

UNEMPLOYMENT AND THE LABOUR MARKET, 1870-1939¹

By

Timothy J. Hatton
(University of Essex)

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The Unemployment Problem

Unemployment is an enduring feature of industrial market economies--indeed it is often seen as one of the most unfortunate side effects of the capitalist system. Between 1870 and 1939 the understanding of unemployment, attitudes and policies towards it, and the scale and structure of unemployment itself, underwent considerable change. Before the 1890s the problem was perceived as one of personal deficiencies and lack of industrial quality among the workers concerned; by the turn of the century it was understood as reflecting lack of organisation in the labour market; and by the 1930s it was seen by many as a problem of the malfunctioning of the entire economic system.

In mid-Victorian times, middle class observers saw unemployment as the result chiefly of indigence or incapacity and largely a feature of the lowest stratum of society. For steady and respectable workmen thrown out of work by cyclical downturns, unemployment was temporary and its effects were ameliorated by self-help or mutual aid. But fact and circumstance conspired to alter these perceptions as awareness of, and concern about, unemployment increased. One ingredient was the findings of social investigators such as Charles Booth whose social survey of London revealed poverty and deprivation even among the families of relatively respectable workers. Another was the series of official enquiries ranging from the *Royal Commission on Labour* (1892-4) to the *Royal Commission on the Poor Laws and Relief of Distress* (1905-9), which took evidence on unemployment and the workings of the labour market. Such discussions were accompanied and informed by a widening range of labour market statistics collected by the Labour Department of the Board of Trade, which was formed in 1892.

The new view that emerged from these enquiries is best exemplified by William Beveridge's book *Unemployment a Problem of Industry* (1909). Although the 'personal factor' in unemployment was not eliminated, the stress was placed firmly on the larger and more impersonal forces as the title implies. Studies like this highlighted periodic cycles in unemployment, which permeated the entire labour market. They also distinguished very different patterns of unemployment across industries and by skill level. While cyclical unemployment was most severe in export industries such as engineering and shipbuilding and in construction, in other cases the organisation of the labour market was seen as faulty. In sectors where casual

engagement was the norm such as unskilled building labour, and most notably on the docks, lack of co-ordination produced a pool of permanently underemployed labour. This diagnosis was clearly reflected in legislation enacted just before the First World War. The National Insurance Act (Part II) of 1911 was designed to provide workers with unemployment benefit during depressions in trade, while the Labour Exchanges Act of 1909 was aimed at reducing wasteful frictions between labour supply and labour demand.

Legislation reflected not only contemporary understanding of the unemployment problem but political imperatives too. From the turn of the century the increasing clamour of the unemployed and the growing strength of labour representatives in parliament pushed the Liberal government into action (Brown, 1971, Ch. 8; Harris, 1972, Ch. 5). Further extension of the franchise in 1918, the demobilisation crisis, and the emergence of mass unemployment in 1921 provided the background to a substantial expansion of the system beyond the small group of trades covered before the war. The emergence of mass unemployment in the 1920s and its persistence into the 1930s transformed the unemployment question from one problem among many to *the* problem for economic and social policy during the interwar period.

The experience of mass unemployment provided the background for a new view of the causes of unemployment that emerged during the 1930s. Keynes' *General Theory of Employment Interest and Money* (1936) laid the blame on deficient aggregate demand for goods and services and placed the onus for remedial action firmly at the door of the government. As in the prewar period the emerging consensus was best summarised by Beveridge, this time in his book *Full Employment in a Free Society* (1944):

The central problem of unemployment between the wars was not what it had seemed to be before the First World War. It was not a problem of cyclical unemployment reducing demand for a time, or of disorganisation of the labour market wasting men's lives in drifting and waiting. It was a problem of persistent weakness of demand for labour (p. 89).

This new consensus was reflected in the White Paper on Employment Policy of 1944 and in policies designed to maintain full employment in the 1950s and 1960s.

Since Beveridge wrote, opinion on the character, causes, and ultimate remedies for unemployment in the interwar period has ebbed and flowed. For a while,

the Keynesian demand-side analysis held sway. But with unemployment rising again in the 1970s new theories revived views that had previously been sidelined. One view is that interwar unemployment was essentially a structural problem caused by the decline of the so-called staple industries. More prominent still, is the idea that the system of unemployment benefits, designed to cope with the effects of unemployment, in fact became its cause. Some see the emerging strength of labour in collective bargaining as impeding labour market adjustment while others associate the emergence of mass unemployment with shocks to the supply side of the economy. These arguments will be reviewed in what follows, but it is important first to explore the dimensions of unemployment more fully.

Unemployment Statistics

The level of unemployment recorded in the statistics depends upon how unemployment is defined and measured. The distinction between those who are counted as unemployed and those who are not is always somewhat blurred at the margins. Among the most difficult areas are: how far those with weak labour force attachment are counted as part of the labour force; whether those on short time or temporary layoff are counted as employed or unemployed; and whether those who are self-employed or in informal employment, are included in the statistics at all. In practice the definition of unemployment reflects the structures for the administration of assistance to the unemployed. As a result the definitions tend to be narrower than might otherwise be desirable. More important still, the scope of the administrative structures through which unemployment is measured changes dramatically over time (see Garside, 1979, Chs. 1, 2).

For the interwar period we have relatively comprehensive statistics that result from the joint operation of the labour exchanges and the unemployment insurance system. On becoming unemployed an insured worker would register at the exchange and at the same time apply for benefit (a small number of uninsured workers also registered). The rate of unemployment among insured workers averaged 14.2 percent between 1921 and 1938. But only two-thirds of all workers were covered by unemployment insurance. Unemployment was much lower among those in occupations that were not covered, such as farm workers, domestic servants, certain public employees, and white-collar workers. Estimates of the unemployment rate

among all employees therefore yields a somewhat lower average unemployment rate of 10.9 percent (Feinstein, 1972, p. T128)

Pre-First World War statistics are much less satisfactory. Before the advent of labour exchanges and unemployment insurance there were no comprehensive administrative statistics upon which to base an estimate. Even those relating to the years 1913 to 1920 are restricted to relatively few sectors of the economy. However, the Board of Trade compiled an index of unemployment from 1888 onwards, based on the records of trade unions that paid some form of benefit to their unemployed members. On the basis of a small number of unions, that index was extended back to 1860 in order to provide a reasonably long perspective on the course of unemployment. This index reflects unemployment among unionists chiefly in engineering, building and metal trades although the number of trades covered increases over time. It largely excludes unskilled workers and those in service sector trades and agriculture. And it does not include as unemployed those on short-time or temporary layoff even among the sectors that were covered by the index.

From 1870 to 1913 the Board of Trade's unemployment rate fluctuates between 0.9 percent and 10.7 percent, with an overall average of 4.5 percent. Although this index has been widely referred to as a key indicator of the state of the labour market in the era before 1914, its narrow base makes comparisons with later periods difficult.² On the basis of his knowledge of the labour market Beveridge guessed that pre-war unemployment averaged about 6 percent, and following from this, that during the interwar years unemployment was "between two and three times as severe as before the First World War" (1944, p. 336).

Recently a new index has been derived that attempts to remedy some of the deficiencies inherent in the Board of Trade index (Boyer and Hatton, 2002). This new index includes an allowance for short-time working in certain key industries, it includes unskilled labour, it uses labour force weights, and it is adjusted on to an economy-wide basis. It is therefore as consistent as possible with later periods. This new series is plotted in Figure 1 together with the (adjusted) figures for the interwar period. The average unemployment rate for 1870-1913 is 5.8 percent; somewhat

² Officials of the Board of Trade were well aware of the deficiencies of the index. They recognised that unemployment in the trades covered by the index fluctuated more widely than unemployment in other sectors, but they suggested that the index was a good barometer of the direction of change in labour market conditions (Garside 1979, p. 21).

higher than that of the Board of Trade's index. During the interwar period the average unemployment rate was 10.9 percent; nearly twice as high as the prewar average. Thus the rise in the average unemployment rate between the prewar and interwar periods is at the lower end of the range suggested by Beveridge.

Figure 1 shows that before 1914 there was a fairly regular cycle, consistent with other cyclical indicators, with unemployment rates reaching six to eight percent in depressions and falling to three or four percent in booms. By contrast, after the intense boom of 1918-20, the years when unemployment was lowest in the interwar period were comparable with the years when it was highest in the prewar period. The sharp increases in unemployment which occurred in 1920-1 and in 1929-31 have almost no parallel before the War. This highlights the most important feature revealed by the new prewar estimates: that unemployment was far less volatile from year to year than the Board of Trade's estimate suggested. The coefficient of variation of the new index is 0.23 compared with 0.55 for the Board of Trade index. Thus the new estimates, while confirming that unemployment significantly lower before 1914 than in the interwar period, also suggest that it was less volatile before the First World War than it was in the ensuing decades.

Patterns of Unemployment

Unemployment varied greatly across time, place, industry and occupation. Industries such as metals, engineering, shipbuilding, construction and mining were among the most volatile before 1914. These were industries connected with the production of goods for investment or export, which were the least stable components of aggregate demand. Thus, for example, in shipbuilding the unemployment rate ranged between 0.7 and 22.7 percent and in construction it varied between 0.6 and 12.4 percent. In other trades where demand varied less the range of unemployment rates was correspondingly smaller: 1.3 to 6.3 percent in printing and bookbinding and 2.9 to 8.6 percent in transport. Nevertheless, changes in unemployment rates were strongly correlated across different industrial sectors. This reflects the fact that, although fluctuations were more intense in some sectors than others, periodic booms and slumps were pervasive across the economy as a whole. In booms unemployment rates tended to be close together while in slumps the most volatile industries suffered much higher unemployment rates than the others.

In the interwar period, a pattern reminiscent of pre-war booms and slumps can be observed but on an altogether different scale. Unemployment in engineering, shipbuilding and construction and other heavy industries fluctuated more widely than the average. But the pattern typical of a pre-war slump was intensified, it persisted throughout the period, and it saw higher unemployment in virtually all industries. Thus the average unemployment rate for 1923 to 1938 was 23.1 percent in mining and 24.3 percent in the metal trades as compared with 6.7 percent in paper and printing and 9.5 percent in food, drink and tobacco. These differences reflect the sharp and permanent decline in employment in the great staple industries of the late nineteenth century. Because they were located disproportionately in the north of England, Wales, Scotland and Northern Ireland, it was also reflected in persistent regional variations in unemployment. Across the nine regions distinguished by the Ministry of Labour average rates varied from 8 percent in London and the South East to around 22 percent in the most hard-hit regions of Wales and Northern Ireland.

The regional pattern of unemployment is illustrated for three interwar years in Table 1. Some observers have suggested that this persistent regional pattern was the reverse of that which typically prevailed before the First World War. The first column of Table 1 reports unemployment rates in the second half of 1913 for the limited range of trades that were covered by unemployment insurance at that time. However, this was a time of low unemployment overall. Using the records from trade unions in the engineering and building trades Southall (1988) shows that during economic slumps unemployment rates among unionists were substantially higher in Scotland and the north of England than they were in the south.

This persistent maldistribution of unemployment during the interwar period has led some observers to argue that unemployment during the interwar period was largely structural in nature (Booth and Glynn, 1975). In this view unemployment should be understood more in terms of the problems of specific industries and regions than as a general macroeconomic failure. The structural view implies that policies aimed at moving workers to jobs or jobs to workers would have been more effective than the management of aggregate demand. There is some evidence that structural turbulence was greater in the interwar than it was before 1914 (see further below). Nevertheless, the pattern of interwar unemployment was similar to that in pre-war slumps, with the important difference that it persisted for twenty years. It therefore

seems likely that an increase in economic activity, however it arose, would have tended to narrow the differences in unemployment rates across industries and regions. Such tendencies can be observed at the end of the 1930s when with war approaching regional and industrial differences began to melt away as aggregate unemployment fell (Hatton, 1986, p. 75).

If labour mobility between regions, industries and occupations was low, then demand shocks or structural change would result in be higher and more persistent unemployment than otherwise. Between 1870 and 1914, the growth of the industrial cities of the north of England, the shipbuilding centres of the Northeast and Scotland, the coal-fields of South Wales and the commercial, financial and service industries of London attracted migrants from other urban areas and from the rural hinterland. Both internal migration and emigration were responsive to relative wage rates and, especially, to variations in unemployment (Southall, 1991; Boyer and Hatton, 1997). In the interwar period too, a substantial redistribution of the labour force took place. The share of the insured labour force in southern England and the Midlands rose from 46.8 percent in 1923 to 52.3 percent in 1938. Meanwhile the gap in unemployment rates was almost unchanged. Thus, although migration did respond to differentials in wage rates and unemployment it was not sufficient to even out the regional imbalance in unemployment rates.

It is far from clear whether labour mobility was lower in the interwar period than before 1914. In the late nineteenth century rural areas provided a reservoir of labour which drained more rapidly in booms and less rapidly in slumps, as to some extent did international migration. By the interwar period these sources of flexibility had diminished. But there still remains the question of why greater numbers did not move south during the interwar period. One argument is that the new jobs which were being created in light industries and the service sector did not recruit displaced workers from the staple industries but sought 'new' labour in the form of juveniles, women, or workers previously in non-industrial occupations (Heim, 1984). Another is that unemployment in the south was simply not low enough to make migration a risk worth taking. From 1928 an industrial transference scheme was operated by the Ministry of Labour to find vacancies in the south for the unemployed in the depressed areas and to help with removal expenses. With the intensification of unemployment

after 1929, the number of transferees declined and many returned home.³ The limited success of the scheme suggests that it was largely the poor job prospects, rather than unwillingness to move that limited geographical mobility.

Periodic downturns in the economy were met with different forms of adjustment. In coal mining much of the adjustment took the form of reducing the number of days the pits worked, sharing the burden across the workforce. In textiles too, short-time working or temporary layoffs were a common response to a downturn in activity before the First World War. From 1926 the Ministry of Labour distinguished three types of unemployed on the register: the wholly unemployed, the temporarily stopped, and casuals. The wholly unemployed were those with no job, who were looking for new employment. The temporarily stopped were those who had been laid off by their employers but with a definite promise of re-employment within six weeks. They accounted for almost a fifth of recorded unemployment between 1928 and 1938. The number of temporarily stopped tended to increase at the beginning of a downturn in economic activity but then decreased as a share of all unemployment when, as in the 1930s, the decline became more permanent. They were also concentrated in certain industries. Among men, in September 1929, over half the temporarily stopped were in mining, metals, engineering and textiles. Among women, nearly 80 percent were in textiles and clothing.

Casuals were those for whom normal employment was for a day or a few days at a time, interspersed with frequent days of unemployment. Unskilled labourers on the docks, in construction and in a variety of other trades were hired by the day from a crowd at the factory gates, each gaining a few days employment in any week. Before 1914 these formed a substantial core of workers in a state of what might be called rotating underemployment. As with the temporarily stopped, pre-War patterns of unemployment persisted into the interwar period (Whiteside and Gillespie, 1991). But from 1928 to 1938 casuals formed only 4.5 percent of insured unemployment and, like the temporarily stopped, they were overshadowed in terms of sheer numbers by the much larger volume of the wholly unemployed.

³ Over the period 1928-38 about 30 percent of transferees returned. It has been suggested that, although transferees were given preference for jobs at the receiving labour exchanges, partly for this reason, they faced a somewhat hostile social environment in the towns to which they moved (Scott, 2000, p. 347-9).

In the interwar period those who suffered the highest unemployment rates were the unskilled, whichever industry or region they belonged to. Among males in 1931 the unemployment rate for clerical workers, supervisors and foremen was 5.4 percent; for skilled and semiskilled manual workers it was 12 percent; and for unskilled manual workers 21.5 percent (Thomas, 1988, p. 123). But this was not new. Although there are no firm estimates of unemployment rates among the unskilled before the First World War, there was a growing recognition of the intermittent nature of unskilled work. And the rising rate of pauperism suggests that it was becoming more intense, especially from the early 1890s. In his pioneering investigations in East London Charles Booth (1892, p. 36) found that about 12 percent of the male labour force in the East End of London, typically the least skilled and least able, were chronically un- or under-employed.⁴

The problem of the so-called residuum of the chronically unemployed drew special attention in the years before 1914. It was often associated with the hiring practices of firms in trades with high volatility in demand for labour from day to day or month to month where no centralised employment exchanges existed. Lack of skills and low industrial quality was seen as part cause and part effect of the structure and dynamics of the labour market. As Beveridge remarked "casuals by necessity are always on the way to become casuals by inclination" (1930, p. 130-1). Furthermore unemployment and underemployment perpetuated itself from one generation to the next. Unskilled jobs were abundant for young workers but, on reaching the age of 18 or 21, opportunities for unskilled labour at adult wage rates diminished sharply. For children in poor households the immediate rewards of a job often outweighed the longer term rewards of acquiring skills which would ensure a lower probability of unemployment in the future (Stedman Jones, 1971, Ch 4). To some observers this was part of a cycle of urban degeneration in which poverty and unemployment in one generation led to among other things, poor physique, low expectations and lack of labour market quality in the next.

Contemporary observers, both before and after the First World War, repeatedly found that unemployment was associated with individual characteristics (see, for example, Rowntree and Lasker, 1911, Pilgrim Trust, 1938). Not only were the unemployed more often unskilled than the employed, they also comprised the

⁴ For a discussion of living standards and poverty, see Chapter X.

least motivated and the least physically fit and able part of the labour force. Workers over the age of 50, with declining health and efficiency were more often unemployed and for longer periods than younger workers. A significant proportion of these had once been in regular skilled or semi-skilled employment and had slipped into the ranks of the chronically underemployed. Nevertheless, very few could be described as unemployable.⁵ Rather they were among the last to be employed when demand for labour was increasing, and among the first to be released when it was declining.

The Unemployment Process

Unemployment rates alone can tell us little about the dynamics of unemployment flows. For example an annual unemployment rate of 10 percent could arise from ten workers in every hundred being jobless for the whole year, twenty being jobless for six months each, or sixty each with two months of unemployment. In the first case unemployment is a 'stagnant pool' in which the faces change only slowly. At the other extreme it is a 'rushing stream' with individuals flowing in and out rapidly. Which of these characterisations is correct matters both for assessing the hardships borne by the unemployed and for understanding the causes of their unemployment. Though it may seem odd at first sight, both of these characterisations were evident in some degree.

Before 1914 evidence from the unemployment books of trade unions indicates that between 20 and 40 percent of members became unemployed in an average year, roughly five to eight times the number who were unemployed at any one point in time (Beveridge, 1909, p. 71). From this, the average duration of an unemployment spell can be calculated. Between 1894 and 1903 average duration was 10.2 weeks for the London Compositors, 4.8 weeks for the Amalgamated Mill Sawyers, 8.4 weeks for the associated Blacksmiths and 6.7 weeks for the London Bookbinders. The vast majority of the unemployment spells in these and other unions were for less than three months. Nevertheless a small minority experienced repeated spells of unemployment. Thus, although long spells of continuous unemployment were rare, a disproportionate share of all unemployment was concentrated among a small minority of members.

From the early 1920s, the working of the labour exchanges and the unemployment insurance system provide us with a much richer statistical picture.

⁵ The Pilgrim Trust's survey of men who were long-term unemployed in the 1930s found that while 64 percent were fully employable, 30 percent were mentally or physically restricted, but only 6 percent were totally unemployable (1938, p. 432).

Even among the wholly unemployed (excluding the temporarily stopped and casuals), the vast majority did not stay on the unemployment register for long. Among those who regained employment it is estimated that a third were returning to their previous employer (even though they were not classified as temporarily stopped). Others accepted jobs that were notified to the exchanges. But about four times as many moved into jobs that had not been advertised at the exchanges. Taking these in to account it can be estimated that, during the 1930s, the average monthly flow into jobs was equivalent to nearly two fifths of the average number wholly unemployed on the register. This means that if all the unemployed had an equal chance of finding a vacancy, that chance would be two in five of finding a job within a month.

Given this rapid rate of outflow from unemployment one might expect that, at any given time, there must have been a large stock of vacancies waiting to be filled. This was not the case. A crude estimate for the 1920s (there are no data for the 1930s) indicates that there was on average one unfilled vacancy for every eight of the wholly unemployed. So why was the stock of unfilled vacancies so small compared with the monthly flow of workers into jobs? Evidently the new vacancies were taken up almost immediately; 95 percent were taken up within a week of being posted (Hatton, 1985). As a result the number outstanding at any moment in time was small. This implies that the unemployed queuing at the exchanges were eager to take up the jobs offered; they were not as choosy as some would suggest.

Who were those that were most fortunate in finding vacancies quickly? In 1929 the Ministry of Labour conducted a special analysis of the durations of unemployment among benefit claimants. We can use the results to estimate the chance of leaving the register at different unemployment durations, as shown in Figure 2. This relationship is best illustrated by the curve fitted to the scatter of points. It reveals a dramatic decline in the probability of leaving unemployment in the first month on the register, followed by a more gentle decline. Although the weekly probability of leaving the register was nearly a half during the first week of unemployment, after a year it falls to one in fifty. Even those who had been on the register for three months were likely to go on being unemployed for a long time. This pattern has led some to describe the interwar labour market as 'bifurcated' (Thomas, 1988). Those who were most likely to regain employment were those who had spent the least time unemployed. It is as if most of those joining the queue joined it at, or

near, the front. For those towards the back, the chance of re-employment became increasingly remote as their unemployment duration increased.⁶

With the sharp increase in layoffs in the early 1930s the chances of re-employment declined for all the unemployed. It was this that gave rise to what was perhaps the most sombre legacy of the depression: the host of the long-term unemployed that persisted into the late 1930s. The share of the wholly unemployed who had been unemployed for less than three months and for more than a year are shown in the first two columns of Table 2. In the worst years of the 1930s over two fifths of the unemployed had been on the register for less than three months. At the other extreme, the proportion of long term unemployed rose to over 20 percent and stayed there until 1938. Information on the numbers in different duration categories can be used to estimate the average length of a completed spell of unemployment. The third column of the Table shows that the average length of unemployment spells reached twenty weeks in 1932 before declining to thirteen or fourteen weeks in the late 1930s.

It is important to be aware of the difference between the duration of a typical spell of unemployment and the duration faced by the average worker on the unemployed register at any one time. Because of the rapid turnover of the short-term unemployed, most spells were short. But because of the sharply diminishing chances of re-employment illustrated in Figure 2 the typical worker observed on the register would be undergoing a much longer spell. Following Crafts (1987) column 4 of the Table shows the average uncompleted duration of those on the register. This was between ten and eleven months for most of the 1930s. Because the unemployed are observed, on average, half way through a spell of unemployment, their average completed durations would have been about twice as long. Hence, on a conservative estimate, the average unemployed worker in the 1930s was enduring a spell of unemployment that would last a year and nine months.

Even this figure is likely to underestimate the concentration of unemployment if repeated spells are taken into account. Among those observed as unemployed at a

⁶ There are two reasons why re-employment probabilities decline with the duration of unemployment. One is that individuals entering unemployment have different characteristics that affect their chances of re-employment. Those with the best chance leave the register quickly so that those remaining on the register for long periods are typically the ones with the lowest chances of exit. The other is that, for any given individual, the chance of re-employment declines with duration due to the atrophy of skills and/or motivation.

particular date, perhaps with a relatively short duration, some would have experienced a previous spell of unemployment in the recent past. Of a sample of wholly unemployed applicants for benefit in 1932, the average length of the current spell of unemployment, up to two years, was 23 weeks. But the average number of weeks spent unemployed over the preceding two years was 53 weeks. Thus the burden of unemployment fell very unevenly. Some of the unemployed experienced single spells of unemployment, others experienced repeated spells, while the least fortunate experienced long durations of continuous unemployment.

Unemployment and Insurance

The unemployment insurance system, introduced on a limited scale in 1911 and substantially expanded in 1920, marked a sharp break with the past. Before this, support for the unemployed was limited to benefit from trade unions, charity, or the Poor Law. As we have seen the expansion of unemployment insurance coincided with higher average unemployment in the years after 1920 as compared with before the First World War. On the one hand this might be seen as rather fortuitous, since it helped to avert even greater poverty and destitution that might otherwise have occurred among the families of the unemployed. But on the other hand it has been forcefully argued that generous unemployment benefits were the *cause* of persistently high unemployment. In their important article Benjamin and Kochin (1979) sought to overturn the previously accepted view that mass unemployment was largely the result of demand side failure. Instead, they argued that "the army of the unemployed standing watch at the publication of [Keynes'] *General Theory* was largely a volunteer army" (1979, p. 474). In this view, it was not that too few jobs were available but that too few workers were willing to accept offers of employment. The implication is that, with the exception of sharp cyclical downturns, there was relatively full employment for those who wanted to work, in spite of the high unemployment figures.

Benjamin and Kochin argued that the abnormally high levels of unemployment in the interwar period were largely the result of high rates of benefit provided by the unemployment insurance system (relative to prevailing wage rates), combined with the liberal eligibility conditions under which these benefits were administered. For such disincentive effects to occur benefits need not have been as high as wages, since the unemployed would have gained additional leisure from not

working. Benefits could be claimed for periods as short as one day provided that that day's unemployment could be linked to a spell of unemployment in the recent past.⁷ Once a claim to benefit had been established, benefit could be drawn almost indefinitely, although, from 1931, continuation after six months was contingent on a means test.⁸ Thus, according to this view, a significant proportion of the unemployed spent longer searching for new employment and were more choosy in accepting offers, or were content to live on benefits without the burden of having to work.

Benjamin and Kochin argued that during the interwar period "benefits were on a more generous scale than ever before or since" (1979, p. 442). Using the rate of benefit for an adult male claiming for a wife and two children, they estimated that the benefit to wage ratio averaged 0.49 over the period 1920-38 with a peak of 0.57 in 1936. But their use of a wage index that includes women and young workers exaggerates this ratio, as does the assumption that the typical adult male had three dependants. A more realistic figure for the average benefit to wage ratio in the 1930s would be around 0.4 (Table 3). Nevertheless, when examining benefit to wage ratios, averages can be misleading. The average ratio could be quite low, but if benefits were high relative to wages for a substantial minority, there could be a significant effect on unemployment in total. In the late 1930s, the Ministry of Labour conducted surveys of the unemployed to investigate precisely this issue. As Table 3 shows, among insurance benefit recipients, hardly any had benefits in excess of the wage in their last job. Only 2.0 percent of adult men and 4.4 percent of adult women had benefits higher than four fifths of their last wage. Among recipients of unemployment assistance (those who did not qualify for insurance benefits), few had benefits in

⁷ Normally there was a waiting period of six days between first registering as unemployed and receiving benefit. Any three days of unemployment within six working days could be counted as continuous unemployment. Under the 'continuity rule' spells of unemployment less than ten weeks apart could be connected together without having to serve further waiting days. It has sometimes been argued that these rules encouraged firms to engage in temporary layoffs, rotating their labour force so that the workers involved could maintain continuous entitlement to benefit on the days or weeks they were unemployed.

⁸ From 1921 onwards the system of unemployment benefit consisted of two distinct elements. Unemployment insurance benefit could be claimed as a right by those who could meet the qualifying conditions. For those who could not or who had exhausted their insurance benefit claims, support was provided under a supplementary system where there was generally a greater element of discretion. There was a sequence of these schemes, representing slightly different sets of rules, under the titles uncovenanted benefit, extended benefit transitional benefit, transitional payments, and from January 1935, unemployment assistance. Full details of the evolution of the insurance and supplementary systems can be found in Burns (1941).

excess of their last wage but a larger proportion had benefits in excess of four-fifths of it: 15 percent of men and 18 percent of women.

The evidence for benefit-induced unemployment rested principally on the results from an econometric equation estimated on annual observations from 1920 to 1938. From the results, Benjamin and Kochin calculated that, had the benefit to wage ratio remained at a relatively low level (specifically, 0.27), then the unemployment rate among insured workers would have averaged between 9.6 and 6.9 percent between 1921 and 1938 rather than the 14.2 percent actually observed. But the basis of this calculation has been severely criticised on two grounds. First, the empirical estimate of the effect of the benefit to wage ratio on unemployment is not robust to small changes in specification (Ormerod and Worswick, 1982). Second, the model itself does not provide an appropriate framework with which to measure the effect of benefits on unemployment (Broadberry, 1983; Hatton, 1983).

Benjamin and Kochin viewed unemployment in the interwar period as the result of individual behaviour rather than of collective action. Thus individuals or groups who would have received high benefits if unemployed relative to their wages if employed, are more likely to be observed as unemployed. But hypotheses about the *incidence* of unemployment across different individuals can only be tested with individual level data. And simply knowing the benefit to wage ratios of different individuals or groups is not enough. There are a variety of other personal characteristics and circumstances, in addition to benefits, that make some individuals more likely to become unemployed. In a pioneering study Eichengreen (1986) examined data for 3,000 adult males from the *New Survey of London Life and Labour*, a survey of working class households in London in 1929-31. He found that the effect of benefits on the probability of unemployment was modest overall and that household heads were less susceptible to benefit-induced unemployment than were non-heads.

The development of a larger and richer set of data from the same source makes it possible to conduct a fuller analysis than was feasible with Eichengreen's 10 percent sample (see Hatton and Bailey, 2002). For adult males aged 25-64, econometric estimates on this new data indicate that the effects of the benefit to wage ratio on the probability of unemployment are close to zero. But it is important also to allow for the effects of the individual's skill-level and industry on the probability of being

unemployed. The unskilled were significantly more likely to be unemployed than skilled or semi-skilled workers--an effect that could otherwise be falsely attributed to the benefit to wage ratio. (Since the unskilled had lower wages on average, they also had higher benefit to wage ratios.) Among men aged 25 to 64 (mainly household heads) a small positive effect of the benefit to wage ratio disappears once these characteristics are taken into account.

Two groups not previously examined are young workers and females. Benefit rates increased in a number of steps between first entry into insurance at the age of 16 and receiving the full adult rate at the age of 21. Benjamin and Kochin suggested that this could largely explain why unemployment rates gradually increased with age among these younger workers. But wages also increased with age and so, for young males, there was very little increase in the benefit to wage ratio between the ages of 17 and 23. Estimates using the NSLLL confirm that the benefit to wage ratio does not explain why the incidence of unemployment increased with age. An alternative is the argument mentioned earlier that young men often entered dead end jobs, finding themselves laid off and without skills by the age of 21. If so, then the effect of being unskilled on the incidence of unemployment should have increased with age. Surprisingly, no such effect could be found: unemployment incidence did increase sharply with age but this does not seem to be due to the changing effects of skill.

Among young women, the benefit to wage ratio did increase with age but unemployment incidence did not rise appreciably. For women over the age of 24 the average benefit to wage ratio was higher than for adult males, but their unemployment rates were only half those of males. In neither case could significant benefit effects be found. However, the Anomalies Regulations introduced in October 1931 tightened the conditions for receiving benefit, particularly for married women. As a result the unemployment rate among women fell relative to that among men (Beveridge 1936, p. 359). But this was because fewer unemployed women bothered to register at the exchanges rather than that they had found jobs.

Overall, studies of the most detailed evidence available suggest that the *direct* effects of unemployment benefits on unemployment were minimal. They are also consistent with the qualitative findings of contemporary observers, one of whom commented that "The behaviour of the unemployed in searching for employment gives no evidence that the possibility of drawing Unemployment Insurance benefit

has retarded the efforts of the unemployed to get back to work. It has removed the cutting edge of the desperation that would otherwise attend that search" (Bakke, 1933, p. 143). But it is important to stress that benefits could still have generated unemployment more *indirectly*. If, for example, unemployment benefit levels were as reference point in wage negotiations, then the effect could have arisen through the collective action of unions and employers rather than as a result of the direct incentives facing individual workers.

Demand, Supply and Real Wages in the Interwar Period

The high unemployment of the interwar period has often been associated with aggregate demand shocks, leading, as Beveridge put it, to "persistent weakness of demand for labour" (1944, p. 89). As Figure 1 implies, the shocks to the labour market were much greater in the interwar period than in the period before 1914. In the prewar period there were recurrent cyclical downturns such as the deep slump of the late 1870s and the sharp but short downturn of 1907-9 both of which saw the unemployment rise to 8 percent. In the former case there were contractions in domestic and foreign demand while the latter was associated with financial crisis abroad. But unemployment soon fell again, partly due to the revival of demand and partly due to adjustments in the labour market itself, which helped push unemployment back down towards its long run average.

By contrast, demand shocks were much larger in the interwar period, and in their wake the unemployment rate soared to new heights. Within the space of a decade there were three major demand shocks. The postwar boom, driven by pent-up demand for investment and consumer goods, collapsed dramatically at the end of 1920. The return to the gold standard (both the anticipated and the actual increase in the sterling exchange rate) continued to hold back demand for the rest of the 1920s. And then the great depression, initiated by a fall in exports as world trade contracted, sent unemployment up to two-digit levels. Thus the story of persistently high interwar unemployment could be told in terms of a series of large and unanticipated negative demand shocks followed by incomplete recovery. But the fact that prices and wages fell only slowly after 1922 suggests that the equilibrium level of unemployment had also increased. Otherwise one might have expected continued deflation with wages falling faster than prices until the real wage had declined sufficiently to cause

employment to recover and unemployment to rebound to levels approaching those typical of the pre-War period.

Lack of downward flexibility in real wages is seen by many as the heart of the interwar unemployment problem, and the wider debate about the relationship between real wages and employment stems from that time. The questions are whether fluctuations in employment are determined by real wages and, in turn, what determines the real wage. Keynes (1936, p. 17) predicted a clear inverse relationship between the real wage and employment based on marginal productivity theory. But further investigation during the late 1930s cast doubt on this as an empirical proposition (Dunlop, 1938; Keynes, 1939). The course of the real wage (the nominal wage divided by the average price of output) and employment is shown for the whole economy and for the manufacturing sector in Figure 3. On trend, both the real wage and employment grew strongly over the interwar period. But even relative to trend, the sharp fall in employment in 1929-31 and the subsequent recovery has little parallel in real wage movements at the economy-wide level. For the manufacturing sector, however, there is some evidence of inverse movements in the early 1930s and especially towards the end of the decade.

In order to identify the downward sloping demand curve relating employment to the real wage, other effects on employment must also be taken into account. There have been a series of econometric studies, using different specifications and different types of data, that have examined the employment demand relationship. Broadly speaking, three different views have emerged. One is that an inverse relationship between real wages and employment relationship can be identified, at least for manufacturing, in the absence of variables representing demand shocks (Beenstock and Warburton, 1991). A second view is that aggregate demand, as represented by its underlying determinants such as the money supply and world trade, had strong and permanent effects on employment. In the presence of these variables, a downward sloping real wage-employment relationship can be observed in aggregate (Dimsdale 1984) but not consistently across individual industries (Turner and Bowden, 1997). A third view emerging chiefly from studies of quarterly (rather than annual) data suggests that although short run demand effects can be identified, their effects are small and they diminish, or even disappear in the long run (Hatton, 1988; Dimsdale, Nickell and Horsewood, 1989).

The real wage elasticities that have been derived are sensitive to the specification used and they generally fall in the range between zero and minus one. A number of them are clustered in the middle of this range, suggesting a 'consensus' estimate of about -0.5 . It is tempting to conclude from this that, had the real wage been set ten percent lower, then most of the abnormally high unemployment of the interwar period could have been eliminated. Indeed, some have taken the view that high real wages were *the* major cause of unemployment, even during the depression of the 1930s. But the real wage is itself the outcome of economic forces and cannot therefore be treated as a truly independent cause of high unemployment.

To understand real wage movements it is useful to use the 'competing claims' framework laid out by Layard, Nickell and Jackman (1991), which has been widely used in the analysis of postwar unemployment. The key relationships are depicted in Figure 4. The upward sloping line reflects the behaviour of imperfectly competitive firms in setting prices as a markup on wage costs. Its position represents the 'feasible' real wage: the real wage that is consistent with the profit-maximising behaviour of firms. This could shift upwards in the long run with a rise in productivity or a fall in raw material costs. In the short-run it could increase if prices turned out to be lower than expected. The downward sloping line represents the 'target' wage that emerges from collective bargaining. This reflects conditions in the labour market: higher levels of employment lead to higher 'target' real wages. The target real wage schedule could shift upwards as a result of an increase in labour's bargaining power in wage negotiations, or of higher wage aspirations. These aspirations will in turn be affected by alternative incomes (such as unemployment benefits), and by the degree of competition and mobility in the labour market.

Equilibrium in the labour market is the intersection between the feasible wage schedule and the target wage schedule. At this point the two are reconciled and there is no unexpected inflation or deflation. The level of employment that emerges gives the Non-Accelerating Inflation Rate of Unemployment (NAIRU). A fall in demand for labour pushes employment below the NAIRU; prices and wages fall until the original equilibrium is restored. In this framework demand shocks, even if they are permanent, will depress employment for a while but their long run effects on the level of unemployment will be temporary and the original real wage will be restored. During the period of adjustment, the real wage could either rise (if wages are less

responsive to shocks than are prices) or fall (if prices are more sticky than wages). By contrast, a permanent upward shift in the target wage schedule would lead to a permanent rise in the NAIRU. The long run result would be a higher real wage but lower employment.

This framework can be used to explain the course of real wages during the 1930s. As Figure 5 shows, both the nominal wage and the price level declined from 1929 to the mid-1930s and then recovered. Between 1929 and 1931 the demand shocks arising from the worldwide slump in world trade and the fall in world prices caused employment to contract. Downward pressure on the real wage due to the fall in employment was more than offset by increased labour market turbulence and especially by the sharp fall in the prices of basic commodities (Dimsdale, Nickell and Horsewood, 1989, p. 288). This is illustrated in Figure 4 by the move from point A to point B. Over the longer term the feasible real wage shifted upwards as productivity increased, but there was also an upward shift in the target real wage. The situation in the mid-1930s is represented by the new equilibrium, with a higher real wage and slightly higher unemployment, at point C in Figure 4.

A number of factors have been identified that determined wage pressure over the longer term and that, by shifting up the target wage relative to the feasible wage, kept the NAIRU in the interwar period above pre-1914 levels. These include unemployment benefits, which are seen here as influencing unemployment indirectly by setting a floor to wage bargaining, rather than directly through individual work incentives. They also include trade union density as a proxy for labour's bargaining strength in wage negotiations (with higher unionism raising the target wage). In addition, the marginalisation of some groups of workers weakened labour market competition so that wage pressure decreased by less than the high unemployment levels would suggest. 'Mismatch' between the characteristics demanded by new jobs and those possessed by the existing labour force, marginalising those with obsolete skills, is one example (Dimsdale, Nickell and Horsewood, 1989). And, as we have seen, the long-term unemployed, drifting to back of the queue, were unable to compete effectively for jobs. The evidence suggests that they exerted very little downward pressure on wage rates (Crafts 1989) and that this factor helps to explain the *persistence* of high unemployment in the 1930s, as illustrated in Figure 4.

Estimates of the relative magnitude of these effects on the unemployment percentage vary, but most of them are based on analysing data from the early 1920s to the late 1930s--a period when variations in the underlying NAIRU were relatively small. The years between 1918 and 1921 are usually excluded from the analysis and they are very different from the rest of the period. Prices and wages first rose dramatically in the aftermath of the War and then spiralled downwards until 1922. As we have seen, unemployment was very low until 1920 and then it increased sharply, never recovering its former level until the Second World War. In part this was due to severe demand shocks, first positive and then negative, which far exceeded the contractionary impulse between 1929-31. Unemployment was clearly below the NAIRU in 1919-20 and it was above the NAIRU by 1921. But the NAIRU itself seems to have increased sharply during these crucial years--perhaps by about 4 percentage points (see Table 4 below).

This rise in the NAIRU could have been accounted for, at least in part, by the sharp rise in unemployment benefit rates in 1920, associated with the dramatic extension in the share of the labour force covered by unemployment insurance. Perhaps more important was the sharp fall in average weekly hours of work of about 13 percent in the first half of 1919 (Dowie, 1975), which was not accompanied by a proportionate reductions in the weekly real wage. As a result average output per worker fell in proportion to the cut in hours and the feasible wage fell relative to the target wage, leading to a sharp increase in the NAIRU (Broadberry, 1986). This would be enough to account for the rise in the NAIRU and there is evidence that unemployment was strongly correlated with the divergence between output per worker and the real wage (Hatton, 2002). The results suggest that the productivity shock raised unemployment--by as much as 4 percentage points in 1922—but that the effect had largely disappeared by the end of the 1920s as the real wage gradually adjusted.⁹

By contrast with these effects, trade union membership *fell* sharply, by 1.7 million between 1920 and 1922, with an effect that should, on the face of it, have been lowering the target real wage. Nevertheless, it is often suggested that the hand of labour had been decisively strengthened during and immediately after the War--a

⁹ It is interesting to note, however, that the somewhat smaller reduction in hours in the early 1870s was also followed by a fairly deep recession.

view that was shared by many contemporary observers. Typical of these was the economist Henry Clay who argued in 1929 that:

Before the war the policy of maintaining wage rates in spite of unemployment could be practised only by the organised minority of wage-earners. The majority were unable to resist reductions that were needed to maintain employment; and any workers excluded by the policy of the stronger unions could compete for employment in industries in which wages were not held above absorption level. Today there are no unorganised industries in this sense; wages are held up, either by trade-union or Government support, generally, and workers excluded by a *general* holding up of wage rates above absorption level have no resort except unemployment relief (1929, p. 332).

In this view it was the changing balance of power in the labour market and in the structure of organisation within the labour market, buttressed by government intervention, that gave rise to high unemployment.

Institutions and Wage Setting

It is widely believed that the outcome of the wage setting process is influenced by the structure of collective bargaining, which in turn, determines the position of the target real wage schedule in Figure 4. The most influential accounts stress two features: the degree of centralisation in the wage bargaining structure and/or coordination across sectors in wage bargaining, and the relative bargaining strengths of workers and employers (Calmfors and Driffill, 1988; Soskice, 1991). Systems of industrial relations that are either very decentralised or very centralised lead to target wage schedules that are located towards the left in Figure 4 while intermediate structures produce a target wage schedule displaced to the right. Thus there is a hump shaped relationship between the NAIRU and the degree of centralisation. When wages are set at the level of the individual firm, wage bargainers take into account the effect on employment of the relatively high elasticity of demand faced by the individual firm in an industry. The effect of wage increases on job losses tends to moderate wage claims. When wage setting is co-ordinated through an economy-wide 'encompassing' institutional structure a wage increase affects all firms relatively equally. But centralised (or co-ordinated) wage agreements would more likely take into account the negative economy-wide effects on employment of the implied increase in the aggregate price level. In the intermediate case, where bargaining takes place at the

industry level, negative direct employment effects are smaller and the effects on the price level are small for each industry but large for the economy as a whole. Thus the combination of market power and lack of co-ordination increases the NAIRU. These stylised cases provide useful benchmarks for the assessment of bargaining structures between 1870 and 1939.

In 1850 trade unionists numbered about a quarter of a million, rising to three quarters of a million by 1888 and two and a half million by 1913 by which time they comprised 23 percent of the labour force. The phase of 'new unionism' in 1889-92 saw a permanent extension of organisation in the docks and gasworks, and the birth of several unions of unskilled workers--a pattern that was further extended in the years before 1914. But, even so, union strength remained concentrated in relatively few sectors. In 1910 only in mining were a majority of workers union members though in others such as shipbuilding, cotton textiles, printing and among government employees union density exceeded a third (Clegg, et. al., 1964, p. 468). Sharp bursts in the growth of organisation in the early 1870s, 1889-92 and 1910-13 are often seen as marking changes in labour's bargaining strength, and this brought about a countervailing response from employers, and promoted institutional change in the wage setting process (Clegg, et. al., 1964, Ch. 2). By 1914 there were 1500 employers associations, varying greatly in size, strength and coherence. These can be seen in part as a response to the extension of union influence. The rising temperature of industrial relations is reflected in Taff Vale case of 1900 and the Osborne judgement of 1909 both of which undermined the legal status of trade unions, and both of which were subsequently reversed (Pelling, 1987, Ch. 7)¹⁰

Before 1890 collective bargaining was largely confined to craft occupations in the major export industries and in industries such as building and printing and it was organised on a local or regional basis. But the scope and influence of collective agreements grew. By 1910 there were 1696 formal agreements covering an estimated 2.4 million workers, and the number whose wages were effectively set by these agreements was "very materially in excess" of this (Board of Trade, 1910). With the

¹⁰ In the legal case concerning a strike and picketing by the Amalgamated Society of Railway Servants at the Taff Vale Railway, the House of Lords determined that a trade union was liable for damages inflicted by the actions of its officials. This was reversed by the Trade Disputes Act of 1906. In the Osborne judgment the House of Lords held that union funds could not be used for contributions to political parties. This was modified by the Trade union Act of 1913 which provided that individual members could opt out of a political levy.

official encouragement of the Conciliation Act of 1896, the number of industrial conciliation boards grew from 64 in 1894 to 162 in 1905 and 325 by 1913 (Pelling, 1987, p. 142), and the scope of individual boards also expanded. According to one historian "whereas in 1890 few joint negotiating agreements covered employment beyond a city and its environs, by 1914 numerous trades negotiated upon a county or regional basis and some boards governed an entire industry" (Hunt, 1981, p. 327). But even by 1914 the national agreements were largely procedural in nature and only in a few industries were wages set at the national level.

Before 1914 market forces were often used as criteria in collective bargaining. The boards of conciliation and arbitration that emerged in the 1860s and 1870s often referred to the current 'state of the trade' when setting wage rates (Porter, 1970). In those industries with relatively homogenous products, the best available index of prosperity was the price of key products and "it was a short step from this to save argument by agreeing to a scale by which wages should change with prices" (Hicks, 1930, p. 37; see also Treble, 1987). Sliding scales were found predominantly in the iron and steel industry and in coal mining, but in other major industries such as textiles and engineering the alternative machinery produced rather similar results. In engineering for example "cyclical fluctuations provided the context for numerous struggles, yet these were played out according to mutually accepted ground rules like the 'state of trade' or 'what the industry could afford'" (Burgess, 1975 p. 4). The repudiation of sliding scale agreements by the miners at the turn of the century is often associated with growing resistance to the idea that wage rates should be closely tied to demand conditions and with the emerging claim that they should be set more by reference to living standards.

The First World War saw the transformation of the system of collective bargaining. In the effort to maintain production and minimise disputes, the regulation of wages by War Ministries and tribunals spread to virtually every section of industry (Wrigley, 1987). In the face of economy-wide excess demand for labour wage rates were increasingly set on the grounds of fairness (resulting in a narrowing of skill differentials) and with reference to changes in the cost of living. Wartime government intervention was a major factor accelerating the trend towards industry-wide collective bargaining and under the Committee on Production national agreements became standard. It was also fostered by the Whitley Committee, which was set up in

1917 to consider the appropriate framework for collective bargaining after the War. The Committee recommended a three-tier system of Joint Industrial Councils, with the industry-level national councils being the most important (Charles 1973, Ch. 5). In industries with little formal organisation, Trade Boards were established under the 1918 Act expressly to promote collective bargaining between the representatives of employers and workers (in contrast to the 1909 Act, which was aimed specifically at eliminating exploitation of workers in the so-called sweated trades, see Hatton, 1997).

Although the conclusion of the War saw a return to voluntarism in most areas of wage setting, it left behind a system of collective bargaining that had been transformed and vastly extended. By 1921, 74 Whitley Councils had been established and although a number subsequently went out of existence, these were cases where there was a reversion to pre-existing machinery for collective bargaining. Union density climbed to a peak of 45 percent in 1920, subsequently declining to below 30 percent after 1925. But the scope of collective bargaining, underpinned by government intervention, had permanently expanded. It included statutory wage regulation in sectors covered by the Trade Boards, and agriculture (under the Agricultural Wages (Regulation) Act of 1924). Estimates of the share of employees covered by industry-level wage agreements vary, but recent estimates suggest that it reached 60 percent in the mid-1920s, before declining to around 40 percent in the mid-1930s (Milner, 1995, p. 82).

These centralising forces underpinned the establishment of national level bargaining over wages in a wide range of industries. In terms of the three-part classification set out above the British labour market can be seen as having evolved from local-level to industry-level bargaining but not to a fully centralised system. Wage rates were set industry by industry or trade by trade rather than co-ordinated across the entire labour market. In this respect it is worth noting Keynes' comment a year before the general strike of 1926.

Our export industries are suffering because they are the *first* to be asked to accept the 10 percent [wage] reduction. If *every one* was accepting a similar reduction at the same time, the cost of living would fall, so that the lower money wage would represent nearly the same money wage as before But, in fact, there is no machinery for effecting a simultaneous reduction"(1970, p. 29).

Attempts to foster more co-operation and co-ordination in wage setting largely failed during the interwar period. Attempts at co-operation such as the National Industrial

Conference in the early 1920s and the Mond-Turner talks of 1927-8 collapsed due to the diversity of aims and philosophies and the mutual suspicion among the participants, as well as the unwillingness of the government to provide co-ordinating intervention (Lowe, 1987). It was not until after 1945 that a greater degree of co-ordination was achieved.

Unemployment in the long run

In evaluating the causes of unemployment it is worth taking a long-term perspective and, in particular, one that includes the early postwar period. The top panel of Table 4 shows average unemployment rates in four periods, each of twenty years or so, and the variation within each period. While the average unemployment rate rose sharply between the pre-1914 period and the interwar years, it fell even more dramatically between the interwar and the early postwar periods. These large differences between periods provide a sharper focus that should help to discriminate between 'grand' theories of the long-run causes of unemployment. While the ups and downs in the unemployment rate *within* each period reflect a variety of short-term shocks, mainly on the demand side, the long-term averages more closely reflect the NAIRU for each period. The NAIRU is the unemployment rate that, in the absence of short-term shocks, is consistent with a constant rate of inflation. As Table 3 illustrates, prices and wage rates drifted down in the two decades after the early 1870s and again in the interwar period while they rose gradually in the other eras. But there was no progressive acceleration or deceleration in inflation within each period and hence average unemployment rates should reflect the underlying NAIRU for each period.

The second panel of Table 4 presents period averages of variables that might be expected to influence the NAIRU. The slight rise in average unemployment from the 1890s could, perhaps be associated with the increasing strength of labour organisations. And there seem to be a number of potential explanations for the persistently higher unemployment of the interwar period. As we have seen, the increase in union density, the widening scope of collective agreements, and the shift to industry level bargaining underpinned by the advent of unemployment insurance, were decisive changes from the pre-War era. There is some evidence as well that structural turbulence (year-to year structural change) was greater during the interwar period than before—offering some support for the structural or mismatch view of

unemployment. The rise in direct taxes could also have added to wage pressure in the interwar period although the improvement in the terms of trade is likely to have worked in the opposite direction.

By contrast, there seem to be too few explanations to account for the even larger drop in the NAIRU between the interwar and the early postwar periods. Although there was some decline in structural turbulence, there is nothing in the other indicators to suggest a dramatic fall in the NAIRU across the Second World War. For example, the benefit to wage ratio was only marginally lower after 1945 than it was during the interwar period. It follows that this factor alone cannot account for both the high unemployment of the interwar years, as compared to before 1914, *and* the low unemployment of the early postwar period (Metcalf, Nickell and Floros, 1982). Similarly, the terms of trade worsened slightly and the tax take increased. More important, union density in the early postwar period was 62 percent higher than it was during the interwar period and more than three times the average for 1892-1913. On the basis of these determinants of the target wage, it is difficult to see why unemployment was so much lower after 1945 than it was in the interwar period.

This puzzle could be resolved in two possible ways. One would be to say that there is something missing--something that overwhelmed the other influences on the NAIRU. The other is to say that the forces which kept unemployment at a historically high level during the interwar period had much smaller effects after the Second World War. One possibility is that the institutional structure of wage bargaining became more centralised and this made for greater co-ordination in wage setting, taking greater account of the economy-wide effects of wage bargains, shifting the target wage schedule to the left, and lowering the NAIRU. Some observers see the 'postwar settlement', which emerged after 1945, but broke down from the late 1960s, as the key to twenty years of low unemployment. The postwar settlement is characterised as an implicit agreement or consensus between the government, organised employers and unions. The government guaranteed full employment, and employers acquiesced to restrictive practises and shop floor control of production processes by unions, in exchange for wage restraint on the part of workers (see Eichengreen, 1996).

Union leaders gained influence in government during and after the War, new, more encompassing institutions were set up, and a series of incomes policies were introduced (Flanagan et. al, 1983; Jones, 1987). Yet these are often seen as relatively

ineffective because the institutional structure was inadequate to make them stick for more than very short periods. As Table 4 shows, as compared to the interwar period, the coverage of national agreements (including statutory agreements such as those under the Wage Councils) increased even more in absolute terms than did union membership. These developments might be viewed as offering greater scope for economy-wide wage moderation. But the structure collective bargaining remained chiefly at the industry-level and to the extent that these national wage bargains reflected the postwar consensus they were increasingly undermined by a second tier of bargaining at local or plant level. Thus it is hard to believe that changes in the structure of wage setting alone were sufficient to deliver two decades of spectacularly low unemployment.

In a rare comparison between the interwar and the early postwar period, Broadberry (1994) found that the effect on the target wage of factors such as union density and unemployment benefits had, if anything, increased. On the other hand the entire target wage schedule seems to have shifted to the left as compared with the interwar period. While this could have been the effect of the postwar settlement, it suggests that other influences, omitted so far, mattered too. One of these is the level and growth rate of labour productivity. As the third panel of Table 4 shows, labour productivity was below its trend in the interwar period and above its trend during the postwar period, and its growth rate also increased sharply across the Second World War. As we have seen, productivity fell sharply after the First World War and it subsequently grew at a rate close to the long-term trend. So having shifted down relative to the target wage, the feasible wage grew modestly, returning only slowly to its long-term growth path. By contrast, productivity fell less across the Second World War and it subsequently grew faster than ever before.

The effect of productivity on unemployment is controversial but a recent analysis of long run experience from 1870 right up to the present suggests that the NAIRU is inversely related to productivity growth (Hatton, 2002). Because wage setting follows productivity with a lag, faster productivity growth raises the *level* of productivity relative to the real wage causing a fall in the NAIRU. This effect seems to have been more powerful after 1945 than it was in earlier eras, partly as a result of greater inertia in wage setting. The NAIRU estimated using this framework is shown in the penultimate row of Table 4. For each period it is fairly close to the average

unemployment rate. The final row gives the NAIRU that would have emerged in different periods if productivity growth had been constant at 1.3 percent per annum. Slower productivity growth after the Second World War would have led to a NAIRU of 5.7 percent rather than 3.0 percent, cutting the gap between the interwar and postwar periods by nearly half.

Although the exact magnitudes are still uncertain it appears that a consistent story is emerging that can explain long run shifts in average unemployment. It goes as follows. Before the First World War institutional forces in the labour market were weak and, in response to demand shocks, unemployment reverted fairly quickly to the long run equilibrium level. But as a result of the growing strength of labour organisations after 1890, and a slowdown in productivity from the turn of the century, there was a modest increase in the NAIRU towards the end of the period. In the interwar period an increase in structural turbulence, the growth of union power, changes in the structure of collective bargaining, and the advent of unemployment insurance all served to raise wage pressure, increasing the NAIRU and leading to much higher average unemployment rates than before. Together, these forces more than offset the effects of higher productivity growth and improving terms of trade. In the post-1945 period the greater centralisation and cooperation in collective bargaining that was engendered by the postwar settlement introduced greater inertia in wage setting. The lower unemployment that resulted was underpinned by a fall in structural turbulence and, above all by faster productivity growth than ever before.

Moving closer to the present, it is worth noting that in the early 1970s these conditions were sharply reversed: the OPEC oil shocks raised industrial turbulence, productivity growth slowed down, and industrial unrest increased as the postwar settlement fell apart. As a result of these developments (among others) the NAIRU increased sharply between the early 1970s and the early 1980s. Under the Thatcher reforms, union power was weakened, unemployment benefit conditions were tightened, and the benefit to wage ratio fell. In addition there was some revival in productivity growth, which taken together with the labour market reforms, helps to account for the fall in the NAIRU during the 1990s.

References

- Bain, G. S. and Price, R. 1980. *Profiles of Union Growth*. Oxford.
- Bakke, E. Wight. 1933. *The unemployed man*. New Haven, CT.
- Beenstock, M and Warburton, P. 1991. The market for labor interwar Britain. *Explorations in Economic History* 28: 287-308.
- Benjamin, D. K. and Kochin, L. A. 1979. Searching for an explanation of unemployment in interwar Britain. *Journal of Political Economy* 87: 441-478.
- Beveridge, W. H. 1909. *Unemployment: A Problem of Industry*.
- Beveridge, W. H. 1936. An analysis of unemployment (part I). *Economica* 3: 357-386.
- Beveridge, W. H. 1944. *Full Employment in a Free Society*.
- Board of Trade. 1910. *Report on Collective Agreements between Employers and Workpeople in the United Kingdom* Cd 5366.
- Booth, A. E. and Glynn, S. 1975. Unemployment in the interwar period: a multiple problem. *Journal of Contemporary History* 10: 611-37.
- Booth, C. 1892. *Life and Labour of the People in London*. Vol. 1.
- Boyer, G. R. and Hatton, T. J. 1997. Migration and labour market integration in late nineteenth-century England and Wales. *Economic History Review* 50: 697-743.
- Boyer, G. R. and Hatton, T. J. 2002. New estimates of British unemployment, 1870-1913. *Journal of Economic History* (forthcoming).
- Broadberry, S. N. 1983. Unemployment in interwar Britain: a disequilibrium approach. *Oxford Economic Papers* 35: 463-485.
- Broadberry, S. N. 1986 Aggregate supply in interwar Britain. *Economic Journal* 96: 467-481.
- Broadberry, S. N. 1990. The emergence of mass unemployment: explaining macroeconomic trends in Britain during the trans-World War I period. *Economic History Review* 43: 272-82.
- Broadberry, S. N. 1994. Why was unemployment in postwar Britain so low? *Bulletin of Economic Research* 46: 241-261.
- Brown, K. D. 1971. *Labour and Unemployment, 1900-1914*. Newton Abbot.
- Burgess, K. 1975. *The Origins of British Industrial Relations*.
- Burns, E. M. 1941. *British Unemployment Programs, 1920-1938*. Washington D. C.
- Calmfors, L and Driffill J. 1988. Bargaining structure, corporatism and macroeconomic performance. *Economic Policy* 6: 13-61.
- Charles, R. 1973. *The Development of Industrial Relations in Britain, 1911-1939*.
- Clay, H. 1929. The public regulation of wages in Great Britain. *Economic Journal* 39: 323-343.
- Crafts, N. F. R. 1987. Long-term unemployment in Britain in the 1930s. *Economic History Review* 40: 85-101.
- Crafts, N. F. R. 1989. Long-term unemployment and the wage equation in Britain 1925-1939. *Economica* 56: 247-54
- Clegg, H. A., Fox, A and Thompson, A. F. (1964), *A History of British Trade Unions since 1889*, Vol. 1.
- Dimsdale, N. H. 1984. Employment and real wages in the interwar period. *National Institute Economic Review* 110: 94-102.
- Dimsdale, N. H., Nickell, S. J. and Horsewood, N. 1989. Wages and unemployment in Britain during the 1930s. *Economic Journal* 99: 271-292.
- Dowie, J. R. 1975. 1919-20 is in need of attention. *Economic History Review* 28: 429-

- Dunlop, J. T. 1938. The movement of real and money wage rates. *Economic Journal* 48: 413-34.
- Eichengreen, B. J. 1986. Unemployment in interwar Britain: dole or doldrums? *Oxford Economic Papers* 39: 597-623.
- Eichengreen, B. J. 1996. Institutions and economic growth: Europe after World War II. In N. F. R. Crafts and G. Toniolo (eds.) *Economic Growth in Europe after 1945*. Cambridge.
- Feinstein, C. H. 1972. *National Income, Expenditure and Output of the United Kingdom, 1855-1965*. Cambridge.
- Feinstein, C. H. 1995. Changes in nominal wages, the cost of living and real wages in the United Kingdom over the two centuries, 1780-1990. In P. Scholliers and V. Zamagni (eds.) *Labour's Reward*. Aldershot.
- Feinstein, C. H., Matthews, R. C. O. and Odling-Smee, J. C. 1982. *British Economic Growth, 1856-1973*. Cambridge.
- Flanagan, R. J., Soskice, D. W. and Ulman, L. 1983 *Unionism, Economic Stability and Incomes Policies: The European Experience*. Washington D. C.
- Garside, W. R. 1979. *The Measurement of Unemployment: Methods and Sources, 1850-1979*. Oxford.
- Harris, J. 1972. *Unemployment and Politics: A Study of English Social Policy*. Oxford.
- Hatton, T. J. 1983. Unemployment benefits and the macroeconomics of the interwar labour market: a further analysis. *Oxford Economic Papers* 35: 486-505
- Hatton, T. J. 1985. The British labour market in the 1930s: a test of the search-turnover approach. *Explorations in Economic History* 22: 257-270.
- Hatton, T. J. 1986. Structural aspects of unemployment in Britain between the world wars. *Research in Economic History* 10: 55-92.
- Hatton, T. J. 1988. A quarterly model of the labour market in interwar Britain. *Oxford Bulletin of Economics and Statistics* 50: 1-26.
- Hatton, T. J. 1997. Trade Boards and minimum wages, 1909-39. *Economic Affairs* 17: 22-28.
- Hatton, T. J. 2002. Can productivity growth explain the NAIRU? Centre for Economic Policy Research Discussion Paper No. ???
- Hatton, T. J. and Bailey, R. E. 2002. Unemployment incidence in interwar London. *Economica* (forthcoming).
- Heim, C. E. 1984. Structural transformation and the demand for new labour in advanced economies: interwar Britain. *Journal of Economic History* 44: 208-27.
- Hicks, J. R. 1930. An early history of industrial conciliation in England. *Economica* 10: 25-39.
- Hunt, E. H. 1981. *British Labour History, 1815-1914*.
- Jones, R. 1987. *Wages and Employment Policy, 1936-1985*.
- Keynes, J. M. 1931. *Essays in Persuasion*.
- Keynes, J. M. 1936. *The General Theory of Employment, Interest and Money*.
- Keynes, J. M. 1939. The relative movements of real wages and output. *Economic Journal* 49: 34-51.
- Layard P. R. G., Nickell, S. J., and Jackman, R 1991. *Unemployment, Macroeconomic Performance and the Labour Market*. Oxford.
- Lowe, R. 1987. The government and industrial relations. In C. Wrigley (ed.) *A*

- History of British Industrial Relations*, Vol. 2. Brighton.
- Metcalf, D., Nickell, S. J. and Floros, N. 1982. Still searching for an explanation of unemployment in interwar Britain. *Journal of Political Economy* 90: 368-99.
- Milner, S. 1995. The coverage of collective pay-setting institutions in Britain, 1895-1990. *British Journal of Industrial Relations* 33: 69-91
- Ormerod, P. A. and Worswick, G. D. N. 1982. Unemployment in interwar Britain. *Journal of Political Economy* 90: 400-9.
- Pelling, H. 1987. *A History of British Trade Unionism* (4th ed.).
- Pilgrim Trust. 1938. *Men Without Work: A Report Made to the Pilgrim Trust*. Cambridge
- Porter J. H. 1970. Wage bargaining under conciliation agreements. *Economic History Review* 23: 460-475.
- Rowntree, B. S. and Lasker, B. 1911. *Unemployment, A Social Study*.
- Scott, P. 2000. The state, internal migration and the growth of new industrial communities in interwar Britain. *English Historical Review* 115: 329-353.
- Southall, H. R. 1988. The origins of the depressed areas: unemployment, growth and regional economic structure in Britain before 1914, *Economic History Review* 41: 236-258.
- Southall H. R. 1991. The tramping artisan revisits: labour mobility and economic distress in early Victorian England. *Economic History Review* 44: 272-296.
- Soskice, D. 1991. Wage determination: the changing role of institutions in advanced industrialized countries. *Oxford Review of Economic Policy* 6: 36-61.
- Stedman Jones, G. 1971. *Outcast London*. Oxford.
- Thomas, M. 1988. Labour market structure and the nature of unemployment in interwar Britain. In B. J. Eichengreen and T. J. Hatton (eds.), *Interwar Unemployment in International Perspective*. Dordrecht.
- Treble, J. G. 1987. Sliding scales and conciliation: risk sharing in the 19th century British coal industry. *Oxford Economic Papers* 39: 679-98.
- Turner, P. and Bowden, S. 1997. Real wages, demand and employment in the UK, 1921-1938: a disaggregated analysis. *Bulletin of Economic Research* 49: 309-25.
- Whiteside, N. and Gillespie, J. A. 1991. Deconstructing unemployment: developments in Britain in the interwar years. *Economic History Review* 44: 665-82.
- Wrigley, C. 1987. The First World War and state intervention in industrial relations, 1914-18. In C. Wrigley (ed.), *A History of British Industrial Relations*, Vol. 2. Brighton.

Tables

Table 1: *Regional unemployment rates, 1913-1936*

Region	1913	Region	1929	1932	1936
London and South East	5.8	London	4.7	12.6	6.4
		South East	3.3	12.0	5.0
South West	4.4	South West	6.0	14.8	7.1
W. Midlands	2.6	Midlands	9.5	21.2	8.6
Yorks and E. Midlands	1.9	North East	12.6	29.8	17.5
North West	2.5	North West	12.8	26.8	16.4
Scotland and North	2.0	Scotland	10.9	25.9	15.8
Wales	2.4	Wales	18.1	37.3	29.0
Ireland	7.6	N. Ireland	13.7	25.9	19.6

Source: Southall (1988) p. 241; Hatton (1986), p. 63.

Table 2: *The duration of unemployment, 1929-38 (wholly unemployed only)*

	Percentage of unemployed with durations of:		Estimated completed average duration of a spell (weeks)	Estimated uncompleted duration of average unemployed worker (weeks)
	Less than three months	More than one year		
1929	43.7	7.2	--	15.4
1932	40.8	22.0	19.5	34.1
1933	38.9	28.4	17.9	43.6
1934	41.3	29.0	16.6	45.8
1935	41.6	28.5	14.4	45.6
1936	42.9	29.5	13.9	49.1
1937	46.2	28.1	14.2	48.7
1938	48.3	23.2	13.1	39.0

Source: Thomas (1988) p. 112.

Table 3: *Benefit to wage ratios for claimants to insurance benefits, 1937 (cumulative percentage)*

B/W ratio Greater than	Men aged 18-20	Men aged 21-64	Women aged 18-20	Women aged 21-64
1.0	2.6	0.5	3.4	0.9
0.8	6.5	2.0	8.2	4.4
0.6	17.1	11.7	23.1	17.5
0.4	48.0	50.6	78.8	82.8
0.2	97.6	98.8	99.8	100.0
Average B/W	0.38	0.43	0.48	0.50

Source: calculated from *Report of the Unemployment Insurance Statutory Committee* for 1937, pp. 55-9.

Table 4: *Unemployment in Four Economic Eras*

	1871-1891	1892-1913	1921-1938	1947-1965
Unemployment and Inflation				
Average unemployment rate (%)	5.48	6.18	10.91	1.80
Standard deviation of unemployment rate	1.83	1.31	2.98	0.43
Average rate of Price increase (% p.a.)	-0.43	0.52	-2.45	3.96
Average rate of wage increase (% p.a.)	0.95	1.16	-1.60	6.36
Wage Pressure Variables				
Benefit to wage ratio	--	--	0.41	0.39
Structural turbulence index	2.26	1.97	4.04	2.51
Union density (%)	--	13.0	27.1	43.8
Coverage of national collective bargaining (%)	--	10.4	42.3	72.0
Share of direct tax in national income (%)	1.1	1.8	10.3	18.0
Terms of trade (1913 = 100)	92.3	97.9	133.1	126.7
Productivity and the NAIRU				
Deviation from trend of labour productivity (%)	1.32	2.02	-5.99	3.45
Growth Rate of Labour Productivity (% p.a.)	1.07	0.77	1.55	2.10
Estimated period-average NAIRU	5.42	6.41	9.82	3.01
Counterfactual NAIRU with productivity growth = 1.3%	5.22	5.85	9.80	5.66

Sources and notes:

Unemployment: from Hatton and Boyer (2002). Prices and wage rates: GDP deflator from Feinstein (1972), p. T132-3; average earnings from Feinstein (1995), p. 264-6. Benefit to wage ratio: from Metcalf, Nickell and Floros (1982). Structural turbulence: (defined as $S_t = \sum_i w_i |g_{i,t} - g_t|$, where w_i are value added weights, g_i and g are one-year growth rates of individual sectors and GDP respectively) calculated across 12 sectors from Feinstein (1972), pp. T24-5, T111-3, T116-7. Trade union density: membership from Bain and Price (1980, p. 38-9); labour force from own calculations based on Boyer and Hatton (2002). Coverage of national collective agreements: calculated from five-year averages in Milner (1995), p. 82. Direct tax share: defined as income tax and national insurance contributions as a share of nominal GDP, calculated from Feinstein (1972), p. T35. Terms of trade: Feinstein (1972), p. T139. Labour productivity: Feinstein, (1972), p. T51. Trend productivity is calculated as the average percentage deviation from a logarithmic trend calculated for 1870-1965. NAIRU: based on estimated coefficients of equations for the real wage and the unemployment rate estimated over 1871-1999 in Hatton (2002). The NAIRU for different periods is calculated from period-averages for the growth rate of productivity and the terms of trade, and period-specific dummies.

Figure 1: Unemployment rate, 1870-1939

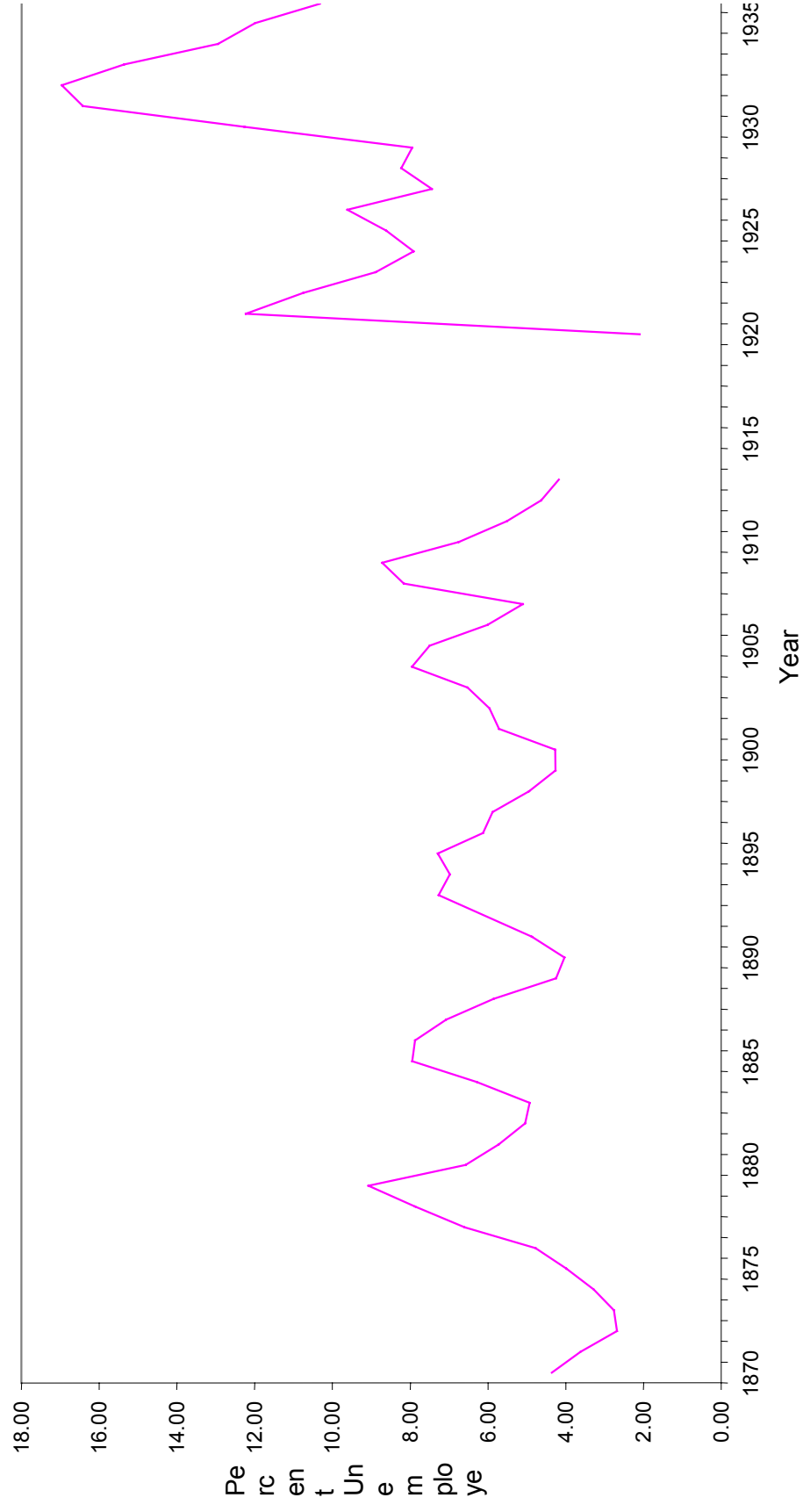
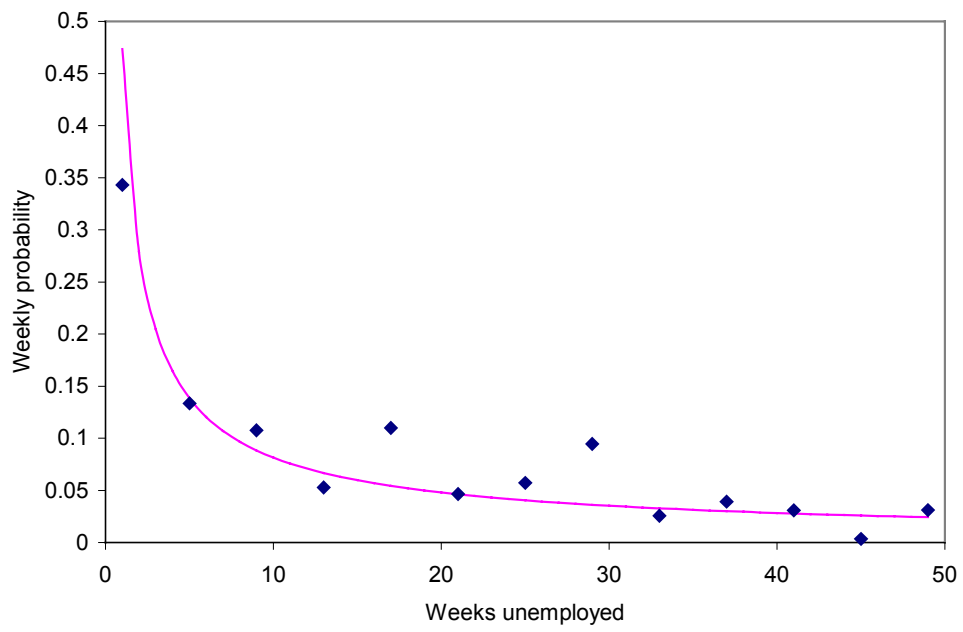
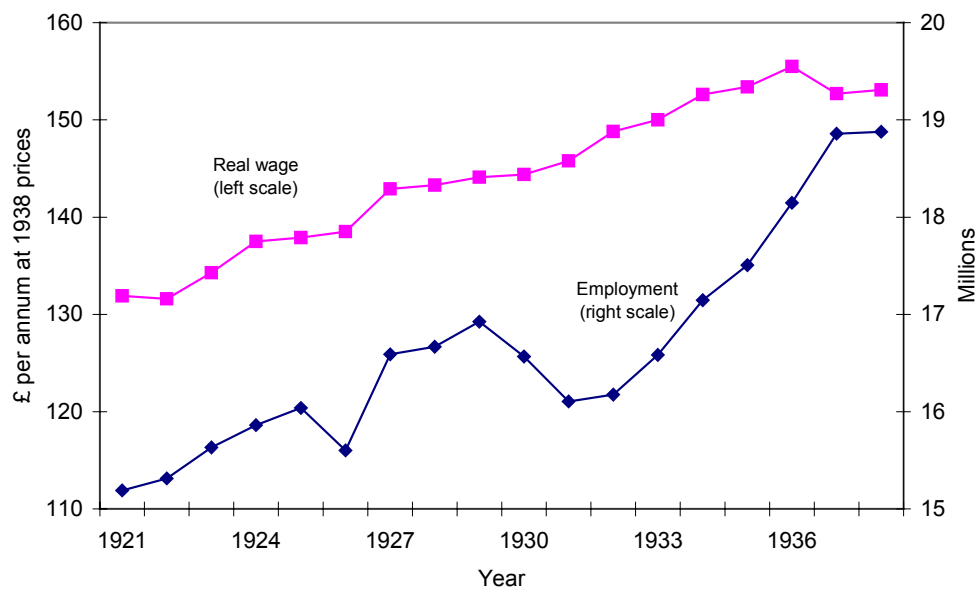


Figure 2: The probability of leaving unemployment, 1929



**Figure 3a: The real wage and employment:
whole economy, 1921-38**



**Figure 3b The real wage and employment:
manufacturing sector, 1921-38**

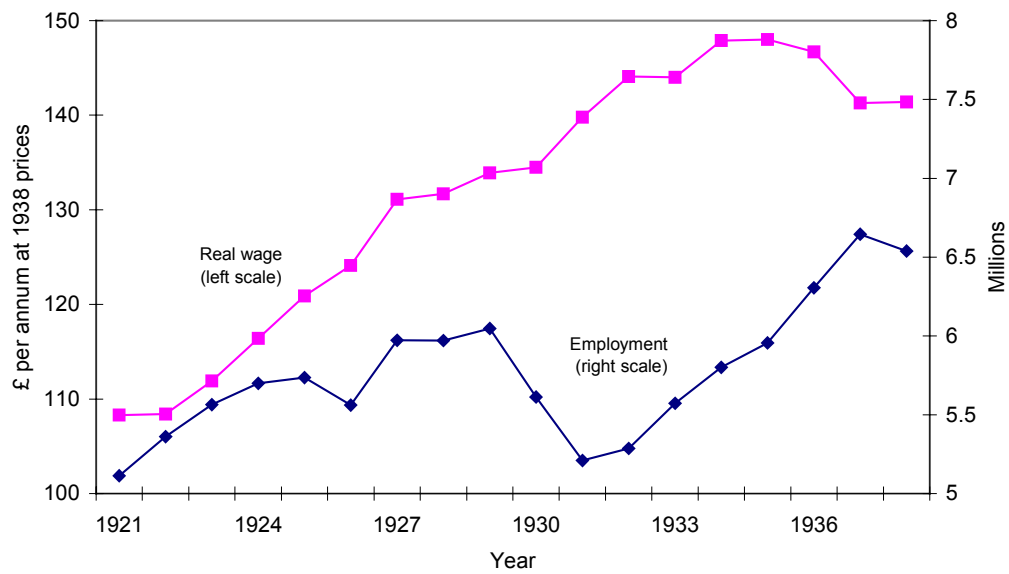


Figure 4: The Competing Claims Model

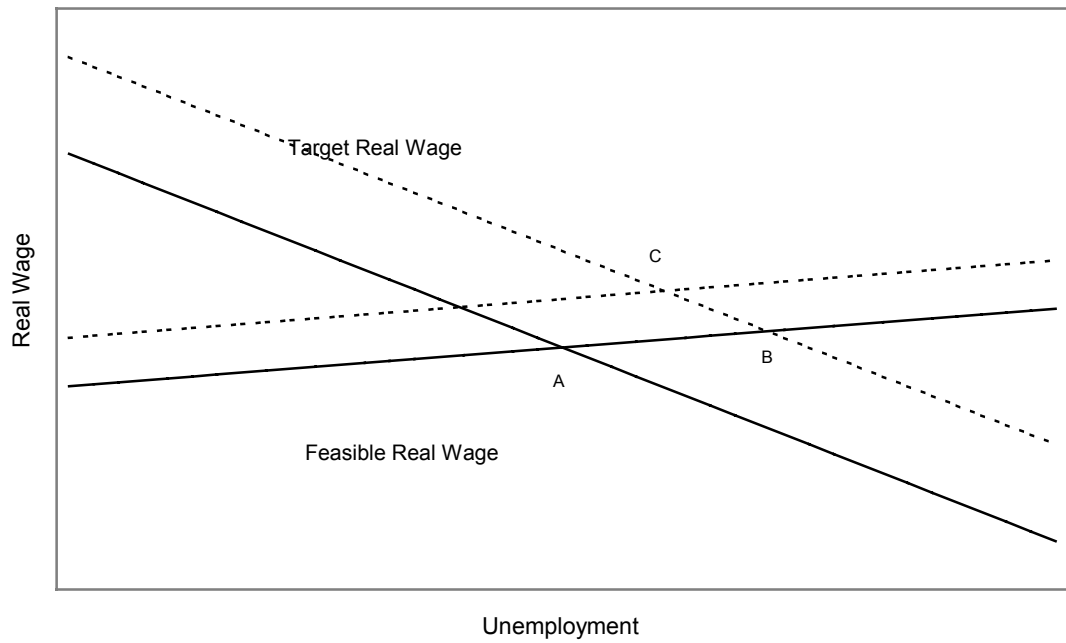


Figure 5: Wage rates and the cost of living, 1918-1938

