



Net Wages and Real Wages in Germany

by

René LIVCHEN

International Labour Office

In an article by the same author published in a previous number of the Review¹ an analysis was given of the development of gross nominal wages in Germany between 1929 and 1942. The following article completes this study by a methodical presentation of the information available concerning net wages—gross wages minus tax deductions, social insurance contributions, etc.—on the one hand and real wages on the other.

A study of net wages is especially necessary for a proper understanding of the wage level in Germany because the wage tax, compulsory social insurance contributions, and other payments are deducted from wages before these are paid to the workers. Moreover, the worker has to meet his current expenses out of his net earnings, so that it is with them that this article is mainly concerned. Part of the deductions made from the worker's wages are, of course, returned to him in another form. But the observations made in the following pages are applicable to industrial workers who are of working age and fit for work (hence not in receipt of an invalidity pension), who are in employment (therefore not drawing unemployment benefit), and who are in good health.

With regard to real wages, it is obvious that no study of the movement of earnings between 1929 and 1942 would be complete unless account were taken of the variations in the cost of living during the period under review. The full bearing of the wage statistics can be grasped only if they are related to the price of the articles which the workers have to purchase.

NET WAGES

The German Statistical Office published in 1938 an estimate of the proportion of the workers' pay which employers deduct at the source on behalf of the Government and the compulsory insurance funds.² This series of figures is shown in table I (the figures published by the Statistical Office are those given in the percentage column; the others have been calculated by the author).

¹ Cf. *International Labour Review*, Vol. XLVIII, No. 6, Dec. 1943: "Wage Trends in Germany from 1929 to 1942", by René LIVCHEN, pp. 714-732.

² *Wirtschaft und Statistik*, 1938, p. 160.

TABLE I. GROSS AND NET WEEKLY EARNINGS OF INDUSTRIAL WORKERS, 1929-1941

Year	Gross weekly earnings ¹	Deduction		Net weekly earnings
		Amount	% of gross earnings	
	marks	marks		marks
1929	44.09	5.29	12.0	38.80
1930	40.61	4.87	12.0	35.74
1931	35.73	4.47	12.5	31.26
1932	29.51	3.69	12.5	25.82
1933	30.16	3.77	12.5	26.39
1934	32.36	4.21	13.0	28.15
1935	33.15	4.31	13.0	28.84
1936	34.39	4.64	13.5	29.75
1937	35.59	4.80	13.5	30.79
1938	37.31	—	—	—
1939	38.72	—	—	—
1940	39.89	—	—	—
1941	42.51 ²	—	—	—

¹ Average for March, June, September, and December.

² March, September, and December only.

The deduction calculated by the Statistical Office is composed of the tax on wages, including the contribution to the unemployment assistance fund which has been incorporated into the wage tax since 1935, the municipal tax (*Bürgersteuer*), which affects workers in large towns only, and contributions to sickness, unemployment, and invalidity and old-age insurance. The figures are approximate, being calculated on the basis of special quarterly enquiries into earnings, and apply to industrial workers only.

The major part of the total deduction is formed by the worker's share of the social insurance contribution, which rose from 8.5 per cent. of gross earnings in 1929 to 9.5 per cent. in 1931 and 1932 and remained at a steady 9 per cent. from 1933 to 1937.

In 1929 the wage tax represented 3.5 per cent. of gross earnings. This proportion fell during the crisis and the depression as a result of the decline in earnings to a level more closely approaching the exemption limit. After 1933 the proportion steadily rose again to about 4.5 per cent. in 1937. But the lowered proportion of the wage tax during the depression was not reflected in a reduction in the total sum deducted because of the increase in the relative size of social insurance contributions and the introduction of new taxes, such as the municipal tax in 1930 and the emergency supplement to the wage tax in 1931.

The municipal tax is levied in large municipalities only. In Berlin an unmarried or married person, with one child, earning 34.62 marks weekly pays a municipal tax of 2.33 per cent.; for a person with the same income and two children the rate is 0.29 per cent., while families with the same income and three children are exempt. As an average over the whole country, the part played by the municipal tax is insignificant.

Generally speaking, apart from the official rate of the tax and contributions, it is the movement of average earnings and the changes in their distribution around each average which play the decisive part in determining the proportion deducted by the employer.

To the best of our knowledge, no estimate comparable to that given in table I for the years 1929-1937 has been made by any official German source for the period 1938-1941. Up to the outbreak of war the rates of deduction remained unchanged, and the proportion of wages retained by employers probably continued to grow at the same rate as before; it may be estimated at 14 per cent. in 1938 and 1939. The War Economy Act of September 1939 introduced a supplement to the wage tax applicable to weekly earnings of 54 marks and over, the full rate of 50 per cent. of the ordinary wage tax being due only on weekly earnings of 86 marks and over. In view of the very minor role played by the wage tax in the total deductions and the comparatively high exemption limits, the introduction of the supplementary wage tax probably had very little effect on the average total deduction for all workers, which may be estimated at something like 15 per cent. in 1940 and 1941.

On the basis of these figures, gross earnings and net earnings during the more recent years may be estimated to have varied as follows:

Year	Gross weekly earnings	Deduction		Net weekly earnings
		Amount	%	
	marks	marks		marks
1938	37.31	5.22	14	32.09
1939	38.72	5.42	14	33.30
1940	39.89	5.98	15	33.91
1941	42.51	6.38	15	36.13

Generally speaking, therefore, it may be said that in view of the slight increase in the proportion retained by employers (from 12 per cent. in 1929 to 15 per cent. in 1941), net earnings fell rather more steeply than gross earnings during the depression, and rose rather less rapidly after 1933; but the difference is unimportant.¹

The wage tax, the municipal tax, and social insurance contributions are not, however, the only compulsory payments which German workers have to meet. A study carried out by an institution attached to the German Labour Front gives information concerning two other deductions: the subscription to the Labour Front, and the parish tax.² These two deductions from the worker's pay are also made at the source. The study, which covered workers living in large towns only, does not provide figures for the average deductions made from the pay of all the workers covered, but merely analyses the deductions made from the pay of workers at

¹ For the exact significance of the figures for gross earnings (and therefore for net earnings), cf. *International Labour Review*, loc. cit., p. 718.

² ARBEITSWISSENSCHAFTLICHES INSTITUT DER DEUTSCHEN ARBEITSFRONT: *Jahrbuch*, 1940/41, Vol. 2, p. 58.

different income levels and in different family circumstances. The following are the figures for some characteristic cases: an unmarried worker earning 32 marks weekly pays a subscription of 51 pfennigs to the Labour Front and 7 pfennigs as parish tax; one earning 40 marks pays 65 and 14 pfennigs; and one earning 48 marks pays 79 and 19 pfennigs. The rate for a married worker with two children earning 32 marks weekly is 42 pfennigs for the Labour Front and nothing for the parish tax; for one earning 40 marks, 51 pfennigs and 3 pfennigs; and for one earning 48 marks, 65 pfennigs and 6 pfennigs.

The subscription to the Labour Front and the parish tax, which in the illustrations given above vary between 58 and 98 pfennigs for unmarried workers, and between 42 and 71 pfennigs for married workers with two children, when compared with the other deductions mentioned are of secondary importance only. To estimate their influence on the movement of net earnings, it must be remembered that the parish tax existed throughout the period under review, and also that the subscription to the Labour Front has replaced the worker's trade union dues since 1933.¹ Whether the subscriptions to the German Labour Front were higher or lower than those formerly paid by the workers to their trade unions is of little importance for our present purpose; all that we need to know is that the subscription to the Labour Front or to the trade unions, as the case may be, and the parish tax represent on an average 1 to 2 per cent. of gross wages.²

Contributions to the Winter Relief Fund are another form of compulsory deduction at the source for the German worker. During the winter of 1941-42, from September to the end of March, the sums deducted by employers represented a supplementary 10 per cent. on the wage tax; but spread over the whole year as an average for all the workers, this contribution represents only a fraction of 1 per cent. The total amount of all deductions at the source therefore varied from 13-14 per cent. in 1929 to 17-18 per cent. in 1941.

It is difficult in present-day Germany to say to what extent any given expenditure is compulsory. In certain circumstances the purchase of a newspaper may be obligatory. The enquiry of 1937 into family budgets gives particulars of some other forms of expenditure which are more or less compulsory.³ The figures published apply to 350 families only; of these, 349 had contributed to the Winter Relief Fund, 348 family breadwinners belonged to the German Labour Front, the organisation by which the enquiry was carried out, and 272 were members of the National Socialist Party,

¹ There is of course an essential difference between trade union dues and the subscription to the Labour Front. The former were entirely voluntary and represented each member's contribution to the advancement of objects which he regarded as worth the direct financial sacrifice of his contribution. The latter is imposed from above and goes to finance an organisation over which the worker has no control and the activities of which are sometimes directly contrary to his interests; a recent example of this is the support given by the Labour Front to the campaign for the lowering of piece rates.

² The parish tax is a special kind of payment which is included in the present analysis only because it is deducted at the source from the worker's earnings and is compulsory; the amount in all cases is practically negligible.

³ *Wirtschaft und Statistik*, 1939, p. 122.

which involved a certain amount of unavoidable expenditure on newspapers and propaganda leaflets. All these expenses, however, amounted to only a fraction of 1 per cent., and in many cases they merely replaced previous expenditure of a similar type.

Generally speaking, therefore, it may be said that on an average, and for all German industrial workers, compulsory expenditure amounted roughly to 18 per cent. on weekly earnings of 40-43 marks in 1940-41, whereas in 1929 the total amount of deductions, whether made at the source or "voluntary", was about 14 per cent. on weekly earnings of about 44 marks. Throughout the period under review the proportion of earnings deducted did not vary in accordance with the movement of earnings, but increased steadily.

REAL WAGES

So far we have dealt only with nominal wages, gross or net. We must now consider the movement of the earnings of German workers in relation to the cost of living; in other words, the purchasing power of the workers' earnings.

In calculating real wages, the official German sources simply divide gross nominal earnings by the official cost-of-living index. This method is open to two objections. In the first place, while it does indeed give an indication of the purchasing power of gross earnings, we are here mainly concerned with the purchasing power of net earnings. Secondly, no account is taken of any changes which may have taken place in the worker's consumption since the official cost-of-living index was revised on the basis of the family budget enquiry of 1927-28.

The results of our calculations are given in table II.

TABLE II. INDEX NUMBERS OF NOMINAL AND REAL WEEKLY EARNINGS OF INDUSTRIAL WORKERS

Base: 1929 = 100

Year	Official cost-of-living index	Gross weekly earnings ¹		Net weekly earnings ¹	
		Nominal	Real	Nominal	Real
1929	100.0	100.0	100.0	100.0	100.0
1930	96.2	92.1	95.7	92.1	95.7
1931	88.4	81.0	91.6	80.6	91.2
1932	78.3	66.9	85.4	66.5	84.9
1933	76.6	68.4	89.3	68.0	88.8
1934	78.6	73.4	93.4	72.6	92.4
1935	79.9	75.2	94.1	74.3	93.0
1936	80.8	78.0	96.5	76.7	94.9
1937	81.2	80.7	99.4	79.4	97.8
1938	81.6	84.6	103.7	82.7	101.3
1939	81.9	87.8	107.2	85.8	104.8
1940	84.5	90.5	107.1	87.4	103.4
1941	86.5	96.4 ²	111.4 ²	93.1 ²	107.6 ²

¹ Average for March, June, September, and December.

² March, September, and December only.

The series showing weekly earnings are derived from the special quarterly enquiries into earnings. The series showing net earnings are based on the figures in table I. Net earnings have been obtained simply by deducting the wage tax, the municipal tax, and social insurance contributions from gross earnings; this is because the information available concerning these deductions is more detailed than that concerning total deductions, but also and mainly because the official cost-of-living index takes no account of variations in direct taxation, social insurance contributions and subscriptions, whereas it does to some extent make allowance for variations in the price of goods and services, such as newspapers and leaflets, the purchase of which is more or less compulsory.

The official cost-of-living index fell from 100 in 1929 to 77 in 1933; up to 1939 it rose by slow degrees to 82, and the increase did not become at all more marked until 1940 and 1941 (it had risen to 88.7 in 1942). However, even in 1941 the cost of living was still very far from reaching the 1929 level.

What was the effect of this movement of the cost of living on the purchasing power of gross weekly earnings? The drop in the cost-of-living index between 1929 and 1933 had the result of checking the fall in the index of real weekly earnings, which fell to 85.4 as compared with 66.9 for nominal earnings. Nominal earnings began to increase again from 1933; but as the cost-of-living index rose more slowly, the index of real earnings rose more rapidly than that of nominal earnings, and reached the 1929 level by 1937-38, whereas nominal earnings did not do so until 1941-42.

The index of net real earnings fell to a lower point during the depression, and rose more slowly afterwards than that of gross real earnings; but the difference was not very great, representing less than 5 per cent. in 1941.

These data indicate what the movement of the purchasing power of the weekly earnings of German industrial workers would have been if there had been no change in their consumption, if the quantity of the goods consumed had remained constant, and if all their purchases had been made at the officially controlled prices.

Taking the last point first, official German publications deny the existence of a black market for the more important items of working-class consumption.¹ There have been reports from elsewhere, however, of black market prices for certain articles.² It is clearly impossible to estimate the part played by the black market in the life of an average worker, but calculations made on the basis of controlled prices would obviously be falsified to the extent that black market prices were actually paid.

With regard to the changes in the quality and composition of working-class consumption between 1937 and 1941, which are not reflected in the official cost-of-living index, it should be noted in the first place that according to the Statistical Office the distribution into five main groups of the expenditure of working-class families covered by the 1937 family budget enquiry corresponded

¹ *Wirtschaft und Statistik*, Sept. 1941, p. 333.

² The *Neue Zürcher Zeitung* of 19 Feb. 1943, a later date than the period of the present enquiry, cites a price of 1 mark each for eggs, 35 pfennigs each for cigarettes, and 100-180 marks per lb. for coffee.

fairly closely to the distribution of expenditure in the official cost-of-living index.¹ This does not mean, however, that the movement of the cost-of-living index would have been the same if the results of the 1937 enquiry had been used as the basis of calculation instead of the data for 1927-28. As a matter of fact, there is every reason to believe that the movement would have been substantially different. Two writers who have recently studied the question in detail have reached the conclusion that a 10 per cent. increase should be allowed on the official index in 1937-38 to take account of changes in working-class consumption.² This adjustment would lower the index of gross real earnings from 99.4 in 1937 and 103.7 in 1938 to 90.4 and 94.2 respectively, and the index of net real earnings would be 88.9 instead of 97.8 in 1937, and 92.1 instead of 101.3 in 1938. The adjustment for subsequent years would have to be greater still since the changes in working-class consumption as compared with 1927-28 became more marked year by year.

For the period covered by the war it seems impracticable to make any adjustment. The rationing of all the main foods and of shoes and clothing has brought about radical changes in the composition of working-class consumption. Food rations have had to be eked out with the aid of unrationed foods which are much higher in price, and for that reason were not purchased by the workers before, and certain kinds of food which have disappeared from the market have had to be replaced by others. Wartime conditions have therefore involved shifts in the type of goods consumed and in the relative importance of different goods.

The deterioration in the quality of the goods available has had similar effects. Owing to the low quality of the clothing and footwear offered for sale, for instance, and the increasing difficulty in having worn clothing repaired, new clothes have had to be bought more frequently, within the limits allowed by the rationing system.

No data are available to permit of an estimate of the effects of these quantitative and qualitative changes on the cost of living, and it is therefore impossible to measure the variations in the purchasing power of wages since the outbreak of war. It should be remembered, too, that in an economic system ruled by the ration coupon the movement of nominal earnings and their purchasing power become a matter of secondary importance.

This latter factor is conspicuous enough in Germany for the suggestion to have been made that the object of the recent campaign for the reduction of piece rates was to enable these rates to fulfil their original function of acting as a stimulus to production. As money is useless for the purchase of important items unless ration coupons, which are strictly limited in number, are also available, the workers have no incentive to increase their earnings by making an extra effort. Hence, it has been thought necessary to lower piece rates to a point at which the worker will again have to make a greater effort in order to maintain his earnings at the former level.

¹ *Wirtschaft und Statistik*, 1939, p. 188.

² Cf. Otto NATHAN: "Consumption in Germany during the Period of Re-armament", in *Quarterly Journal of Economics*, Vol. LVI, No. 3, May 1942, p. 362; and Hilde Oppenheimer BLUM: "The Standard of Living of German Labor under Nazi Rule", in *Social Research*, Supplement V, 1943, pp. 38-39.

The present popularity of small local cinemas in Germany to which people can go without using public means of conveyance, and without suffering from the inconveniences of the blackout, also seems to indicate that some classes of the population have more money than they can use for satisfying their basic needs with the rationed and unrationed goods available. The very moderate success of Government propaganda in favour of blocked savings accounts (*Eisernes Sparen*) does not prove that the workers have no money to spare, since savings in a form more easily convertible into cash are steadily increasing, but merely that the fiscal advantages offered are not enough to overcome the investors' doubts concerning the value of the German currency after the war.

CONCLUSION

On the basis of the foregoing analysis, the following conclusions may be drawn.

The deductions at the source from the earnings of German industrial workers have steadily grown, from about 14 per cent. in 1929 to about 18 per cent. in 1941.

The purchasing power in 1938 of weekly earnings, calculated on the basis of the adjusted cost-of-living index, represented 94 per cent. of the 1929 purchasing power in the case of gross earnings, and 92 per cent. in the case of net earnings. There is no means of determining the movement of the purchasing power of weekly earnings since the outbreak of war.

To say that the purchasing power of weekly earnings in 1938 or 1941 represented a given proportion of that in 1929 does not of course imply that there was a parallel development in the worker's standard of living. This would only have been the case if German workers had been able in 1941 to buy whatever they wished without restriction, an assumption which is very far from the truth in view of the introduction of rationing and the disappearance of certain products from the market. Moreover, it would also postulate that the effort required of the workers in 1941 was the same as in 1929, and that they had the same amount of leisure. For all these reasons, the movement of the purchasing power of the weekly earnings of a German worker is very far from reflecting the changes in his standard of living.
