.1	146.7
Sept.	131.6	129.9	121.2	124.1	141.6	147.0
Oct.	130.2	126.6	121.2	124.5	143.6	147.2
Nov.	130.2	126.0	121.2	124.4	146.2	147.5
Dec.	130.8	126.6	121.2	125.0	148.3	147.6
Average	130.1	127.6	121.2	124.6	140.0	145.6
<i>1941</i>						
Jan.	131.5	127.1	121.2	125.1	151.3	148.2
Feb.	131.9	127.4	121.2	124.9	153.3	148.4
Mar.	132.1	128.0	121.2	124.5	152.8	148.4
Apr.	132.4	128.6	121.2	123.8	153.1	148.5
May	133.4	129.7	121.2	123.1	155.9	148.7
June	134.1	130.6	121.2	122.9	158.1	149.0
July	136.1	134.2	121.2	122.9	158.7	149.0
Aug.	135.7	133.0	121.2	122.9	160.1	149.1
Sept.	133.3	128.3	121.2	122.7	160.8	149.2
Oct.	132.3	126.1	121.2	123.1	162.2	149.7
Nov.	132.8	126.2	121.2	123.3	165.6	150.0
Dec.	133.0	126.3	121.2	123.7	166.4	150.1
Average	133.2	128.8	121.2	123.6	158.2	149.0

(continued on next page)

TABLE A-33, *continued*

<i>Year and Month</i>	<i>Total</i>	<i>Food</i>	<i>Housing</i>	<i>Fuel and Light</i>	<i>Clothing</i>	<i>Miscellaneous</i>
<i>1942</i>						
Jan.	133.5	127.0	121.2	123.7	167.5	150.5
Feb.	135.5	130.0	121.2	123.4	169.8	150.9
Mar.	136.0	131.0	121.2	123.1	170.8	150.8
Apr.	136.6	131.8	121.2	122.8	171.4	150.8
May	137.5	133.5	121.2	122.4	171.9	150.9
June	138.9	136.0	121.2	122.2	172.3	150.8
July	140.4	138.7	121.2	122.2	172.6	150.8
Aug.	139.2	136.4	121.2	122.2	173.4	150.8
Sept.	135.2	128.8	121.2	122.2	173.4	150.9
Oct.	134.8	128.2	121.2	122.2	173.7	150.7
Nov.	135.2	128.6	121.2	122.3	174.8	151.0
Dec.	135.8	129.4	121.2	122.8	175.4	151.2
Average	136.6	131.6	121.2	122.6	172.3	150.9
<i>1943</i>						
Jan.	136.7	131.2	121.2	123.1	176.0	150.0
Feb.	137.3	132.3	121.2	123.1	176.3	150.2
Mar.	137.6	132.6	121.2	122.5	177.2	150.1
Apr.	138.0	133.3	121.2	122.3	177.2	150.3
May	138.5	134.3	121.2	122.0	177.6	150.2
June	139.4	135.9	121.2	122.0	178.0	150.2
July	141.5	139.7	121.2	122.0	178.4	150.3
Aug.	141.4	139.3	121.2	122.0	179.1	150.3
Sept.	137.9	132.8	121.2	122.0	179.1	150.4
Oct.	137.5	131.9	121.2	122.0	179.1	150.6
Nov.	138.2	133.1	121.2	122.3	180.0	150.6
Dec.	138.5	133.6	121.2	123.3	180.2	150.6
Average	138.5	134.2	121.2	122.4	178.2	150.3
<i>1944</i>						
Jan.	139.3	134.8	121.2	123.3	180.9	150.7
Feb.	139.6	135.2	121.2	123.3	181.3	150.8
Mar.	140.1	136.1	121.2	122.8	181.7	151.0
Apr.	141.3	138.1	121.2	122.3	182.8	151.0
May	141.1	137.5	121.2	122.3	183.4	151.2
June	142.0	139.3	121.2	122.2	183.4	151.2
July	145.8	146.1	121.2	122.2	184.4	151.3
Aug.	144.4	143.4	121.2	122.2	184.4	151.3
Sept.	141.2	137.4	121.2	122.2	185.1	151.5
Oct.	140.4	135.9	121.2	122.2	185.1	151.5
Nov.	140.7	136.3	121.2	122.4	185.3	151.5
Dec.	141.1	136.6	121.2	123.7	186.3	152.3
Average	141.4	138.1	121.2	122.5	183.7	151.3

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TABLE A-33, *continued*

<i>Year and Month</i>	<i>Total</i>	<i>Food</i>	<i>Housing</i>	<i>Fuel and Light</i>	<i>Clothing</i>	<i>Miscellaneous</i>
<i>1945</i>						
Jan.	141.6	137.4	121.2	123.1	186.9	152.3
Feb.	141.9	137.8	121.2	123.1	187.4	152.4
Mar.	142.4	138.6	121.2	123.1	188.3	152.4
Apr.	142.8	139.2	121.2	121.6	188.3	153.3
May	144.4	142.1	121.2	121.6	188.3	153.3
June	148.0	148.6	121.2	121.6	187.7	154.8
July	149.2	151.1	121.2	121.6	187.7	153.7
Aug.	146.7	144.6	121.2	121.6	190.9	153.7

SOURCE: *Jahrbuch* 1936, p. 294; *Jahrbuch* 1941-42, p. 376; *Wirtschaft und Statistik, passim*; *Handbuch* 1946, Part v, p. 5; and *Statistisches Jahrbuch für die Bundesrepublik Deutschland*, 1952, p. 407.

TABLE A-34

Real Earnings of German Coal Miners by Quarters, 1924-1938
(marks per shift)

<i>Year and Quarter</i>	<i>Hard Coal</i>		<i>Soft Coal</i>	
	<i>Hewers and Haulers</i>	<i>Surface Workers</i>	<i>Hewers and Haulers</i>	<i>Surface Workers</i>
1924 I	4.65	3.36	4.19	3.33
II	5.15	3.71	4.36	3.37
III	5.53	3.74	4.28	3.37
IV	5.34	3.66	4.27	3.36
1925 I	5.50	3.80	4.48	3.54
II	5.60	3.98	4.76	3.76
III	5.41	3.79	4.86	3.81
IV	5.64	4.02	5.14	4.00
1926 I	5.87	4.17	5.12	4.03
II	5.87	4.17	5.12	4.09
III	5.91	4.14	5.05	4.04
IV	6.03	4.26	5.18	4.15
1927 I	6.01	4.23	5.17	4.10
II	6.08	4.33	5.16	4.18
III	6.20	4.34	5.24	4.17
IV	6.13	4.30	5.51	4.42
1928 I	6.13	4.29	5.67	4.43
II	6.33	4.56	5.74	4.50
III	6.36	4.56	5.68	4.47
IV	6.36	4.58	5.86	4.66
1929 I	6.30	4.53	5.74	4.57
II	6.43	4.64	5.93	4.66
III	6.44	4.61	5.93	4.65
IV	6.49	4.66	5.94	4.71
1930 I	6.60	4.73	6.05	4.78
II	6.72	4.89	6.18	4.95
III	6.64	4.79	6.08	4.85
IV	6.82	4.96	6.11	5.03
1931 I	6.64	4.82	6.24	5.22
II	6.69	4.92	6.29	5.15
III	6.75	4.92	6.24	4.97
IV	6.44	4.73	6.32	4.96
1932 I	6.23	4.59	5.76	4.68
II	6.34	4.69	5.94	4.80
III	6.39	4.72	6.02	4.77
IV	6.46	4.77	6.01	4.82

(continued on next page)

TABLE A-34, *continued*

<i>Year and Quarter</i>	<i>Hard Coal</i>		<i>Soft Coal</i>	
	<i>Hewers and Haulers</i>	<i>Surface Workers</i>	<i>Hewers and Haulers</i>	<i>Surface Workers</i>
1933 I	6.59	4.85	6.06	4.89
II	6.58	4.88	6.19	4.94
III	6.54	4.78	6.10	...
IV	6.46	4.74	5.99	...
1934 I	6.48	4.70	6.00	...
II	6.51	4.78	6.18	...
III	6.42	4.67	6.07	...
IV	6.44	4.67	6.01	...
1935 I	6.42	4.63	5.99	...
II	6.41	4.70	6.19	...
III	6.34	4.61	6.12	...
IV	6.40	4.67	6.09	...
1936 I	6.34	4.58	6.28	...
II	6.34	4.65	6.53	...
III	6.31	4.55	6.52	...
IV	6.40	4.62	6.43	...
1937 I	6.42	4.58	6.39	...
II	6.43	4.60	6.65	...
III	6.41	4.52	6.63	...
IV	6.54	4.58	6.59	...
1938 I	6.54	4.51	6.46	...
II	6.54	4.59	6.84	...
III	6.52	4.51	6.86	...
IV	6.67	4.58	6.78	...

SOURCE: For money earnings, Appendix Table A-25; for cost of living, Appendix Table A-33. Earnings were deflated by the official cost-of-living index with base 1913-14 = 100, as published. The resultant real wages are expressed in 1913-14 prices, although they cover only the period from 1924 on.

TABLE A-35
 Unemployment, Trade Union Members, by Months, 1913-1924
 (percent)

	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Jan.	3.2	4.7	6.5	2.6	1.7	0.9	6.6	3.4	4.5	3.3	4.2	26.5
Feb.	2.9	3.7	5.1	2.8	1.6	0.8	6.0	2.9	4.7	2.7	5.2	25.1
Mar.	2.3	2.8	3.3	2.2	1.3	0.9	3.9	1.9	3.7	1.1	5.6	16.6
Apr.	2.3	2.8	2.9	2.3	1.0	0.8	5.2	1.9	3.9	0.9	7.0	10.4
May	2.5	2.8	2.9	2.5	1.0	0.8	3.8	2.7	3.7	0.7	6.2	8.6
June	2.7	2.5	2.5	2.5	0.9	0.8	2.5	4.0	3.0	0.6	4.1	10.5
July	2.9	2.9	2.7	2.4	0.8	0.7	3.1	6.0	2.6	0.6	3.5	12.5
Aug.	2.8	22.4	2.6	2.2	0.8	0.7	3.1	5.9	2.2	0.7	6.3	12.4
Sept.	2.7	15.7	2.6	2.1	0.8	0.8	2.2	4.5	1.4	0.8	9.9	10.5
Oct.	2.8	10.9	2.5	2.0	0.7	0.7	2.6	4.2	1.2	1.4	19.1	8.4
Nov.	3.1	8.2	2.5	1.7	0.7	1.8	2.9	3.9	1.4	2.0	23.4	7.3
Dec.	4.8	7.2	2.6	1.6	0.9	5.1	2.9	4.1	1.6	2.8	28.2	8.1

SOURCE: *Reichsarbeitsblatt, passim.*

TABLE A-36

Average Hourly Earnings, 479 Establishments in Bavaria, by Industry, Sex, and Skill,
June 1914 and October 1918
(pfennigs)

	<i>Skilled Men</i>		<i>Unskilled Men</i>		<i>Women</i>		<i>Youths</i>	
	<i>June 1914</i>	<i>Oct. 1918</i>	<i>June 1914</i>	<i>Oct. 1918</i>	<i>June 1914</i>	<i>Oct. 1918</i>	<i>June 1914</i>	<i>Oct. 1918</i>
Metals	56	127	42	92	26	39	18	42
Machinery	60	140	43	98	30	64	17	47
Instruments	63	166	45	98	27	63	17	39
Chemicals	50	107	39	84	24	57	18	40
Mining	44	90	34	74	32	47	17	37
Stone and clay	45	93	37	79	21	49	17	41
Wood	52	109	39	88	25	55	18	43
Leather	63	143	42	87	27	60	22	52
Paper	52	93	36	68	22	48	14	27
Building	66	126	52	109	28	71	28	70
Food	47	89	36	71	24	48	19	40
Brewing	63	109	48	92	28	70	34	74
Textiles	42	74	31	59	26	48	17	32
Clothing	47	92	37	68	24	55	17	37
Shoes	50	104	37	81	30	68	16	36
Printing	70	122	46	85	27	54	17	30
Glass	60	124	35	82	20	48	23	47
Pottery	54	94	36	61	26	45	16	28
Gas and electric	56	96	43	80	34	64	23	44
Transport	53	98	43	76	32	64	22	59
Trade	65	116	52	108	34	61	11	21
Averages, ^a								
21 industries	54.9	111.8	40.3	88.8	25.8	53.0	17.3	40.6
Unweighted averages of industry levels	55.1	110.1	40.6	82.9	27.0	56.1	19.1	42.2

^aEarnings averages equal total payroll divided by total manhours.

SOURCE: Karl Kreiner, "Die Arbeits-, Lohn-, und Produktionsverhältnisse der bayrischen Industrie im Juni 1914, Oktober 1918 und Mai 1919; auf Grund der Wirtschaftserhebung des Staatskommissars für Demobilmachung," *Zeitschrift des Bayrischen Statistischen Landesamts*, 1921, p. 33.

TABLE A-37

Average Daily Earnings, 370 Establishments, by Sex and Industry, March and September, 1914-1918
(marks)

	MALE WORKERS											
	1914		1915		1916		1917		1918			
	March	Sept.	March	Sept.	March	Sept.	March	Sept.	March	Sept.	March	Sept.
Metals	5.64	5.67	6.29	6.93	7.47	8.02	9.88	11.81	12.01	12.94		
Machinery	5.32	5.23	6.41	7.01	7.39	7.91	9.19	10.75	12.93	13.04		
Chemicals	5.16	4.97	5.37	6.07	6.43	6.93	8.09	10.01	10.50	11.95		
Electrical goods	4.52	4.02	4.99	5.31	5.76	7.44	9.25	10.93	12.06	13.46		
4 War industries	5.14	4.97	5.76	6.33	6.76	7.58	9.10	10.88	11.88	12.85		
Stone and clay	4.68	4.00	4.13	4.66	4.98	5.41	6.18	7.07	7.78	8.79		
Wood	4.22	4.30	4.56	4.60	5.20	5.61	6.22	7.80	7.77	9.96		
Leather and rubber	5.07	4.95	4.94	5.78	5.85	6.37	7.30	7.81	8.21	8.78		
Paper	3.93	4.17	4.49	4.88	5.08	5.56	6.29	7.37	8.27	9.43		
4 Materials	4.48	4.36	4.53	4.98	5.28	5.74	6.50	7.51	8.01	9.24		
Food	5.69	5.78	5.94	5.96	5.88	6.14	6.47	7.51	7.81	8.52		
Textiles	3.64	3.19	3.67	4.05	4.00	4.17	4.45	5.18	5.79	6.47		
Clothing	3.79	2.72	3.58	3.70	4.00	3.68	4.94	5.88	6.82	8.17		
Printing	6.50	5.95	6.74	7.24	7.51	7.69	9.23	9.10	9.59	11.63		
4 Civilian industries	4.90	4.41	4.98	5.24	5.35	5.42	6.27	6.92	7.50	8.70		
Averages, 12 industries*	5.17	5.12	5.88	6.56	7.00	7.56	9.10	10.82	11.68	12.46		
Unweighted averages of industry levels	4.84	4.58	5.09	5.52	5.80	6.24	7.29	8.44	9.13	10.26		

(continued on next page)

TABLE A-37, continued

	FEMALE WORKERS											
	1914		1915		1916		1917		1918			
	March	Sept.	March	Sept.	March	Sept.	March	Sept.	March	Sept.		
Metals	2.05	1.66	2.22	3.02	3.46	4.11	4.68	5.67	5.88	6.65		
Machinery	2.28	1.96	2.87	3.20	3.63	3.88	4.31	4.88	6.01	6.26		
Chemicals	2.36	1.92	2.35	2.62	3.08	3.55	4.11	4.21	5.63	6.60		
Electrical goods	2.75	2.09	3.01	3.40	3.91	4.80	5.24	6.18	6.58	7.35		
4 War industries	2.36	1.91	2.61	3.06	3.52	4.08	4.58	5.48	6.02	6.72		
Stone and clay	1.67	1.49	1.62	1.87	1.96	2.19	2.57	2.87	3.10	3.87		
Wood	1.99	1.78	2.31	1.95	2.20	2.59	3.17	3.81	4.36	5.45		
Leather and rubber	2.82	2.37	2.49	2.77	3.05	3.18	3.79	4.15	4.18	4.82		
Paper	2.15	2.23	2.29	2.53	2.64	2.85	3.65	4.09	4.57	5.37		
4 Materials	2.16	1.97	2.18	2.28	2.46	2.70	3.30	3.73	4.05	4.88		
Food	2.10	1.89	2.09	2.31	2.40	2.89	2.84	3.72	4.04	4.24		
Textiles	2.30	2.05	2.22	2.32	2.41	2.33	2.57	3.31	3.92	4.29		
Clothing	2.25	1.50	2.14	1.79	2.24	2.13	2.81	3.50	3.94	4.92		
Printing	2.56	2.30	2.29	2.64	2.82	2.93	3.22	3.77	4.27	5.10		
4 Civilian industries	2.30	1.94	2.18	2.26	2.47	2.57	2.86	3.58	4.04	4.64		
Averages, 12 industries ^a	2.28	1.94	2.25	2.55	3.02	3.52	4.06	4.87	5.45	6.02		
Unweighted averages of industry levels	2.27	1.94	2.32	2.54	2.82	3.12	3.58	4.26	4.71	5.41		

^a Earnings averages equal total payroll divided by total man-days.

SOURCE: Investigation by the Statistische Reichsamt; *Reichsarbeitsblatt* 1917-1919, *passim*.

TABLE A-38

Average Earnings per Shift, Krupp-Essen, by Sex, Age, and Skill, Quarterly, 1914-1918

Year and Quarter	Male Workers			Female Workers		Male Workers		
	Over 21 Years		Under 16 Years	Over 21 Years		Over 21 Years		Under 16 Years
	Skilled	Unskilled (marks)		Skilled	Unskilled (1914, 1st quarter=100)	Skilled	Unskilled (1914, 1st quarter=100)	
1914 I	6.67	5.42	1.08	...	100	100	100	100
II	6.68	5.46	1.05	...	100	101	96	97
III	6.86	5.53	1.10	...	103	102	103	102
IV	7.08	5.67	1.18	2.52	106	105	116	109
1915 I	7.29	5.86	1.39	2.47	109	108	124	129
II	7.70	6.13	1.50	2.81	115	113	133	139
III	7.91	6.19	1.71	3.51	119	114	133	158
IV	8.30	6.41	1.77	3.58	124	118	135	164
1916 I	8.46	6.41	1.86	3.94	127	118	134	172
II	8.88	6.68	1.81	4.10	133	123	142	168
III	9.08	6.82	1.81	4.20	136	126	146	168
IV	9.68	7.26	1.97	4.53	145	134	151	182
1917 I	10.55	7.98	2.27	4.96	158	147	167	210
II	11.54	8.57	2.38	5.35	173	158	178	220
III	12.08	8.85	2.68	5.59	181	163	190	248
IV	12.99	9.55	2.86	5.89	195	176	216	265
1918 I	13.98	10.18	2.97	6.32	210	188	230	275
II	...	...	...	...	...	...	...	...
III	...	...	...	...	...	...	...	...
IV	16.00	10.25	...	...	240	189	...	...

SOURCE: Waldemar Zimmermann, "Die Veränderung der Einkommens- und Lebensverhältnisse der deutschen Arbeiter durch den Krieg," in Die Einwirkung des Krieges auf Bevölkerungsbewegung,

Einkommen und Lebenshaltung in Deutschland, *Wirtschafts- und Sozialgeschichte des Weltkrieges* (Carnegie Foundation for International Peace, Stuttgart, Deutsche Verlags-Anstalt, 1932), p. 382.

TABLE A-39

Wages Rate of Skilled and Unskilled Building Workers, Three Large Cities, 1913-1923

Year	SKILLED (marks)			UNSKILLED (marks)			SKILL DIFFERENTIALS ^a		
	Berlin	Hamburg	Stettin	Berlin	Hamburg	Stettin	Berlin	Hamburg	Stettin
1913-14	0.84	0.90	0.65	0.57	0.75	0.49	32.1	16.7	24.6
1914 (Apr.)	0.82	0.90	0.65	0.64	0.75	0.49	22.0	16.7	24.6
1915 (Apr.)	0.84	0.90	0.65	0.64	0.75	0.50	23.8	16.7	23.1
1916 (Sept.)	0.98	1.01	0.75	0.81	0.86	0.60	17.3	14.9	20.0
1917 (Dec.)	1.60	1.26	1.00	1.48	1.11	0.85	7.5	11.9	15.0
1918 (Oct.)	1.80	1.51	1.20	1.68	1.36	1.05	6.7	9.9	12.5
1919 (Dec.)	3.20	3.30	2.65	3.00	3.20	2.55	6.2	3.0	3.8
1920 (Dec.)	6.80	6.80	6.25	6.60	6.70	6.15	2.9	1.5	1.6
1921 (Dec.)	12.25	13.85	10.60	11.60	13.30	10.30	5.3	4.0	2.8
1922 (Dec.)	370	401	310	352	381	293	4.9	5.0	5.5
1923 (Dec.)	700 ^b	640 ^b	555 ^b	630 ^b	560 ^b	520 ^b	10.0	12.5	6.3

^a The differentials are differences between wages of skilled and those of unskilled workers expressed in percent of the former.

^b In billions.

SOURCE: For 1913-14 and 1919-23: *ADGB Jahrbuch* 1922, pp.139, 150, and 161; 1923, pp. 89, 101, and 111. For April 1914 to October 1918: Waldemar Zimmermann, "Die Veränderungen der Einkom-

mens- und Lebensverhältnisse der deutschen Arbeiter durch den Krieg," in *Die Einwirkung des Krieges auf Bevölkerungsbewegung, Einkommen und Lebenshaltung in Deutschland, Wirtschaftsis- und Sozialgeschichte des Weltkrieges* (Carnegie Foundation for International Peace, Stuttgart, Deutsche Verlags-Anstalt, 1932), p. 398.

TABLE A-40

Average Weekly Wage Rates, Selected Occupations, Annually 1913-1919, and Monthly 1920-1923

Year and month	Railroad Workers		Printers, Compositors	Miners, ^a Underground	Railroad Workers		Printers, Compositors	Miners, ^a Underground
	Skilled	Unskilled			Skilled	Unskilled		
								(1913 = 1.00) ^b
1913	34.56	23.70	31.65	40.50	1.000	1.000	1.000	1.000
1914	34.56	23.70	31.65	38.88	1.000	1.000	1.000	0.960
1915	35.64	24.78	31.65	42.60	1.031	1.046	1.000	1.052
1916	40.56	29.70	32.55	51.12	1.174	1.253	1.028	1.262
1917	55.85	44.45	39.50	64.20	1.616	1.876	1.248	1.585
1918	90.20	74.06	53.59	80.88	2.610	3.125	1.693	1.997
1919	139.23	124.83	94.96	138.36	4.029	5.267	3.000	3.416
1920 Jan.	173	158	144	241	5.00	6.68	4.54	5.95
Feb.	173	158	144	241	5.00	6.68	4.54	5.95
Mar.	173	158	144	241	5.00	6.68	4.54	5.95
Apr.	230	216	144	292	6.67	9.11	4.54	7.22
May	230	216	192	296	6.67	9.11	6.07	7.31
June	264	240	209	318	7.64	10.13	6.62	7.86
July	264	240	223	321	7.64	10.13	7.04	7.93
Aug.	264	240	225	351	7.64	10.13	7.10	8.66
Sept.	264	240	225	353	7.64	10.13	7.10	8.72
Oct.	264	240	225	397	7.64	10.13	7.10	9.80
Nov.	264	240	245	400	7.64	10.13	7.73	9.89
Dec.	264	240	245	400	7.64	10.13	7.73	9.87
1921 Jan.	293	269	245	403	8.48	11.35	7.73	9.95
Feb.	293	269	258	405	8.48	11.35	8.16	10.00
Mar.	293	269	258	406	8.48	11.35	8.16	10.02
Apr.	293	269	258	421	8.48	11.35	8.16	10.39
May	293	269	258	434	8.48	11.35	8.16	10.73
June	293	269	258	439	8.48	11.35	8.16	10.84

July	293	269	258	442	8.48	11.35	8.16	10.90
Aug.	341	317	268	445	9.87	13.38	8.46	10.98
Sept.	341	317	291	512	9.87	13.38	9.20	12.65
Oct.	485	446	340	517	14.03	18.82	10.74	12.78
Nov.	485	446	365	711	14.03	18.82	11.53	17.56
Dec.	485	446	476	720	14.03	18.82	15.04	17.78
1922 Jan.	521	482	496	732	15.08	20.34	15.67	18.07
Feb.	521	482	553	822	15.08	20.34	17.47	20.30
Mar.	521	482	582	942	15.08	20.34	18.39	23.26
Apr.	754	708	707	1,056	21.82	29.87	22.34	26.07
May	979	910	860	1,230	28.33	38.40	27.17	30.37
June	1,171	1,094	1,013	1,326	33.88	46.16	32.01	32.74
July	1,445	1,349	1,224	1,662	41.81	56.92	38.67	41.04
Aug.	2,146	2,021	1,537	2,244	62.09	85.27	48.56	55.41
Sept.	4,066	3,826	2,480	4,314	117.65	161.44	78.36	106.52
Oct.	4,781	4,518	4,129	5,418	138.34	190.63	130.46	133.78
Nov.	8,352	7,896	6,996	10,602	241.67	333.16	221.04	261.78
Dec.	13,824	13,128	12,207	18,318	400.00	553.92	385.69	452.30
1923 Jan.	22,248	21,096	19,763	28,176	644	890	624	696
Feb.	46,416	44,016	40,981	85,674	1,343	1,857	1,295	2,115
Mar.	58,020	55,020	66,516	98,430	1,679	2,322	2,102	2,430
Apr.	58,020	55,020	68,981	98,430	1,679	2,322	2,180	2,430
May	78,924	74,724	82,494	124,206	2,284	3,153	2,606	3,067
June	207,444	196,548	190,784	309,438	6,002	8,293	6,028	7,640
July	859,510	817,451	671,671	1,118,664	24,870	34,492	21,222	27,621
Aug. ^c	20.0	18.9	22.7	34.2	0.5787	0.7975	0.7172	0.8444
Sept. ^c	416.0	393.0	359.0	893.0	12.037	16.582	11.343	22.049
Oct. ^d	196	185	162	441	5.671	7.806	5.118	10.889
Nov. ^d	10,886	9,533	14,958	19,998	315	402	473	494
Dec. ^{d,e}	24,000	18,720	25,800	34,890	694	790	815	861

^a Miners' wages are earnings until November 1922 and rates from December 1922.

^b Relatives computed from figures with a greater number of digits than given in first 4 columns of this table.

^c In millions.

^d In billions.

^e Computed from Rentenmarks, using conversion rate of 1 Rentenmark = 1 trillion paper marks.

SOURCE: *Wirtschaft und Statistik 1925*, "Zahlen zur Geldentwertung in Deutschland, 1914 bis 1923," p. 40.

TABLE A-41
Cost of Living, Wholesale Prices, and Dollar Exchange Rates, by Months, 1913-1923
(1913 = 1.00)

Year and Month	Food Index, Calwer		Cost-of-Living Index		Wholesale Price Index (4)	Dollar Exchange Rate (Aug. 1914 = 1.00) (5)
	(1)	Reichsmark (2)	Interpolated (3)			
1913 Jan.	1.01	...	1.01	...	...	...
Feb.	1.01	...	1.01	...	...	...
Mar.	1.01	...	1.01	...	...	...
Apr.	1.00	...	1.00	...	...	...
May	0.99	...	0.99	...	...	...
June	0.99	...	0.99	...	...	...
July	1.01	...	1.01	...	...	...
Aug.	1.01	...	1.01	...	...	...
Sept.	1.00	...	1.00	...	...	...
Oct.	1.00	...	1.00	...	...	...
Nov.	1.00	...	1.00	...	...	...
Dec.	0.99	...	0.99	...	...	...
Average	1.00	1.00	1.00	1.00	1.00	...
1914 Jan.	0.99	...	1.00	0.96	0.96	...
Feb.	0.98	...	0.99	0.96	0.96	...
Mar.	0.98	...	0.99	0.96	0.96	...
Apr.	0.96	...	0.97	0.95	0.95	...
May	0.96	...	0.97	0.97	0.97	...
June	0.96	...	0.98	0.99	0.99	...
July	0.98	...	0.99	0.99	0.99	...
Aug.	1.03	...	1.05	1.09	1.09	1.00
Sept.	1.02	...	1.05	1.11	1.11	1.00
Oct.	1.05	...	1.07	1.18	1.18	1.04
Nov.	1.08	...	1.11	1.23	1.23	1.10
Dec.	1.12	...	1.15	1.25	1.25	1.07
Average	1.01	1.03	1.03	1.05	1.05	1.02

1915 Jan.	1.15	...	1.16	1.26	1.10
Feb.	1.23	...	1.19	1.33	1.12
Mar.	1.28	...	1.21	1.39	1.15
Apr.	1.34	...	1.25	1.42	1.16
May	1.42	...	1.27	1.39	1.15
June	1.45	...	1.30	1.39	1.16
July	1.48	...	1.32	1.50	1.17
Aug.	1.52	...	1.35	1.46	1.17
Sept.	1.55	...	1.36	1.45	1.15
Oct.	1.63	...	1.38	1.47	1.16
Nov.	1.51	...	1.35	1.47	1.18
Dec.	1.53	...	1.35	1.48	1.23
Average	1.43	1.29	1.29	1.42	1.16
1916 Jan.	1.61	...	1.36	1.50	1.27
Feb.	1.69	...	1.41	1.51	1.28
Mar.	1.88	...	1.47	1.48	1.32
Apr.	2.02	...	1.52	1.49	1.30
May	2.03	...	1.58	1.51	1.24
June	2.05	...	1.68	1.52	1.26
July	2.08	...	1.75	1.61	1.31
Aug.	2.08	...	1.82	1.59	1.33
Sept.	2.08	...	1.87	1.54	1.37
Oct.	2.08	...	1.92	1.53	1.36
Nov.	2.06	...	1.98	1.51	1.38
Dec.	2.07	...	2.05	1.51	1.36
Average	1.98	1.70	1.70	1.52	1.31

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TABLE A-41, continued

Year and Month	Food Index, Calwer (1)	Cost-of-Living Index		Wholesale Price Index (4)	Dollar Exchange Rate (Aug. 1914=1.00) (5)
		Reichsmark (2)	Interpolated (3)		
1917 Jan.	2.09	...	2.15	1.56	1.38
Feb.	2.11	...	2.25	1.58	1.40
March	2.13	...	2.32	1.59	1.39
Apr.	2.13	...	2.40	1.63	1.54
May	2.12	...	2.45	1.63	1.56
June	2.14 ^a	...	2.52	1.65	1.69
July	2.15	...	2.57	1.72	1.70
Aug.	2.13	...	2.62	2.03	1.70
Sept.	2.12	...	2.67	1.99	1.72
Oct.	2.13	...	2.73	2.01	1.74
Nov.	2.16	...	2.78	2.03	1.65
Dec.	2.18	...	2.85	2.03	1.35
Average	2.13 ^a	2.53	2.53	1.79	1.57
1918 Jan.	2.20	...	2.89	2.04	1.24
Feb.	2.20	...	2.93	1.98	1.26
Mar.	2.22	...	2.96	1.98	1.24
Apr.	2.22	...	3.00	2.04	1.22
May	2.23	...	3.03	2.03	1.22
June	2.24	...	3.08	2.09	1.28
July	2.26	...	3.12	2.08	1.38
Aug.	2.31	...	3.17	2.35	1.45
Sept.	2.37	...	3.23	2.30	1.57
Oct.	2.40	...	3.29	2.34	1.57
Nov.	2.43	...	3.37	2.34	1.77
Dec.	2.45	...	3.47	2.45	1.97
Average	2.29	3.13	3.13	2.17	1.43

1919 Jan.	2.48	...	3.52	2.62	1.95
Feb.	2.53	...	3.55	2.70	2.17
Mar.	2.62	...	3.60	2.74	2.47
Apr.	2.71	...	3.67	2.86	3.00
May	2.87	...	3.75	2.97	3.06
June	3.06	...	3.85	3.08	3.34
July	3.20	...	3.97	3.39	3.59
Aug.	3.32	...	4.15	4.22	4.48
Sept.	3.72	...	4.25	4.93	5.73
Oct.	3.92	...	4.65	5.62	6.39
Nov.	4.23	...	5.15	6.78	9.12
Dec.	4.46	...	5.66	8.03	11.14
Average	3.26	4.15	4.15	4.16	4.70
1920 Jan.	5.08	...	7.49	12.56	15.4
Feb.	5.75	8.5	8.5	16.85	23.6
Mar.	6.52	9.6	...	17.09	20.0
Apr.	7.38	10.4	...	15.67	14.2
May	8.74	11.0	...	15.08	11.1
June	9.03	10.8	...	13.82	9.3
July	9.82	10.6	...	13.67	9.4
Aug.	10.17	10.2	...	14.50	11.4
Sept.	10.66	10.1	...	14.98	13.8
Oct.	12.93	10.7	...	14.66	16.2
Nov.	13.89	11.2	...	15.09	18.4
Dec.	14.39	11.6	...	14.40	17.4
Average	9.53	10.2 ^b	...	14.86	15.0

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TABLE A-41, continued

Year and Month	Food Index, Calwer		Cost-of-Living Index		Wholesale Price Index	Dollar Exchange Rate (Aug. 1914=1.00)
	(1)	Reichsamt (2)	Interpolated			
			(3)	(4)		
1921 Jan.	14.85	11.8	...	14.39	15.5	
Feb.	13.99	11.5	...	13.76	14.6	
Mar.	13.86	11.4	...	13.38	14.9	
Apr.	13.67	11.3	...	13.26	15.1	
May	13.74	11.2	...	13.08	14.8	
June	13.68	11.7	...	13.66	16.5	
July	13.97	12.5	...	14.28	18.3	
Aug.	15.41	13.3	...	19.17	20.1	
Sept.	15.55	13.7	...	20.67	25.0	
Oct.	16.28	15.0	...	24.60	35.8	
Nov.	18.44	17.7	...	34.16	62.6	
Dec.	20.02	19.3	...	34.87	45.7	
Average	15.29	13.4	...	19.11	24.9	
1922 Jan.	21.36	20.4	...	36.65	45.7	
Feb.	26.24	24.5	...	41.03	49.5	
Mar.	39.95	29.0	...	54.33	67.7	
Apr.	49.59	34.4	...	63.88	69.3	
May	42.53	38.0	...	64.58	69.1	
June	49.87	41.5	...	70.30	75.6	
July	64.32	53.9	...	100.59	117.5	
Aug.	94.18	77.6	...	192.00	270.3	
Sept.	151.92	133.2	...	287.00	349.2	
Oct.	250.31	220.7	...	566.00	757.7	
Nov.	509.00	446.1	...	1,154.00	1,711.1	
Dec.	747.42	685.1	...	1,475.00	1,807.8	
Average	...	150.4	...	342.08	...	

1923 Jan.	...	1,120	...	2,785	4,281
Feb.	...	2,643	...	5,585	6,650
Mar.	...	2,854	...	4,888	5,047
Apr.	...	2,954	...	5,212	5,825
May	...	3,816	...	8,170	11,355
June	...	7,650	...	19,385	26,202
July	...	37,651	...	74,787	84,186
Aug.	...	586,045	...	944,041	1,100,632
Sept.	...	15.0 ^c	...	23.5 ^c	23.5 ^c
Oct.	...	3.66 ^d	...	7,094.8 ^c	6.02 ^d
Nov.	...	657 ^d	...	725.7 ^d	522.3 ^d
Dec.	...	1,247 ^d	...	1,261.6 ^d	1,000.0 ^d
Average ^e	...	159.0 ^d	...	166.2 ^d	...

^a June 1917 estimated by straight-line interpolation.

^b January 1920 estimated at 7.49.

^c In millions.

^d In billions.

^e The annual averages during the last years of hyperinflation are, of course, disproportionately affected by the late months in each year. Similarly, though to a lesser extent, monthly averages are affected by price quotations near the end of the month. This is particularly important during the last phase of the hyperinflation when prices increased drastically from week to week.

SOURCE, by column:

(1) Richard Calwer, *Monatliche Übersichten über Lebensmittelpreise*, monthly by Wirtschaftstatistisches Bureau of Richard Calwer, Berlin.

(2 and 4) *Wirtschaft und Statistik*, 1925, "Zahlen zur Geldwertung in Deutschland, 1914 bis 1923," p. 5.

(3) Our estimates of monthly living costs, derived by adjusting Calwer's monthly food cost data (col. 1) to the annual Reichsamt estimates of living costs and to the February 1920 level of the official Reichsamt index (col. 3). The adjustment was done graphically and leads only to a rough approximation of monthly living costs.

(5) *Wirtschaft und Statistik*, 1923, p. 413 and p. 740. Average for 1914 based on assumption of stable rates from January through August.

TABLE A-42
 Hourly and Weekly Wage Rates of Skilled and Unskilled Workers,
 Weighted Averages of Eight Industries, 1913 and 1918-1923
 (1913 = 1.0)

	HOURLY RATES		WEEKLY RATES	
	<i>Skilled</i>	<i>Unskilled</i>	<i>Skilled</i>	<i>Unskilled</i>
1913	1.0	1.0	1.0	1.0
1918 IV	2.8	...	2.5	...
1919 I	3.3	...	2.9	...
II	3.5	...	3.1	...
III	4.1	...	3.6	...
IV	5.0	...	4.4	...
1920 January	5.3	...	4.7	...
February	6.0	...	5.3	...
March	6.1	...	5.4	...
April	7.9	...	6.9	...
May	8.5	...	7.5	...
June	8.9	...	7.9	...
July	9.4	...	8.2	...
August	9.5	...	8.4	...
September	9.6	...	8.4	...
October	9.7	...	8.5	...
November	9.9	...	8.7	...
December	10.2	...	8.9	...
1921 January	10.2	...	9.0	...
February	10.3	...	9.1	...
March	10.4	...	9.1	...
April	10.4	...	9.1	...
May	10.4	...	9.1	...
June	10.4	...	9.1	...
July	10.5	...	9.2	...
August	10.9	...	9.5	...
September	12.4	...	10.9	...
October	13.4	...	11.8	...
November	15.3	...	13.4	...
December	18.4	...	16.2	...

(continued on next page)

TABLE A-42, continued

	HOURLY RATES		WEEKLY RATES	
	Skilled	Unskilled	Skilled	Unskilled
1922 January	19.0	...	16.7	...
February	20.9	...	18.3	...
March	23.6	...	20.7	...
April	29.0	40.0	25.4	33.0
May	34.0	...	29.8	...
June	40.0	...	35.2	...
July	49.0	67.0	42.2	55.3
August	63.0	...	56.6	...
September	115.0	...	103.2	...
October	163.0	223.0	142.2	183.4
November	293.0	...	255.3	323.7
December	514.0	...	447.7	589.4
1923 January	816	1,126	709.7	926.7
February	2,058	2,794	1,776.7	2,300.1
March	2,559	3,492	2,217.9	2,872.7
April	2,510	3,550	2,254.4	2,919.4
May	3,301	4,500	2,865.4	3,703.2
June	8,098	11,015	7,024.6	9,049.8
July	29,194	42,952	27,812.7	35,952.3
August ^a	835.4	1,128.5	722.4	929.1
September ^a	20,909	28,040	18,047	23,077
October ^b	8.146	10.507	6.967	8.680
November ^b	542.46	711.1	472.3	585.4
December ^b	943.3	1,211.9	822.7	998.4

^a In thousands.

^b In billions.

SOURCE

Weekly Rates, 1913, April 1922, July 1922, and October 1922 to December 1923: *Wirtschaft und Statistik*, 1925, "Zahlen zur Geldwertung in Deutschland, 1914 bis 1923," p. 42 (shifted to base 1913 = 1.0). January 1920 to March 1922, and the months of May, June, and September 1922: our estimates, on basis of weighted average of selected wage series for skilled workers in 8 industries. See Appendix Table A-43 for basic data, and note to present table for procedures. 1919: our estimate based on miners' earnings (see below).

Hourly Rates, 1913, April 1922, July 1922, and October 1922, January to December 1923: International Labour Office, *Studies and Reports*, Series D, Number 15, p. 6. All other months estimated as described for weekly wages.

The data in this table represent the results of an attempt to derive a fairly comprehensive over-all index of hourly and weekly wage rates covering the whole of the period 1919 through 1923. For April, July, and October 1922, and for the year 1923, officially compiled weighted averages for eight industries could be used (see Appendix Table A-44 for industry detail). These averages were originally derived from weekly wage rates and published in this form by the Statistische Reichsamt. They were later converted into index numbers of hourly wage rates (see International Labour Office, *Studies and Reports*, Series D, No. 15, p. 6).

The data for 1920 and 1921, and for the nine months of 1922, not covered by the agencies mentioned, were supplied by interpolating and extrapolating the above data on the basis of the series contained in Appendix Table A-43. Series relating to each of the eight industries included in the official index could be found in case of skilled workers. Weighted averages (based on employment data for 1928-30, as given in

Notes for Table A-42, *continued*

Vierteljahrshefte zur Statistik, 1931, No. II, p. 101) were used to combine the wage rates for individual industries. Information for unskilled workers was insufficient to permit us to carry through a similar computation for this group of workers.

Monthly or quarterly information describing wage changes during 1919 are extremely scarce. While there is no doubt about the steep rise of wage rates in that year and about the general magnitude of the rise (approximately a doubling between the Armistice and the end of 1919), the information is too scanty to permit a closer measurement. In order to indicate the approximate movement of wage levels during this period, the index was pushed back through 1919 in quarterly form, based on the three annual series of mining, printing, and railway workers' wages published in "Zahlen zur Geldentwertung" and on the quarterly shift earnings of underground miners in four mining districts. (Hard coal mines in Dortmund and Upper Silesia, salt mines in Halle, and ore mines in Halle, *Zeitschrift für das Berg-, Hütten-, und Salinenwesen*, 1919-1921, *passim*.) The average annual level in 1919 was established on the basis of the described annual data, the intra-annual movements on the basis of the quarterly mining data. The resultant figures related sensibly to what is known about the total increase of wages between 1913 and the beginning of 1919. Also, the step from the fourth quarter of 1919 to January 1920 proved reasonable—although this would not necessarily have been expected from the procedure used. The alternative procedure of simply back-casting the series from the first quarter of 1920 resulted in an unreasonably large step between that point and the fourth quarter of 1919, and in unreasonably low levels for the beginning of 1919. The same data were used for the extension of both hourly and weekly index numbers.

As to the reliability of the index, one may treat the period after April 1922 with confidence, including the interpolated numbers. In the case of the data for 1920 and up to April 1922 one must remember that the component series often have a very limited coverage. For the year 1919, finally, the index numbers can be understood to give only a rough indication of general trends.

TABLE A-43

Weekly Wages of Skilled Male Workers, Selected Series in Eight Industries, by Months,
1920-1922
(1913 = 1.00)

<i>Year and Month</i>	<i>Coal Mining</i>	<i>Building</i>	<i>Wood</i>	<i>Metals</i>	<i>Textiles</i>	<i>Chemicals</i>	<i>Printing</i>	<i>Railroads</i>
1919	3.42	...	...	...	...	...	3.00	4.03
1920 Jan.	5.95	4.06	4.01	4.82	4.69	4.01	4.54	5.00
Feb.	5.95	4.38	4.27	5.84	5.95	4.12	4.54	5.00
Mar.	5.95	4.62	4.53	5.84	5.91	4.23	4.54	5.00
Apr.	7.22	5.78	4.78	7.02	10.22	4.33	4.54	6.67
May	7.31	6.68	6.29	7.35	10.21	6.98	6.07	6.67
June	7.86	7.09	6.60	7.67	10.22	7.32	6.62	7.64
July	7.93	7.75	8.08	7.67	10.19	10.04	7.04	7.64
Aug.	8.66	7.94	8.50	7.67	10.23	10.48	7.10	7.64
Sept.	8.72	7.94	8.80	7.67	10.23	10.77	7.10	7.64
Oct.	9.80	7.94	8.80	7.67	10.23	10.77	7.10	7.64
Nov.	9.89	7.94	8.80	8.05	10.23	10.77	7.73	7.64
Dec.	9.87	7.94	9.30	8.05	11.62	11.19	7.73	7.64
1921 Jan.	9.95	7.94	10.20	8.05	11.66	10.33	7.73	8.48
Feb.	10.00	8.21	10.20	8.05	11.69	10.33	8.16	8.48
Mar.	10.02	8.22	10.20	8.05	11.98	10.33	8.16	8.48
Apr.	10.39	8.22	10.20	8.05	11.69	10.33	8.16	8.48
May	10.73	8.22	10.20	8.05	11.69	10.33	8.16	8.48
June	10.84	8.22	10.20	8.05	11.70	10.33	8.16	8.48
July	10.91	8.33	10.20	8.05	11.70	11.00	8.16	8.48
Aug.	10.98	9.02	11.64	8.05	11.71	11.00	8.46	9.87
Sept.	12.65	9.32	11.64	9.76	14.67	11.80	9.20	9.87
Oct.	12.77	10.85	13.28	9.76	14.67	14.33	10.74	14.03
Nov.	17.65	11.22	16.10	11.24	17.66	14.58	11.53	14.03
Dec.	17.78	13.94	18.00	15.54	19.26	19.80	15.04	14.03
1922 Jan.	18.07	14.87	20.67	15.54	19.26	21.67	15.67	15.08
Feb.	20.30	15.76	20.67	17.53	22.31	21.67	17.47	15.08
Mar.	23.26	21.48	24.18	17.53	27.97	21.67	18.39	15.08
Apr.	26.07	24.47	28.28	23.56	30.25	31.67	22.34	21.82
May	30.4	29.88	33.10	...	35.7	39.02	27.2	28.3
June	32.7	36.78	42.86	...	40.8	45.7	32.0	33.9
July	41.0	41.68	50.00	38.87	55.0	57.9	38.7	41.8
Aug.	55.4	51.08	61.11	...	79.7	78.7	48.6	62.1
Sept.	106.5	90.34	118.25	...	146.6	136.7	78.4	117.7
Oct.	133.8	132.53	177.78	134.84	200.3	204.4	130.5	138.3
Nov.	261.8	264.26	266.67	233.62	355.0	305.6	221.0	241.7
Dec.	452.3	385.42	523.81	426.66	623.3	582.4	385.7	400.0

(notes on next page)

Notes for Table A-43

SOURCE

Coal Mining: Based on weekly wages of hewers and haulers in the Ruhr district as published in *Wirtschaft und Statistik*, 1925, "Zahlen zur Geldentwertung in Deutschland, 1914 bis 1923," p. 40.

Building: Based on weekly wage rates of building workers in Berlin, reported by Friedrich Hesse in "Die Deutsche Wirtschaftslage von 1914-1923," *Beiträge zur Erforschung der wirtschaftlichen Wechsellagen*, No. 16 (Jena, 1938), p. 484; and weekly wages of bricklayers in Berlin, reported by Robert Kuczynski in *Postwar Labor Conditions in Germany*, United States Bureau of Labor Statistics, Bul. 380, 1925, p. 125.

Wood: Based on weekly wages, as published in "Die Wirtschaftskurve," *Frankfurter Zeitung*, 1922, No. 1, p. 24, and No. 2, p. 31; and hourly rates of carpenters in Hamburg and workers in Hamburg sawmills and crate factories, as published in "Der Wert der Gehälter und Löhne," *Statistische Mitteilungen über den Hamburgischen Staat*, No. 13, p. 27 (Hamburg, 1922). February 1920 to June 1920 interpolated on basis of six other series.

Metals: Based on weekly wage rates of metal workers in Berlin, Friedrich Hesse, *op. cit.*, p. 484.

Textiles: Based on real time rates of weavers in Thuringia as reported by Margarete Soecknick, "Die Entwicklung der Reallöhne in der Nachkriegszeit, dargestellt an typischen Thüringer Industrien," Jena Universität, Wirtschaftliches Seminar, *Abhandlungen*, Vol. 18 (Jena 1927), pp. 57 und 58, inflated by cost-of-living index for Thuringia as found in same source, pp. 9-11.

Chemicals: Based on hourly rates of workers in chemical factories in Hamburg, as published in "Der Wert der Gehälter und Löhne," *Statistische Mitteilungen über den Hamburgischen Staat*, No. 13, p. 27 (Hamburg, 1922). February 1920 to June 1920 interpolated on basis of six other series.

Printing: Based on weekly wage rates of compositors as published in *Wirtschaft und Statistik*, 1925, "Zahlen zur Geldentwertung in Deutschland, 1914 bis 1923," p. 40.

Railroads: Based on weekly wage rates of skilled railroad workers as published in *Wirtschaft und Statistik*, 1925, "Zahlen zur Geldentwertung in Deutschland, 1914 bis 1923," p. 40.

TABLE A-44

Weekly Wage Rates of Skilled and Unskilled Workers in Eight Industries, by Months, 1913, and April 1922 to January 1924

Year and Month	Textiles								Weighted Average	
	Coal Mining	Building	Wood	Metals	Men	Women	Chemicals	Printing		Railroads
1913	37.62	37.69	31.43	36.20	26.18	17.37	32.99	33.21	34.56	35.02
1922 Apr.	1,032	974	883	853	791	581	968	746	754	889
July	1,626	1,617	1,431	1,407	1,312	986	1,536	1,280	1,445	1,477
Oct.	5,280	5,436	4,982	4,881	4,776	3,673	5,335	4,281	4,781	4,981
Nov.	...	8,954	...	8,457	8,011	6,143	9,695	...	8,352	8,939
Dec.	...	15,580	...	15,445	14,193	10,918	17,410	...	13,824	15,680
1923 Jan.	27,918	23,000	22,193	25,379	22,674	17,315	27,646	20,586	22,248	24,855
Feb.	82,470	54,734	50,175	59,308	51,673	38,560	67,090	42,689	46,416	62,221
Mar.	94,536	76,591	71,225	76,148	73,695	55,518	85,142	69,288	58,020	77,672
Apr.	94,536	80,303	73,250	78,420	75,585	56,774	86,355	71,855	58,020	78,948
May	118,974	94,407	84,228	102,815	90,578	67,951	106,983	85,931	78,924	100,345
June	299	225	218	242	208	156	266	199	207	246
July	1,086	966	915	992	860	655	1,135	700	860	974
Aug.	32,490	26,660	17,400	22,986	22,680	17,108	26,520	23,623	19,970	25,303
Sept.	838,000	695,000	448,000	580,000	591,000	457,000	717,000	374,000	416,000	632,000
Oct.	402	205	103	182	134	98	266	162	196	244
Nov.	18,582	19,483	16,133	17,907	14,030	9,701	18,864	14,958	10,886	16,540
Dec.	33.20	30.63	26.69	29.70	21.78	15.10	29.33	25.80	24.00	28.81
1924 Jan.	33.84	26.66	25.62	27.35	20.69	14.59	25.92	25.80	24.00	27.31

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TABLE A-44, continued

Year and Month	Coal Mining	Building	Wood	Metals	Textiles		Chemicals	Printing	Railroads	Weighted Average
					Men	Women				
1913	24.84	29.48	22.78	23.13	21.38	14.38	26.76	24.16	23.70	24.31
1922 Apr.	870	933	782	807	672	485	915	620	708	802
July	1,410	1,539	1,285	1,322	1,176	841	1,436	1,089	1,349	1,345
Oct.	4,350	5,184	4,460	4,538	4,223	3,106	4,945	3,639	4,518	4,459
Nov.	...	8,536	...	7,870	7,014	5,130	9,054	...	7,896	7,974
Dec.	...	14,788	...	14,328	12,586	9,530	16,222	...	13,128	14,187
1923 Jan.	24,096	21,863	19,793	23,500	20,442	15,019	25,738	17,824	21,096	22,529
Feb.	70,278	52,027	45,439	55,063	46,282	33,009	62,479	37,717	44,016	55,915
Mar.	80,370	72,737	63,570	70,694	65,618	46,994	79,241	61,647	55,020	69,836
Apr.	80,370	76,242	65,421	72,605	67,298	47,932	80,384	63,955	55,020	70,970
May	100,740	89,517	75,543	94,805	81,112	57,546	99,529	76,626	74,724	90,025
June	253	212	194	222	186	130	245	178	197	220
July	918	910	817	911	770	557	1,034	629	817	874
Aug.	27,474	25,093	15,598	21,098	20,469	14,164	24,443	21,261	18,942	22,586
Sept.	703,000	654,000	403,000	531,000	526,000	388,000	656,000	336,000	393,000	561,000
Oct.	333	190	899	157	120	80	239	146	185	211
Nov.	15,492	17,534	14,296	15,510	12,448	7,701	16,992	12,757	9,533	14,231
Dec.	29.00	27.52	23.18	25.25	19.00	12.00	26.88	21.93	18.72	24.27
1924 Jan.	28.50	23.58	22.20	22.21	17.62	11.84	23.04	21.93	18.72	22.87

UNSKILLED WORKERS

marks

thousand marks

billion marks

renten marks

SOURCE: *Wirtschaft und Statistik, 1925*, "Zahlen zur Geldentwertung in Deutschland, 1914 bis 1923," p. 42; and International Labour Office, *Studies and Reports, Series D, No. 15*, pp. 148-149.

TABLE A-45

Hourly and Weekly Real Wage Rates of Skilled and Unskilled Workers,
Weighted Averages of Eight Industries, by Months, 1919-1923

Year and Month	Hourly		Weekly	
	Skilled	Unskilled (1913 = 1.00)	Skilled	Unskilled
1913	1.00	1.00	1.00	1.00
1919 I	0.93	...	0.81	...
II	0.96	...	0.85	...
III	1.02	...	0.90	...
IV	0.97	...	0.85	...
Average	0.97	...	0.85	...
1920 January	0.71	...	0.63	...
February	0.71	...	0.63	...
March	0.64	...	0.56	...
April	0.76	...	0.66	...
May	0.77	...	0.68	...
June	0.82	...	0.73	...
July	0.88	...	0.74	...
August	0.93	...	0.82	...
September	0.95	...	0.83	...
October	0.91	...	0.79	...
November	0.89	...	0.78	...
December	0.88	...	0.77	...
Average	0.82	...	0.72	...
1921 January	0.87	...	0.76	...
February	0.90	...	0.79	...
March	0.91	...	0.80	...
April	0.92	...	0.81	...
May	0.93	...	0.81	...
June	0.89	...	0.78	...
July	0.83	...	0.73	...
August	0.81	...	0.71	...
September	0.88	...	0.78	...
October	0.86	...	0.76	...
November	0.85	...	0.74	...
December	0.94	...	0.83	...
Average	0.88	...	0.78	...

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TABLE A-45, *continued*

Year and Month	Hourly		Weekly	
	Skilled	Unskilled	Skilled	Unskilled
			(1913 = 1.00)	
1922 January	0.88	...	0.77	...
February	0.81	...	0.71	...
March	0.77	...	0.68	...
April	0.82	1.13	0.72	0.93
May	0.90	...	0.79	...
June	0.93	...	0.81	...
July	0.83	1.14	0.72	0.94
August	0.67	...	0.60	...
September	0.82	...	0.73	...
October	0.63	0.86	0.55	0.71
November	0.59	0.80	0.51	0.65
December	0.71	0.98	0.62	0.81
Average	0.78	...	0.68	...
1923 January	0.56	0.77	0.49	0.64
February	0.74	1.00	0.63	0.82
March	0.91	1.24	0.79	1.02
April	0.83	1.17	0.74	0.96
May	0.75	1.02	0.65	0.84
June	0.74	1.02	0.65	0.84
July	0.50	0.74	0.48	0.62
August	0.78	1.05	0.67	0.86
September	0.71	0.95	0.61	0.78
October	0.61	0.78	0.52	0.65
November	0.61	0.80	0.53	0.66
December	0.80	1.03	0.70	0.85
Average	0.71	0.96	0.62	0.80

SOURCE: Appendix Tables A-41 and A-42. Data for April, July, and October 1922, and all months of 1923 are those published by the Statistische Reichsamt (weekly) or by the International Labour Office (hourly). All other data our estimates.

During the period of inflation, real wages cannot always be derived from monthly indexes of money wages and living costs, as published, because of the importance of the discrepancy between earnings periods and expenditure periods. Also, the cost-of-living index implicit in the money wages and hourly real wages, published by the International Labour Office, is not the same as that implicit in the weekly wages published by the Statistische Reichsamt.

TABLE A-46

Average Weekly Real Wage Rates of Skilled and Unskilled Workers in Eight Industries, by Months, April 1922 to December 1923

Year and Month	Coal Mining	Building	Wood	Metals	Textiles			Chemicals	Printing	Railroads	Weighted Average
					Men	Women					
(1913 = 100)											
SKILLED WORKERS											
1922 Apr.	78	73	80	67	86	95	83	64	62	72	
July	73	73	77	66	85	96	79	65	71	72	
Oct.	54	56	61	52	70	82	62	50	53	55	
Nov.	...	48	...	47	62	71	59	...	...	51
Dec.	...	57	...	59	75	86	73	...	...	62
1923 Jan.	51	42	48	48	59	68	58	43	44	49	
Feb.	78	52	57	59	70	79	73	46	48	64	
Mar.	89	72	80	75	100	114	92	73	60	79	
Apr.	83	70	77	71	95	108	86	71	55	74	
May	72	57	61	64	79	89	74	59	52	65	
June	74	55	64	62	74	83	75	56	56	65	
July	50	44	50	47	57	65	59	36	43	48	
Aug.	80	66	51	59	81	92	75	66	54	67	
Sept.	75	62	48	54	76	89	74	38	52	61	
Oct.	80	40	25	37	38	42	60	34	44	52	
Nov.	56	58	58	56	60	63	64	52	46	53	
Dec.	75	69	72	70	71	74	76	65	58	70	

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TABLE A-46, continued

Year and Month	Coal Mining	Building	Wood	Metals	Textiles		Chemicals	Printing	Railroads	Weighted Average
					Men	Women				
(1913 = 100)										
UNSKILLED WORKERS										
1922 Apr.	99	90	97	99	89	96	97	73	85	93
July	96	89	96	97	93	99	91	76	97	94
Oct.	67	68	75	76	76	83	71	58	74	71
Nov.	...	58	...	68	66	72	68	...	...	66
Dec.	...	69	...	85	81	91	83	...	...	80
1923 Jan.	66	51	60	70	66	72	66	51	61	64
Feb.	101	63	71	85	77	82	83	57	66	82
Mar.	115	88	99	109	109	116	105	83	82	102
Apr.	106	85	94	103	104	110	99	87	76	96
May	92	69	75	93	86	91	85	72	72	84
June	94	67	79	89	81	84	85	68	77	84
July	64	53	62	68	62	67	67	45	59	62
Aug.	103	79	64	85	90	92	85	82	74	86
Sept.	96	75	60	78	83	91	83	47	72	78
Oct.	100	48	30	51	42	42	67	43	61	65
Nov.	70	67	71	76	66	60	72	62	62	66
Dec.	95	80	87	93	75	72	86	77	66	85

SOURCE: International Labour Office, *Studies and Reports*, Series D, No. 15, pp. 16, ff.; and *Wirtschaft und Statistik*, 1925, "Zahlen zur Geldentwertung in Deutschland, 1914 bis 1923," p. 42.

TABLE A-47
Average Hourly and Weekly Earnings in Twenty-two Industries, by Sex and Skill, Selected Years, 1936-1944

	Hourly (pennings)				Weekly (marks)			
	1936	1938	1939	March 1944	1936	1938	1939	March 1944
	Mining	76.1	80.4	83.2	92.4	33.73	36.80	39.77	47.46
Male skilled	87.0	92.8	96.6	...	37.61	41.37	44.91	...
Male unskilled	69.9	73.9	76.4	...	31.11	33.07	36.12	...
Hard-coal mining	84.3	85.9	88.7	...	36.92	38.66	43.30	...
Male skilled	94.5	97.8	101.1	...	40.18	43.30	48.93	...
Male unskilled	71.7	72.2	72.9	...	32.40	33.21	36.30	...
Soft-coal mining	78.1	82.3	81.7	87.7	34.82	39.02	42.18	45.87
Iron ore mining	66.2	76.4	82.1	88.6	30.24	34.95	38.60	41.68
Male skilled	75.7	87.7	94.2	...	33.80	39.44	43.06	...
Male unskilled	59.9	68.9	73.2	...	27.78	32.17	35.50	...
Iron and Steel	88.2	95.3	96.5	103.6	45.53	49.68	50.71	65.00
First man	93.9	102.4	103.3	113.3	50.08	57.67	56.80	74.40
Third man	92.5	100.2	100.8	107.2	47.75	51.74	52.65	67.68
Helpers	77.1	82.5	83.1	88.4	39.70	42.76	42.95	54.58
Nonferrous Metals	...	90.2	90.3	98.0	...	44.58	45.38	48.92
Male skilled	...	98.1	99.4	112.8	...	50.93	52.76	60.70
Male semiskilled	...	96.9	97.1	106.5	...	47.94	49.04	55.41
Male helper	...	84.3	84.6	86.6	...	41.20	42.38	43.13
Female	...	54.3	55.0	58.6	...	25.24	24.98	22.85
Foundries	81.4	89.4	92.9	100.0	40.29	45.02	47.00	52.05
Male skilled	...	98.3	102.7	117.8	...	49.64	52.21	63.75
Male semiskilled	...	93.3	97.5	105.0	...	46.92	49.67	56.26
Male helper	70.8	75.1	77.7	81.2	35.83	38.10	39.45	42.16
Female	...	54.8	56.5	56.4	...	25.30	25.47	22.61
Metalworking	85.7	91.0	92.2	96.5	42.27	45.90	46.24	46.48
Male skilled	98.4	106.4	108.6	121.0	49.18	54.99	56.02	63.43
Male semiskilled	86.8	93.2	95.7	101.1	42.88	47.23	48.74	51.92
Male helper	67.0	72.4	74.7	79.5	32.90	36.06	37.25	39.69
Female	51.5	55.7	56.7	58.2	24.34	26.30	26.19	22.39

(continued on next page)

TABLE A-47, continued

	Hourly (pennings)				Weekly (marks)			
	1936	1938	1939	March 1944	1936	1938	1939	March 1944
Machinery	89.3	94.1	95.8	...	45.32	48.31	48.93	...
Male skilled	96.3	104.4	107.2	121.6	49.20	54.27	55.25	64.38
Male semiskilled	87.3	92.0	94.7	101.1	44.17	47.29	48.97	53.29
Male helper	65.8	69.5	72.1	76.6	32.96	35.08	36.74	38.95
Female	49.5	54.5	55.7	57.1	23.77	25.34	25.81	21.62
Electrical goods	83.9	87.4	88.6	...	41.12	43.52	43.46	...
Male skilled	107.9	115.2	117.3	127.1	54.41	59.82	60.42	63.31
Male semiskilled	92.3	97.9	99.8	107.0	45.34	49.40	50.55	52.72
Male helper	75.7	78.2	79.9	82.7	37.19	39.17	39.87	38.97
Female	57.0	61.4	62.7	62.9	27.14	29.33	29.10	23.25
Instruments	86.2	87.4	88.9	...	43.13	43.69	44.22	...
Male skilled	103.7	110.0	111.6	123.8	52.82	56.37	57.71	64.64
Male semiskilled	87.4	93.5	95.2	102.5	42.89	47.46	49.18	52.27
Male helper	70.7	72.2	74.7	82.3	35.56	36.35	37.68	42.18
Female	51.8	54.4	55.5	58.6	25.01	25.93	26.44	22.10
Chemicals	82.0	83.5	83.5	...	37.92	40.24	41.08	...
Male, special mechanics	104.1	106.3	107.0	...	49.67	53.79	56.20	...
Male, production workers	87.8	88.5	89.3	...	40.88	42.97	44.98	...
Foremen, etc.	...	103.3	104.0	...	...	51.95	54.88	...
Semiskilled	...	90.4	91.5	...	...	43.78	46.11	...
Unskilled	...	79.3	80.1	...	...	38.34	39.68	...
Female	51.7	52.0	52.9	...	22.99	23.59	23.70	...
Rubber and Products	81.4	83.1	83.5	...	36.84	38.89	38.75	...
Male, special mechanics	102.5	104.7	105.1	...	49.86	54.54	53.75	...
Male, production workers	92.5	96.5	97.4	...	42.21	45.87	46.49	...
Foremen, etc.	...	111.6	112.3	...	...	56.55	57.50	...
Semiskilled	...	99.4	101.3	47.92	48.81	...
Unskilled	...	92.3	91.7	42.94	43.09	...
Female	54.5	56.9	58.0	...	23.75	25.28	25.24	...

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TABLE A-47, continued

	Hourly (pfennigs)				Weekly (marks)			
	1936	1938	1939	March 1944	1936	1938	1939	March 1944
Stone and Clay	65.0	71.7	75.2	80.3	30.52	34.91	36.49	38.59
Male skilled	{ 70.3	83.3	87.4	93.9	{ 33.26	41.60	43.79	47.30
Male semiskilled		77.8	81.7	87.2		38.01	39.87	42.65
Male helpers	59.7	64.6	68.4	71.3	27.88	31.23	32.90	33.86
Female	38.6	42.6	46.3	46.7	17.65	19.46	20.94	18.88
Pottery	58.0	60.9	63.9	71.9	27.83	28.97	30.51	32.58
Male skilled	{ 71.5	84.8	88.3	102.3	{ 35.05	40.99	42.90	52.46
Male semiskilled		74.8	78.4	90.4		36.65	38.94	46.54
Male helpers	66.1	66.1	69.0	75.1	32.40	34.40	34.40	37.18
Female skilled	42.6	46.0	48.8	58.8	19.60	21.06	22.25	24.22
Female unskilled	39.0	39.7	42.1	49.9	18.17	18.18	19.25	19.98
Glass	61.7	65.6	68.2	85.2	30.13	31.58	33.16	40.47
Male skilled	{ 75.0	82.3	84.4	107.6	{ 35.05	40.62	41.86	54.93
Male semiskilled		81.4	84.7	102.0		38.82	41.15	51.34
Male helpers	54.6	58.8	61.9	73.6	26.72	28.69	30.57	36.41
Female semiskilled	{ 33.0	37.8	40.2	52.4	{ 16.11	17.73	18.83	21.66
Female helpers		33.4	36.2	47.2		15.79	16.96	17.96
Building	71.6	74.5	76.8	82.3	32.97	35.83	37.31	38.27
Masons	82.6	83.7	88.2	92.9	37.99	41.03	42.79	43.35
Carpenters and cement workers, etc.	85.4	89.0	91.5	96.9	40.35	45.01	46.24	45.71
Helpers	69.9	71.9	73.1	83.6	32.41	34.78	35.51	40.45
Road construction workers	62.2	66.4	67.8	68.4	28.06	31.52	32.55	30.97
Sawmills	54.6	60.1	63.6	71.8	26.28	29.22	31.06	35.32
Male skilled	58.6	65.4	68.9	70.7	28.58	32.37	34.38	39.85
Male unskilled	51.2	55.4	58.6	63.7	24.37	26.58	28.07	30.28
Papermaking	63.6	65.6	66.8	73.6	31.29	32.39	34.13	36.91
Male skilled and semiskilled	71.0	72.7	73.8	82.3	35.94	37.13	39.48	45.64
Male unskilled	64.8	66.9	68.2	73.4	31.92	32.99	34.76	37.47
Female	42.2	43.0	45.1	51.4	19.40	19.54	20.68	20.17

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TABLE A-47, continued

	Hourly (pennings)			Weekly (marks)				
	1936	1938	1939	March 1944	1936	1938	1939	March 1944
Book printing	106.4	107.3	107.0	114.2	50.49	52.66	52.73	56.06
Male skilled	120.2	120.7	120.5	130.3	56.86	59.08	59.23	65.31
Male semiskilled	99.0	101.2	100.5	109.0	47.79	50.64	51.32	55.29
Female semiskilled	50.6	50.9	51.4	55.8	23.90	24.75	24.73	24.70
Textiles	54.9	56.7	58.0	62.8	23.20	26.16	26.04	27.17
Male skilled	69.0	71.6	73.6	80.3	29.33	33.79	34.29	39.10
Male unskilled	53.4	56.8	58.9	62.0	23.08	27.30	28.06	29.83
Female skilled	48.9	50.2	51.9	57.4	20.52	22.76	22.72	23.65
Female unskilled	37.7	39.3	41.4	47.4	15.89	17.84	18.33	18.98
Clothing	54.6	58.5	60.4	66.4	25.36	27.27	28.03	26.54
Male skilled and semiskilled	81.0	87.5	91.0	97.3	38.34	42.06	43.97	47.38
Female skilled and semiskilled	46.2	50.0	52.3	60.2	21.35	23.13	24.01	23.21
Boots and Shoes	63.2	65.9	68.5	80.8	27.64	30.57	30.55	35.51
Male production worker	77.2	80.4	83.5	99.5	33.64	37.28	37.74	47.98
Female production worker	50.6	52.3	55.7	64.8	22.26	24.70	24.54	26.51
Baking and Confectionery	50.6	51.8	53.2	61.8	23.76	24.83	24.66	25.01
Male skilled	85.5	87.3	89.4	96.7	41.50	44.09	44.72	49.65
Male unskilled	66.7	72.8	70.7	76.4	32.60	33.95	34.52	38.17
Female skilled	48.8	50.1	51.3	59.3	22.48	23.91	24.02	25.13
Female unskilled	43.1	44.2	45.7	50.8	20.07	20.92	20.79	18.76
Brewing	100.9	102.0	101.9	101.5	43.69	48.38	51.97	52.37
Male skilled and semiskilled	104.5	104.7	103.9	101.5	44.88	49.24	52.07	52.30
Male unskilled	91.2	91.7	91.0	88.7	39.03	42.90	45.66	43.09
Male delivery men	104.5	107.0	108.4	109.2	45.92	51.54	57.14	58.76

SOURCE: *Handbuch 1928-44*, pp. 470-71.

TABLE A-48

Money Wages in Germany, Great Britain, and the United States, 1871-1913 and 1924-1944
(1913 = 100)

Year	HOURLY				WEEKLY OR DAILY		
	Germany		Great Britain	United States	Germany	Great Britain	United States
	Rates (1)	Earnings (2)	Rates (3)	Earnings ^a (4)	Earnings (5)	Rates (6)	Earnings ^a (7)
1871	...	42	70	66	51	80	74
1872	77	...	57	85	76
1873	83	...	63	90	75
1874	87	...	65	91	74
1875	87	...	64	89	70
1876	86	...	59	88	67
1877	85	...	56	87	64
1878	83	...	56	85	61
1879	81	...	53	83	60
1880	...	46	81	58	54	83	64
1881	81	...	54	83	63
1882	81	...	56	83	66
1883	82	...	57	84	67
1884	82	...	57	84	69
1885	81	...	58	83	66
1886	81	...	58	82	67
1887	81	...	59	83	69
1888	81	...	62	83	70
1889	83	...	64	85	71
1890	...	58	87	67	65	89	72
1891	87	67	65	89	72
1892	87	68	65	89	73
1893	86	70	65	88	75
1894	86	64	65	88	69
1895	85	64	65	87	68
1896	86	66	68	88	71
1897	87	64	68	89	68
1898	89	63	71	91	68
1899	90	67	73	92	71
1900	...	70	94	69	75	96	73
1901	93	73	74	95	76
1902	93	75	74	94	79
1903	92	78	75	93	81
1904	91	77	77	92	80

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TABLE A-48, *continued*

Year	HOURLY				WEEKLY OR DAILY		
	Germany		Great Britain	United States	Germany	Great Britain	United States
	Rates (1)	Earnings (2)	Rates (3)	Earnings (4)	Earnings (5)	Rates (6)	Earnings (7)
1905	...	...	91	79	80	91	82
1906	...	...	93	84	84	94	87
1907	...	...	93	88	89	94	90
1908	...	...	93	84	88	94	86
1909	...	...	93	85	89	94	87
1910	...	...	93	90	91	94	92
1911	...	...	94	92	93	94	94
1912	...	...	97	95	96	97	95
1913	100	100	100	100	100	100	100
1924	107	112	196	248	91	170	218
1925	135	146	196	248	123	171	222
1926	146	155	198	248	128	172	224
1927	154	169	198	249	143	172	225
1928	168	190	194	254	164	169	227
1929	177	200	194	256	169	169	228
1930	180	194	192	250	155	167	211
1931	171	180	190	233	137	165	190
1932	144	151	186	202	113	162	155
1933	140	146	184	200	115	160	152
1934	140	150	184	241	124	160	167
1935	140	152	188	249	127	164	183
1936	140	155	192	252	132	167	198
1937	140	158	200	282	136	174	219
1938	141	163	204	284	143	178	203
1939	141	168	208	286	148	181	217
1940	141	172	234	299	153	203	229
1941	143	180	251	330	163	218	269
1942	144	183	271	386	164	235	333
1943	144	184	283	435	164	245	392
1944	144	184	303	461	162	263	419

* Wage rates from 1871-1890.

Notes to Table A-11

SOURCE

Germany, 1871-1944: Appendix Table A-2.

Great Britain, weekly rates:

1871-1902: George H. Wood, "Real Wages and the Standard of Comfort since 1850," *Journal of the Royal Statistical Society*, 1909, pp. 102-3, shifted to base 1913 = 100.

1902-10: Continuation of Wood's series, in Arthur L. Bowley, *Wages and Income in the United Kingdom since 1860* (Cambridge, 1937), Table I, spliced to earlier series in 1902.

1906-14: Labour Department Index, given by A. L. Bowley, *loc. cit.*, spliced to earlier series in 1906-10.

1914-44: Arthur L. Bowley, "Wages, Earnings and Hours of Work 1914-1947, United Kingdom," *London and Cambridge Economic Service*, Special Memorandum 50, May 1947, p. 7.

Great Britain, hourly rates:

1871-1939: E. H. Phelps Brown with Sheila V. Hopkins, "The Course of Wage Rates in Five Countries, 1860-1939," *Oxford Economic Papers*, June 1950, pp. 276 and 281. Shifted to base 1913 = 100.

1939-44: Based on weekly rates, assuming stability of hours, see Bowley, *London and Cambridge Economic Service*, Special Memorandum No. 50, May 1947, pp. 7 and 10.

Data for 1924 refer to December, all later data to September.

United States:

1871-90: Wage rates, from Clarence D. Long, *Wages and Earnings in the United States, 1860-1890* (National Bureau of Economic Research, 1960), Appendix Table A-1 and Table 13. Spliced to later segment in 1890.

1890-1913: Earnings, from Albert Rees, *38th Annual Report* (National Bureau of Economic Research, 1958), p. 59.

1913-14: U.S. Bureau of Labor Statistics, as given in *Historical Statistics of the United States, 1789-1945*, p. 67, Series D-123 and 124.

1914-44: *Ibid.*, Series D-119.

TABLE A-49
 Living Costs in Germany, Great Britain, and the United States,
 1871-1913 and 1924-1944
 (1913 = 100)

<i>Year</i>	<i>Germany</i>	<i>Great Britain</i>	<i>United States</i>
1871	69	110	128
1872	72	117	127
1873	80	119	125
1874	83	113	121
1875	76	108	115
1876	76	108	112
1877	77	108	112
1878	73	102	104
1879	72	98	102
1880	76	103	103
1881	77	101	103
1882	75	100	103
1883	75	100	101
1884	72	95	100
1885	70	89	97
1886	68	87	95
1887	68	86	96
1888	70	86	96
1889	73	87	93
1890	75	87	92
1891	77	87	93
1892	76	88	92
1893	75	87	91
1894	74	83	87
1895	73	81	85
1896	72	81	85
1897	74	83	84
1898	76	86	84
1899	76	84	84
1900	77	89	85
1901	78	88	86
1902	78	88	87
1903	78	89	89
1904	79	90	90
1905	82	90	90
1906	87	91	91
1907	88	93	95
1908	88	91	93
1909	90	92	92

(continued on next page)

TABLE A-49, *continued*

<i>Year</i>	<i>Germany</i>	<i>Great Britain</i>	<i>United States</i>
1910	92	93	96
1911	95	95	96
1912	100	97	98
1913	100	100	100
1924	131	180	173
1925	142	175	177
1926	142	173	179
1927	148	166	175
1928	152	166	173
1929	154	164	173
1930	148	157	169
1931	136	144	154
1932	121	142	138
1933	118	141	131
1934	121	141	135
1935	123	144	139
1936	124	148	140
1937	125	157	145
1938	126	155	143
1939	126	159	141
1940	130	187	142
1941	133	198	149
1942	137	200	165
1943	138	198	175
1944	141	202	178

SOURCE:

Germany: Appendix Table A-1.

Great Britain:

1871-1913: A. L. Bowley, *Wages and Income in the United Kingdom since 1860* (Cambridge University Press, 1937), pp. 121-22.

1913-44: Ministry of Labour Index as given in A. L. Bowley, "Wages, Earnings and Hours of Work, 1914-1947, United Kingdom," *London and Cambridge Economic Service*, Special Memorandum No. 50, May 1947, p. 7. (Base shifted to 1913 = 100). Data for 1924 refer to December, all later data to September.

United States:

1871-80: Ethel D. Hoover, "Prices in the 19th Century," *Trends in the American Economy in the Nineteenth Century*, Studies in Income and Wealth, Volume Twenty-four (Princeton University Press for National Bureau of Economic Research).

1880-90: Clarence D. Long, *Wages and Earnings in the United States, 1860-1890* (National Bureau of Economic Research, 1960), Table B-2.

1890-1913: Albert Rees, *38th Annual Report* (National Bureau of Economic Research 1958), p. 59.

1913-44: U. S. Bureau of Labor Statistics, *Monthly Labor Review*; particularly issue of May 1952, p. 615.

TABLE A-50

Real Wages in Germany, Great Britain, and the United States, 1871-1913 and 1924-1944
(1913 = 100)

July of Year	HOURLY				WEEKLY OR DAILY		
	Germany		Great Britain	United States	Germany	Great Britain	United States
	Rates (1)	Earnings (2)	Rates (3)	Earnings ^a (4)	Earnings (5)	Rates (6)	Earnings ^a (7)
1871	...	61	64	52	74	73	58
1872	66	...	79	73	60
1873	70	...	79	76	60
1874	77	...	78	81	61
1875	81	...	84	82	61
1876	80	...	78	81	60
1877	79	...	73	81	57
1878	81	...	77	83	59
1879	83	...	74	85	59
1880	...	61	79	55	70	81	62
1881	80	...	70	82	61
1882	81	...	75	83	64
1883	82	...	75	84	66
1884	86	...	80	88	69
1885	91	...	83	93	68
1886	93	...	85	94	71
1887	94	...	87	97	72
1888	94	...	89	97	73
1889	95	...	88	98	76
1890	...	77	100	73	87	102	78
1891	100	72	84	102	77
1892	99	74	86	101	79
1893	99	77	87	101	82
1894	104	74	88	106	79
1895	105	75	89	107	80
1896	106	78	94	109	84
1897	105	76	92	107	81
1898	103	75	93	106	81
1899	107	80	96	110	85
1900	...	91	106	81	98	108	86
1901	106	85	95	108	88
1902	106	86	95	107	91
1903	103	88	96	104	91
1904	101	86	97	102	89

(continued on next page)

TABLE A-50, *continued*

<i>July of Year</i>	HOURLY				WEEKLY OR DAILY		
	<i>Germany</i>		<i>Great Britain</i>	<i>United States</i>	<i>Germany</i>	<i>Great Britain</i>	<i>United States</i>
	<i>Rates (1)</i>	<i>Earnings (2)</i>	<i>Rates (3)</i>	<i>Earnings (4)</i>	<i>Earnings (5)</i>	<i>Rates (6)</i>	<i>Earnings (7)</i>
1905	...	...	101	88	98	101	91
1906	...	...	102	92	97	103	96
1907	...	...	100	93	101	101	95
1908	...	...	102	90	100	103	92
1909	...	...	101	92	99	102	95
1910	...	...	100	94	99	101	96
1911	...	...	99	96	98	99	98
1912	...	...	100	97	96	100	97
1913	...	...	100	100	100	100	100
1924	82	86	109	143	70	94	126
1925	95	103	112	140	87	98	125
1926	102	109	114	139	90	99	125
1927	104	114	119	142	97	104	129
1928	110	125	117	147	108	102	131
1929	115	130	118	148	110	103	132
1930	122	131	122	148	105	106	125
1931	125	132	132	151	100	115	123
1932	120	125	131	146	94	114	112
1933	119	124	130	153	98	113	116
1934	116	124	130	179	102	113	124
1935	114	124	131	179	103	114	132
1936	112	124	130	180	106	113	141
1937	112	126	127	194	109	111	151
1938	112	130	132	199	114	115	142
1939	112	133	131	203	117	114	154
1940	109	132	125	211	117	109	161
1941	107	135	127	221	122	110	181
1942	105	134	136	234	120	118	202
1943	104	133	143	249	119	124	224
1944	102	130	150	259	115	130	235

^a Wage rates from 1871-1890.

SOURCE: Appendix Tables A-48 and A-49.

TABLE A-51

Hourly Money Wage Rates of Skilled and Unskilled Building Workers in Germany, Great Britain, and the United States, 1913-1914, and 1924-1944 (1913-14 = 100)

Year	SKILLED			UNSKILLED		
	Germany	Great Britain	United States	Germany	Great Britain	United States
1913-14	100	100	100	100	100	100
1924	101	195	217	109	218	237
1925	146	195	225	155	218	245
1926	161	195	240	166	218	267
1927	167	195	249	173	219	272
1928	179	192	250	187	214	275
1929	191	192	254	200	214	279
1930	194	189	264	203	208	293
1931	181	184	265	189	201	292
1932	143	178	227	149	197	249
1933	126	174	221	134	192	238
1934	126	174	222	134	192	245
1935	126	178	224	134	197	246
1936	126	184	232	134	203	261
1937	127	189	248	135	208	283
1938	127	193	269	135	214	312
1939	128	193	271	136	214	314
1940	129	208	275	138	236	321
1941	131	223	285	140	256	336
1942	132	227	301	140	265	369
1943	132	239	302	140	273	374
1944	132	238	305	140	273	378

SOURCE:

Germany: Appendix Table A-4. Data from 1933 on are for April. Rates for 1944 assumed to equal those for 1943. Base, 1913 = 100.

Great Britain: Our estimates, based on weekly rates as given in Arthur L. Bowley, "Wages, Earnings and Hours of Work, 1914-1947, United Kingdom," pp. 12-13. The assumption is that the number of hours worked per week changed from about 50 to about 44 between December 1914 and December 1924 and remained constant from 1924 to 1944 (*loc. cit.*, p. 11). Data for 1924 refer to December, later data to September. Base, December 1914 = 100.

United States: *Historical Statistics of the United States, 1889-1945*, p. 69, Series D 154 and D 156. Until 1938, data refer to May 15; from 1939 to 1941 they refer to June 1; thereafter to July 1. Base, May 1913 = 100.

TABLE A-52

Hourly Real Wage Rates of Skilled and Unskilled Building Workers in Germany, Great Britain, and the United States, 1913-1914, and 1924-1944 (1913-14 = 100)

Year	SKILLED			UNSKILLED		
	Germany	Great Britain	United States	Germany	Great Britain	United States
1913-14	100	100	100	100	100	100
1924	78	107	125	84	120	136
1925	103	111	127	109	124	138
1926	113	111	131	117	125	146
1927	113	117	139	117	131	152
1928	118	115	142	123	128	156
1929	124	116	146	130	130	160
1930	131	120	153	137	132	169
1931	133	127	169	139	139	186
1932	118	124	161	124	137	177
1933	109	123	171	116	135	184
1934	105	123	163	112	135	180
1935	103	123	159	109	136	174
1936	101	123	166	108	136	186
1937	101	120	169	108	132	193
1938	101	124	187	108	137	217
1939	101	121	192	108	134	223
1940	99	110	191	107	125	223
1941	99	112	190	105	128	224
1942	96	112	179	103	131	220
1943	95	120	170	102	136	210
1944	93	117	169	99	134	209

SOURCE: For money wages see Appendix Table A-51. For source of cost-of-living indexes used see Appendix Table A-49. Cost of living indexes are all shifted to base of money wage indexes. Data in this table refer to the months indicated in Appendix Table A-51. Computations based on unrounded data.

TABLE A-53

Skill Differentials of Building Workers, in Germany, Great Britain, and the United States, 1904-1950

Year	Germany	Great Britain	United States	Year	Germany	Great Britain	United States
1904	35.5	34.4	...	1930	21.3	25.5	43.5
1905	34.6	...	...	1931	21.6	25.0	44.1
1906	34.7	...	...	1932	21.3	25.4	44.1
1907	30.3	35.1	45.9	1933	20.0	24.8	45.1
1908	29.9	...	46.8	1934	21.1	24.7	43.8
1909	30.0	...	47.6				
				1935	20.0	25.1	44.1
1910	27.0	34.8	47.9	1936	20.0	24.8	42.9
1911	26.8	...	48.7	1937	19.6	25.0	41.9
1912	26.9	...	49.2	1938	19.7	24.4	41.2
1913	26.8	33.1	49.2	1939	19.8	23.7	41.2
1914	20	33.5	49.7				
				1940	19.2	22.1	40.8
1915	21	30.7	49.7	1941	19.8	21.1	40.1
1916	18	27.8	49.7	1942	19.8	20.7	37.5
1917	14	24.6	47.6	1943	19.8	20.8	37.1
1918	11	19.9	45.4	1944	...	21.0	36.7
1919	4	16.9	44.4				
				1945	...	19.2	35.1
1920	2	19.0	39.8	1946	...	20.0	32.0
1921	4	19.9	40.5	1947	...	19.7	30.1
1922	5	25.2	42.5	1948	...	19.6	28.9
1923	10	25.3	44.4	1949	...	18.4	29.3
1924	18.8	24.4	44.4	1950	...	15.9	28.4
1925	20.2	24.4	44.8				
1926	22.3	24.4	43.5				
1927	22.4	24.6	44.4				
1928	21.6	25.2	44.1				
1929	21.3	25.3	44.1				

SOURCE:

Germany: Appendix Table A-14.

Great Britain: K. G. J. C. Knowles and D. J. Robertson, "Differences between the Wages of Skilled and Unskilled Workers, 1880-1950," Oxford University, *Bulletin of the Institute of Statistics*, April 1951, p. 111.United States: 1907-47: Harry Ober, "Occupational Wage Differentials, 1907-47," *Monthly Labor Review*, August 1948, p. 127. For 1948-50: Based on *Statistical Abstract of the United States*, 1951, p. 202.

TABLE A-55
Annual Earnings in Major Industries, 1888 to 1913 and 1924 to 1939
(1913 = 100)

Year (1)	Chemicals, Gas, Water										Paper and Products (12)	Wood (11)	Food and Tobacco (10)	Leather (9)	Clothing (8)	Textiles (7)	Building (6)	Mining (2)	Stone and Clay (3)	Metal- working (4)	Printing (13)	Railroad (14)	Shipping (15)	Total (16)
	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)														
1888	52.2	60.4	59.7	64.4	59.9	62.8	58.9	57.4	63.2	65.0	62.4	84.8	63.7	52.5	58.9									
1889	55.4	62.1	61.2	65.3	62.2	63.6	61.2	57.4	64.3	64.7	63.6	88.8	65.7	59.7	60.7									
1890	60.4	60.4	62.1	67.5	62.2	64.7	61.7	59.0	65.6	65.8	65.7	93.9	68.1	60.3	61.5									
1891	61.9	62.6	63.1	68.5	62.5	65.4	64.4	60.0	67.4	67.8	66.9	85.3	69.0	61.8	63.5									
1892	59.9	62.1	62.2	68.9	62.6	65.6	64.6	60.2	67.7	66.9	65.6	84.9	70.5	61.8	63.2									
1893	58.9	61.8	62.7	68.2	61.9	68.2	66.4	59.8	68.4	66.8	64.4	82.7	71.5	62.4	63.4									
1894	59.4	62.2	63.0	68.8	62.1	68.3	65.9	60.7	68.2	67.2	64.4	79.5	71.8	61.7	63.6									
1895	59.9	61.8	63.5	69.9	62.9	68.9	69.3	62.9	67.9	66.1	66.9	80.9	72.1	59.1	64.0									
1896	62.6	61.5	65.2	70.7	65.0	70.2	70.0	62.3	70.7	68.5	69.2	77.6	73.2	60.1	65.7									
1897	65.5	65.0	65.8	71.9	66.1	71.4	71.4	63.7	72.3	70.7	71.8	83.3	74.6	60.9	67.4									
1898	66.3	68.1	69.1	73.3	69.1	72.6	71.3	67.2	73.5	72.5	73.7	87.6	71.3	62.1	69.1									
1899	69.7	69.5	70.1	73.6	71.0	74.1	71.3	67.7	75.8	74.9	73.7	85.8	74.0	64.0	70.9									
1900	74.2	71.0	71.3	75.4	74.1	75.6	72.0	69.6	77.4	75.7	75.4	88.2	75.1	67.0	72.9									
1901	71.3	72.9	69.9	75.4	73.3	76.9	73.6	71.5	78.4	77.8	75.4	83.3	75.9	68.8	73.1									
1902	69.8	74.4	72.7	75.4	74.1	78.1	74.9	73.0	75.8	78.8	76.2	85.4	76.6	75.3	73.6									
1903	72.5	75.6	74.2	78.0	74.9	78.9	79.5	75.3	77.6	80.2	78.4	83.3	77.3	77.9	75.2									
1904	73.5	79.5	76.2	78.9	76.5	80.3	82.4	76.3	77.6	80.2	80.0	84.1	78.5	83.2	77.0									
1905	74.6	81.8	78.6	80.5	79.0	81.0	83.9	78.6	79.0	82.7	81.8	85.3	79.6	84.2	78.9									
1906	81.5	85.1	81.5	84.1	84.0	85.0	87.3	83.6	81.6	86.5	84.9	87.5	82.1	85.4	83.2									
1907	88.7	88.9	87.3	85.5	87.1	85.8	91.8	87.2	86.1	88.8	88.3	93.1	85.5	87.1	87.2									
1908	88.2	89.2	87.6	87.3	86.5	87.0	92.1	88.9	87.3	89.3	89.5	93.4	90.0	88.3	88.0									
1909	83.4	89.4	88.3	87.9	88.9	89.2	93.2	90.0	88.4	89.9	90.3	94.0	92.6	90.6	88.4									
1910	84.7	91.7	91.5	90.0	91.4	91.3	95.4	92.7	90.1	93.0	92.3	95.3	94.1	90.6	90.8									
1911	87.9	94.7	95.1	93.9	95.6	92.9	95.1	94.8	93.8	95.7	94.7	96.3	95.9	91.8	93.8									
1912	94.8	97.3	98.4	96.9	97.7	96.6	97.1	98.1	95.3	99.4	97.7	99.8	99.8	92.9	97.0									
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0									

(continued on next page)

TABLE A-55, continued

Year (1)	Mining (2)	Stone and Clay (3)	Metal- working (4)	Chemicals, Gas, Water (5)	Building (6)	Textiles (7)	Clothing (8)	Leather (9)	Food and Tobacco (10)	Wood (11)	Paper and Products (12)	Printing (13)	Railroad (14)	Shipping (15)	Total (16)
1924	98.0	108.4	104.3	115.0	110.0	129.7	115.9	132.7	116.9	98.0	123.5	123.5	122.2	134.8	111.9
1925	120.9	147.6	135.2	146.6	145.8	157.8	140.2	168.0	146.4	130.7	161.0	170.4	155.9	180.0	142.4
1926	131.9	142.4	132.2	163.6	152.2	168.9	144.8	177.8	152.8	130.1	177.6	167.9	160.7	187.9	147.7
1927	138.9	162.0	150.1	169.1	159.6	180.6	155.3	184.3	158.2	141.8	186.5	175.1	167.8	196.6	157.1
1928	148.1	176.3	161.6	184.7	174.0	189.8	165.0	200.2	171.0	152.4	190.7	188.8	186.6	222.2	169.3
1929	157.3	185.4	173.1	196.6	184.1	199.8	173.4	206.3	191.6	161.5	216.4	194.7	188.8	231.2	180.0
1930	155.3	187.8	177.8	197.8	179.7	203.0	182.2	215.2	195.1	160.0	223.5	199.3	190.0	227.6	182.1
1931	137.4	170.9	168.1	189.7	157.9	190.0	165.5	201.6	184.5	143.5	212.0	188.3	174.5	221.1	168.1
1932	114.9	141.2	145.8	165.0	124.1	168.1	142.1	174.3	162.9	117.2	186.6	167.0	153.6	172.8	144.6
1933	115.1	132.5	141.9	161.1	115.5	162.0	136.4	167.3	155.3	110.7	181.5	160.0	151.9	154.8	138.8
1934	121.4	135.5	144.3	161.0	119.8	158.0	136.9	165.7	158.2	116.9	178.6	168.7	151.5	153.4	140.7
1935	124.0	143.2	149.6	164.5	124.6	158.9	136.6	166.6	158.2	120.8	181.0	169.8	149.2	153.9	144.2
1936	130.4	144.5	154.7	167.7	128.5	161.0	140.5	168.8	162.3	126.8	182.2	170.1	149.2	155.9	148.2
1937	141.0	151.1	158.5	168.4	131.7	162.6	142.8	171.1	164.1	132.7	184.9	172.6	149.2	159.2	152.5
1938	142.3	159.9	165.1	174.6	140.5	169.8	148.5	176.7	169.8	140.7	193.7	177.6	168.6	170.0	160.7
1939	150.0	169.6	170.2	181.5	148.1	172.6	155.3	181.0	174.3	150.4	196.6	174.8	163.9	177.3	166.0

The earnings presented in the body of this table are derived from payroll and employment data compiled by the German workmen's compensation insurance system; earnings of railroad workers are based on the specialized statistics existing for this industry. Gross annual earnings of full-time employees (excluding executives) are computed. The industry levels reflect changes in the composition of the work force, with respect to skill, sex, and age as well as the proportion between wage earners and white-collar workers. The reliability of the data is somewhat impaired by the fact that, during

the years 1888 and 1902, some establishments reported "assessed" rather than actual wages. However, and in spite of the cautioning by the original compilers, contemporary statisticians as well as the cited authors believe that the computed indexes portray major industry earnings trends in a realistic manner.
SOURCE: Franz Grumbach and Heinz König, "Beschäftigung und Löhne der deutschen Industrierwirtschaft, 1888-1954," *Weltwirtschaftliches Archiv*, 1957, Heft 1, pp. 138-139 (Table 6).