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WAGES IN GERMANY
1871-1945

INTRODUCTION

Scope and Limitations

THIS book records the behavior of wages in Germany from 1871 to 1945—the period during which the Reich existed as a political unit. These were fateful years, beginning with the foundation of the Reich and ending with its collapse and partition. They embrace periods of peace and war; of growth and stagnation; of inflation and deflation; of monarchical, democratic, and totalitarian regimes; of free and controlled labor markets. The aim of this study has been to analyze wage behavior, under these unusually varied conditions, in all its major aspects—trends and cycles in wage rates and earnings, in money wages and real wages, in wage levels and in wage differentials.

The broad scope of this investigation required the study of an unusual amount of source material. The chief statistical sources were published official and private compilations of time series. On occasion, particularly for the early years, it was necessary to go back to crumbling periodicals. And sometimes wage series or composite indexes could only be put together from bits and pieces. Most of the basic data and all of the derived series are presented here. In addition to quantitative data, the investigation drew upon a wealth of qualitative material—descriptions of wage setting, trade union activity, the role of employers' organizations, apprenticeship agreements, and the like.

Some limits must necessarily be set to a study of this sort. Hence, there are several aspects of wage behavior that might appear pertinent to our inquiry but could not be dealt with. What, for instance, were the effects—on wage levels and on wage structure—of differences in size of establishment, degree of fixed capital investment, variations in productivity, extent of cartelization, relative strength of union organization, length of training period, social status of occupations? How would wage trends change if adjustments were made for emoluments in kind, paid vacations, and other fringe benefits to which monetary values might be assigned? Analysis of problems such as these would require more detailed information than could be secured and more complex designs of research than the investigation permitted.

The reader will note that this study is organized not by historical periods but by topics such as wage trends, wage structure, and cyclical fluctuations. An arrangement of this sort seemed preferable for a systematic analysis of economic relationships. However, during extraordinary periods, such as the two world wars or the Great Inflation, rapid institutional changes loom so large in the wage picture that analytic description of wage behavior must of necessity become historical. A separate chapter, therefore, is reserved for a description of these unusual events. Finally, wage behavior in Germany was compared with that in two other countries, Great Britain and the United States, in order to determine to what extent the findings reflect specifically German circumstances and to what extent more general experience.

Summary of Findings

TRENDS IN WAGE LEVELS

Over the three-quarters of a century under review, hourly earnings in Germany increased about fourfold, weekly earnings about threefold. The difference is attributable mainly to the decline in working hours—one of the great economic and cultural consequences of modern technology. Between the foundation of the Reich and the establishment of the Weimar Republic the workweek was reduced from around 70 to about 48 hours. Despite interruptions by war and inflation, the long-term upward trend of money wages was remarkably steady.

Although wage trends are affected by price changes, they are not fully explained by them. In contrast to the persistent rise of money wages, wholesale prices underwent two huge cycles during the history of the Reich, reaching similar levels in 1871, 1913, and 1944. Living costs also rose, but for the period as a whole their increase was milder than that of wages. The relation between the two measures is reflected in the movements of real wages.

Hourly real earnings roughly doubled during the history of the Reich, whereas weekly real earnings increased about 50 percent. If allowance be made for taxes and social insurance contributions, the rise of weekly real disposable or real net earnings may amount to only about one-third between 1871 and 1944. This is, of course, quite different from the trebling of weekly money earnings. An interesting and important aspect of real wage behavior is the break in trend around the turn of the century. The weekly real earnings of 1900 were not significantly exceeded until about 30 years later, and then only by a few percent during the three years centering around the 1929 peak in general business activity. The leveling out of weekly real earnings after 1900 and up to 1913 is to be explained by a particularly rapid rise in the prices of consumers' goods, coupled with a continuing decline in the length of the workweek. The low levels of real wages during the interwar period are to be understood in terms of a further decline in hours of work and the general deterioration of economic conditions during the years following World War I and the Great Inflation.

A close relation of real wages to general economic conditions can be observed throughout German wage history. Taking per capita industrial production as a rough measure of economic activity, we find closely parallel developments of output and real wages. The steady growth of the economy before World War I, the dismal circumstances that obtained during the war and the inflation, the ups and downs during the remaining years of the Weimar Republic, the recovery and later collapse under the National Socialist regime—all these developments are consistently reflected in the behavior of both production and real earnings. The parallel is not always perfect—the differences in the patterns are as illuminating as the similarities—but on the whole trends of real wages are closely bound to those of output.

THE STRUCTURE OF WAGES

Wages for different categories of workers varied within relatively narrow bounds—certainly in comparison to the almost limitless range of prices for commodities and services. Furthermore, the long-term trends of individual wage series are more similar, one to another, than are the trends of product prices. The wage structure, therefore, is considerably more stable over time than the price structure. Both the high degree of homogeneity and the greater stability of wages, as compared to product prices, stem from basic differences between labor and commodities. In broadest terms, the services provided by human beings are more similar, industrially more interchangeable, more equally affected by changes in technology, productivity, reproduction costs, and market demand, than are inanimate goods.

Despite the marked similarity of the trends of wages, there were distinct long-term changes in the structure of wages—changes which, on the whole, tended to diminish inequalities among workers of varying characteristics. This can be observed clearly enough in the decline of skill, age, sex, and regional differentials. A similar, though not so striking, tendency can be discerned with regard to city-size and industrial differentials.

Many factors, such as education, mechanization, and the regional spread of industrialization, could be cited to explain the lessening of one or another differential. But these special factors would hardly account for the pervasiveness of the trend. The process of equalizing wages must be understood in more general terms—as a concomitant of industrialism itself. Perhaps, in mass-producing goods and distributing them over wide areas, in fostering industrial organization, in spreading information, and in providing education—in doing all this, modern industrialism serves as a leveler. In spite of increasing occupational specialization, differences become less important between individual working capacities, between living standards, and between living costs of workers in different industries, cities, or regions. It is this increasing homogeneity of socio-economic and cultural conditions that may go far to explain the narrowing of wage differentials.

CYCLICAL BEHAVIOR

In the analysis of the cyclical behavior of wages a clear distinction must be drawn between (1) wage rates—the prices paid per unit of working time or output; and (2) earnings—which include premium payments for overtime, night and holiday work, and, in the case of weekly earnings, reflect also variations in straight-time hours.

German money wage rates showed only two substantial declines. One occurred in the 1870's, during the severe business contraction that followed the *Gründerjahre* boom, the other during the Great Depression. To be sure, wage rate responses to business contractions took other forms—retardation in rate of growth, stagnation, or slight decline. If all these responses are counted, we find that wage rates conformed fairly well to major cyclical changes in general business conditions. Nevertheless, the rarity and the minor extent of the actual declines suggest a pronounced downward rigidity of German wage rates.

Whenever wage rates responded to cyclical changes in business conditions, they did so with considerable delay. This lag in timing, both at peaks and at troughs, stands out as one of the most characteristic features of the behavior of German wage rates. Moreover, the tendency to lag is found even when wage rates respond strongly. The business cycle peak preceding the Great Depression, for instance, occurred in April 1929, but union wage rates did not actually decline until December 1930—fully 20 months later. It is true that these rates had stopped increasing somewhat earlier, but even if the first month of the resultant wage plateau is regarded as a "turning point," the lag still amounts to 13 months.

The cyclical behavior of earnings was quite different from that of rates. Earnings—and particularly weekly earnings—showed closer conformity to business cycles, larger fluctuations, and less pronounced lags after turning points. With the exception of wage rates, most of the factors governing the behavior of earnings responded promptly and consistently to changes in general business conditions.

As for real wages, several aspects of their cyclical behavior are of interest. The downward rigidity and delayed response of money wage rates, in conjunction with the cyclically more responsive living costs, frequently led to increases of real wage rates during declines in general business activity. This happened, for instance, during the Great Depression. And the actual specific declines of real wages—whether rates or earnings—were characteristically mild. Thus, in weekly real earnings (the most responsive real wage measure) during 1929-32 (the most severe of the business contractions), we find that the decline, measured on an annual basis, amounted to only 15 percent.

With regard to the timing of cyclical turns, real wage rates show even more protracted delays than money wage rates. They lagged after the 1929 peak by at least 21 months and perhaps as long as 32—depending on the choice of turning points. An extreme delay occurred also at the terminal trough of the Great Depression. This instance, however, reflects the unusual labor market conditions that prevailed in Germany from 1933 on.

WAR AND INFLATION

World War I. The labor-market pressures that developed in the course of that war brought about radical changes in wages. Money earnings, on the average, roughly doubled during the brief span of four years; real earnings decreased by about a third. More important, perhaps, than the changes in wage levels was the upheaval in the wage structure. In general, wages of women increased more than those of men. Workers in war industries gained much more than those employed in civilian jobs. People who worked on piece rates fared far better than those on time rates. And workers in major industrial centers commanded larger wage increases than those in rural communities. These circumstances led in some cases to a narrowing, in others to a widening, of wage differentials. Whatever the net effect of the widely divergent trends on the wage structure as a whole, a most important consequence was the emergence of enormous inequities in the pay of German workers. The government took some steps to mitigate extreme hardship by adjusting wage rates to marital status and number of dependents. But the basic disparities remained, contributing to the social unrest which led to the overthrow of the Kaiserreich and the establishment of the Weimar Republic.

The Great Inflation. The development of democratic institutions was not followed at once by economic prosperity. The currency depreciation, which continued wartime trends and culminated in the hyper-inflation of 1922-23, created well-nigh incredible conditions in the economy as a whole and in the labor market in particular. Money wages, between 1913 and the end of 1923, increased a trillion times, but even this astronomical rise was appreciably less than that of living costs. Thus, during 1922 and 1923 weekly real wages sank so low that they amounted to only one-half or two-thirds of the levels attained in 1913.

Real wages, moreover, were subject to extreme and erratic fluctuations. Wage determination became a highly complex matter, as attempts were made to gear wages to the rapid pace of currency depreciation. A special "express" index of living costs soon failed to provide information fast enough to implement current payroll calculations, and employers had to pay their workers on the basis of the dollar exchange rate or the quotation of a specific commodity price. They were compelled, furthermore, to make wage payments several times a week, and frequently with emergency money when the government printing presses fell behind the clamor for currency. Sometimes part of the wages were paid in kind. The upshot of this confusing jumble of price changes, payroll calculations, and methods of disbursement was an unprecedented instability of real wages. For skilled workers in the wood products industry, for instance, real wages in October of 1923 were 25 percent of 1913 levels, in November of the same year 58 percent, and in December 72 percent.

The inflation had drastic effects not only on money and real wage levels, but also on the wage structure. Perhaps the most dramatic change it brought about was the virtual disappearance of skill differentials. For eight industries these differentials—measured as differences between wage rates of skilled and unskilled workers expressed in percent of the former—averaged about 30 percent before World War I; during a few months in 1922-23 they shrank to about 9 percent. Skill differentials in building, about 22 percent before the war, amounted to only 4 percent in April 1922. This phenomenon was brought about by the granting of equal cost-of-living adjustments, in terms of marks and pfennigs, to both skilled and unskilled workers. Such adjustments were intended to protect the lower-paid worker against the hazards of hunger and cold.

National Socialism and World War II. Wages under the totalitarian regime were strictly controlled, and their behavior deviated sharply from that observable during comparable periods of expanding economic activity. The government stabilized money-wage rates at their very lowest depression level, and permitted an increase of only 3 percent between 1933 and 1944. In view of a 60 percent rise in employment during the same period, this stability of wage rates is without parallel in German history.

Wage stabilization was possible only as an integral part of price control. However, Nazi price management permitted living costs to inch up gradually, so that hourly real wage rates in 1939 were 6 percent below the depression levels of 1932, and in 1944 about 15 percent below.

Workers managed to exceed their depression incomes by working longer and harder. Weekly money earnings between 1932 and 1939 went up by about 30 percent, between 1932 and 1944 by close to 45 percent. After changes in living costs, taxes, and social insurance contributions are taken into account, the increases in weekly real earnings between 1932 and 1939 amounted to less than 20 percent, and between 1932 and 1944 to less than 15 percent. Although computations of real wages for periods of war are far from reliable, it is certain that the National Socialist regime was able to prevent both an extreme rise of money earnings and an extreme deterioration of real earnings.

The impact of wage controls on age, skill, sex, regional, city-size, and industrial differentials was moderate. However, confronted as they were by enormous manpower requirements, the Nazis employed a large number of irregular workers, at rates sharply distinguished from those paid to the regular work force. Agricultural and domestic service for boys and girls, as well as compulsory harvest work for school children and furloughed soldiers—furloughed to do farm work—helped to enlarge the domestic labor force. Quantitatively more important was the impressment of foreign workers, a total of about 9 million persons at the beginning of 1944. At that time every fourth worker in Germany was a foreigner. The remuneration of these workers was lower than that of German nationals, and ranged widely, in accordance with ethnic origin and depending upon the status of the worker as "civilian" or "war prisoner."

For example, a Russian civilian worker earned about one-third of the wages of a German worker. As a prisoner of war, a Russian received 40 pfennigs per day; this was less than half the allowance paid to prisoners from the most favored enemy countries.

INTERNATIONAL COMPARISONS

The findings on German wages have been compared with similar findings for Great Britain and the United States in order to distinguish "specifically German" from "typical" wage behavior.

Trends in wage levels for the three countries are indicated in Charts 33 to 38. For Germany and the United States, the lines are based on earnings, whereas for Great Britain only wage rates are available. The marked long-term increase of money wages in Germany had obvious counterparts in the other two countries. German hourly wages during the seventy-three years rose about fourfold; the rise in Great Britain was as steep; and the increase in the United States sevenfold (Chart 33). The steadiness of the upward trend also is common to all three countries: after interruptions by wars or by major cyclical swings, the old trends tended to become re-established. Finally, the milder rise of weekly wages is shared by all three countries (Chart 34), since a material reduction of working hours was characteristic of industrialized nations.

The first major differences among national long-term trends appear in real wages, hourly and weekly (Charts 37 and 38). In the period as a whole, hourly real wages in Germany and Great Britain approximately doubled, those in the United States well-nigh quintupled. The comparative picture for the years before 1913 varies from that for subsequent years. Before World War I, the net increase in German and British real wages came fairly close to that of wages in the United States. After World War I, real wages in the United States outpaced by far those of Germany and Great Britain.

A trend toward equalization of the wage structure has been noted as a major characteristic of German wage history. The findings of British and American students indicate similar trends in the two English-speaking countries. In the case of skill differentials, for instance, we find, over the period as a whole, a distinct narrowing of the gap between the wages of skilled and unskilled workers in the three countries.

As to cyclical behavior, the outstanding features of German wage rates were the rarity of marked declines and a tendency of wage rates to lag substantially behind turns in general business conditions. Both these traits apply also to wage rates in Great Britain and the United States. Moreover, the occurrence of countercyclical increases of real rates during business contractions and the still more retarded response of real, as compared to money, wage rates are observable for all three countries.

In general, both conformity and amplitude are more pronounced in earnings than in wage rates. In Germany hourly rates tended to decline least, hourly earnings somewhat more, weekly earnings most. Also, in the United States and Great Britain, the fluctuations of weekly earnings were larger than those of hourly earnings. Furthermore, the amplitudes of both rates and earnings are roughly similar in magnitude. On the whole, it can be said that the cyclical characteristics of wages—rates and earnings, money wages and real wages—are strikingly similar in the three industrial countries.

Of the unusual events through which the German economy passed, the two most obviously "shared" by the other nations are the world wars. During World War I money wages and real wages reflected the economic and military fortunes of each country. Money wage rises and real wage declines were extreme in Germany, which entered the war first, was closest to the battlefields, suffered the greatest damage to its industrial apparatus, and lost the war. By contrast, the United States experienced the smallest rise in money wages, but a considerable gain in real wages.

Comparison of wage behavior between the two world wars again points up the general finding that wage levels reflect broad social and economic conditions. We observe the same real wage pattern in the second as in the first war—with Germany in the worst position, and the United States in the most advantageous. Furthermore, real wage trends in all three countries were more favorable during World War II than during the earlier struggle. Apparently the intensive utilization of resources, spurred by the war effort, permits modern industrial nations to wage war without seriously lowering the living standards of their civilian workers.

Implications of the Study

Findings on the behavior of wages lend themselves to varied applications. They may be used to test past and current generalizations. They may contribute to an understanding of doctrine and to the resolution of controversy. And they may influence wage policies of government and decisions of management or labor.

According to certain wage doctrines, earnings are determined by a fixed wage fund and the size of the labor force; real wages are bound to stay close to subsistence levels; capitalism tends to bring about a deterioration of real wages; differentials will increase as between wages received by the mass of workers and those paid to a "labor aristocracy"; total wage income tends to form a decreasing share of national income; money wages and real wages move cyclically in opposite directions; real wage declines are a prerequisite to cyclical revivals; and so forth. The findings of this study should be helpful for an appraisal of generalizations of this sort.

A record of actual wage behavior may apply to wage theory in other ways. The propositions of wage theory usually reflect experiences of the period in which they were formulated. Mercantilists and physiocrats, writing during the preindustrial era of low productivity and low wage levels, adhered to rigid subsistence theories. The development of steam-engine industrialism at first brought, on the whole, little improvement and, at times, severe deterioration in wages and working conditions; hence the retention of but slightly modified subsistence ideas by the classical economists, and the exploitation doctrines of Marx and other critics. Later, with the startling technological advances, the increasing use of laborsaving machinery, and the substantial gains in real wages, wage theorists began to concentrate on problems of marginal productivity. As labor organizations grew in importance and government came to play an ever larger role in wage determination, wage doctrine increasingly emphasized the role of bargaining power. Any extended exploration of such relationships would have no place in a predominantly empirical study. However, students of wage theory may find the present account of some value for their work.

Finally, there are practical implications. Although the historical record cannot possibly indicate that a particular wage policy is in general superior to another, findings on wage behavior have wide applications in the field of action. Consider, for instance, the long lags and the limited downward flexibility of wage rates during business cycles; the consistency in the long-term upward trend of money wages and real wages; the typical relation of wages and living costs during pronounced inflations; the wild disparities in "free" wage developments during catastrophes like wars; the tendency toward decreasing skill or regional differentials. These observed characteristics should bear on cost predictions, plant design, long-term investment decisions, labor-management negotiations, and government wage policies—if there is any relation between the progress of economics and economic progress.

A Postscript on Recent Years

Most of this book deals with the years during which the German Reich existed as a political unit. That period ended in 1945. Now, more than a dozen years after the end of World War II, one can gain some impression of wage developments under the new economic and political conditions. Let us see to what extent the general characteristics of wage behavior found for the earlier period are also apparent in recent years—and conversely, to what extent recent developments may require qualification of the broad generalizations on wage behavior culled from German wage history. This brief inquiry is confined to the German Federal Republic (West Germany). Some basic data on wage movements, prices, production, employment and average weekly hours are provided for reference in Appendix Table A-54.

LONG-TERM TRENDS

Money wages and real wages, be they hourly or weekly earnings, rose steadily after 1947. If we accept the official measure of consumers' goods prices, then real wages through 1949 remained under prewar levels; in 1950—two years after the currency reform and the first year with a normal workweek and reasonably high production—they reached their 1938 standing; and after 1950 they advanced with the general recovery of the economy. Rough comparisons show real earnings in 1958 to be about forty-five to fifty-five percent above 1938. If we compare wage levels reached in the past few years with the trends prevailing throughout the history of the Reich we find them well in line. The broad secular trends of rising money wages and real wages, hourly and weekly, continued in recent years.

SKILL AND SEX DIFFERENTIALS

Some broad historical tendencies toward equalization of the wage structure appear to be still operative during the postwar years. Skill differentials continued to decline. The gap between average hourly earnings of unskilled men and earnings of all male workers was 19 percent of the latter in 1938, 16 percent in 1947, and 14 percent in 1958. For women workers, no pronounced trend in skill differentials was found during the postwar period. Sex differentials between hourly earnings of all workers also decreased, in continuation of long-term historical experience. In 1938 the earnings gap was 42 percent; in 1958 it had shrunk to 36 percent. However the decline in sex differentials was concentrated in the group of skilled workers. For unskilled workers, the sex differential widened in fact between 1938 and the present.

REGIONAL AND INDUSTRIAL DIFFERENTIALS

The evidence shows a long-term trend toward decline of regional differentials in the German Reich. Whether regional inequality of wages has diminished, during recent years, in the territory now covered by West Germany cannot be readily ascertained. But since the area covered by East Germany consists of former low-wage territory, regional inequality of wages within the Federal German Republic is presumably smaller than in the prewar Reich. Finally, a word on industrial differentials. Between 1938 and 1958, wages in low-earnings industries tended to experience considerably steeper percentage gains than wages in high-earnings industries, indicating a diminished inequality between the extremes of the industrial wage structure.

CYCLICAL BEHAVIOR

During the postwar recovery years 1946-58, there were no marked cyclical downturns in Germany's economic activity. As Appendix Table A-54 shows, neither production nor employment declined, at least not on an annual basis. Between 1949 and 1950 we witness an increase in unemployment (somewhat boosted by an influx of East German refugees and a general recovery of labor-force participation) and mild declines in wholesale and retail prices. These declines are not reflected in any downturn of money or real earnings—an experience well in keeping with wage behavior in the past.

Altogether, we find that the general characteristics of wage behavior under the German Reich have persisted during recent years—a rising trend of money and real wages, a diminishing inequality in the wage structure, and an imperviousness of wage behavior to mild declines in prices or rises in unemployment. Indeed, the major characteristics of recent wage behavior in Germany could have been approximated quite effectively, on the basis of historical evidence.