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ABSTRACT

Britain already had a serious unemployment problem in the 1920s, but the situation worsened markedly after 1929. We investigate the cause of the higher rates of unemployment experienced throughout the 1930s. The most obvious explanation, that aggregate demand was weaker in the aftermath of the Great Depression, does not stand up to close scrutiny. An alternative explanation is that the emergence of long-term unemployment generated 'hysteresis' effects which enervated the market-clearing mechanism. Although we find that the duration composition of unemployment statistically significantly influenced wage determination we note that real wage growth between 1932-39 was modest. It was not the case that the fruits of economic recovery fed through to wages at the expense of jobs.

Instead, we highlight important movements in the labour participation rate over the course of the interwar period. The participation rate declined sharply in the early 1920s, but subsequently recovered. The non-employment rate - the fraction of those of working age who are not in work - consequently paints a different picture of the interwar period than the unemployment rate. In particular, the 1930s do not emerge as having had a more serious problem of joblessness than the 1920s. Hence we tentatively conclude that unemployment was higher during the 1930s largely because the unemployment rate was becoming a more accurate measure of joblessness.

For advice and comments, I thank Brian Bell, Nicholas Dimsdale, Charles Feinstein, Tim Hatton and Avner Offer.

Unemployment and Non-Employment in Interwar Britain

Folk memories of interwar unemployment focus almost entirely on the 1930s. It was this decade that saw the Jarrow March, for example, one of the most enduring images of the period. Unemployment was also increasingly visible, with the emergence of a significant long-term unemployment problem. By 1932, one unemployed man in four had been out of work for at least one year.[1] In addition, it was only really in the 1930s that commentators began to study the experience of unemployment, publicising the adverse personal and social consequences associated with joblessness. E.Wight Bakke pioneered this process with his study of Greenwich, London in 1931.[2] Hilda Jennings published her study of Brynmawr in 1934, George Orwell visited Wigan in 1936 and the Pilgrim Trust's detailed study of the long-term unemployed appeared in 1938.[3]

Above all, the unemployment data, plotted in Figure 1, suggests that the 1930s deserve their bad press. Although it is clear that by historical standards the 1920s witnessed an unusually serious unemployment problem, with an average of 1½ million out of work, it is the 1930s that stand out as having experienced the most severe difficulties. The estimated unemployment total reached 3.4 million in 1932, roughly one worker in six. In contrast, the worst experience of unemployment in Britain in recent years was when unemployment reached 3.3 million in 1985. Yet this was in the context of a working population which comprised six million more people than that of fifty years earlier. It is little wonder that the 1930s have been labelled 'the devil's decade'.[4]

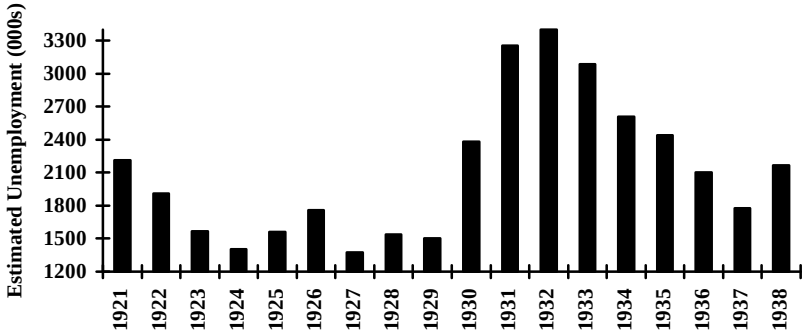

Figure 1: Interwar Unemployment[5]

This paper examines an issue that has been rather neglected in the voluminous literature on interwar unemployment in Britain. It investigates precisely why unemployment was a more serious problem during the 1930s than during the 1920s. It is likely that part of the reason why writers have not sought directly to address this question is because there is an apparently obvious answer, namely that the effects of the global Great Depression meant that aggregate demand was weaker. Yet the adverse effects of the Great Depression were relatively modest in Britain, and the subsequent recovery was strong and sustained. Hence it is far from clear that an emphasis on aggregate demand fluctuations provides a satisfactory explanation for the behaviour of unemployment.

An alternative approach which we consider suggests that the emergence of long-term unemployment during the 1930s weakened the impact of excess supply on wages, so that the fruits of economic recovery fed through into wages rather than employment. Although we find some evidence in support of the proposition that the duration composition of unemployment influenced wage behaviour we note

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1 N. Crafts, 'Long-Term Unemployment in Britain in the 1930s', *Economic History Review*, 40 (1987), Table 1.

2 E. Bakke, *The Unemployed Man* (London , 1933).

3 H. Jennings, *Brynmawr: A Study of a Depressed Area* (London, 1934), G. Orwell, *The Road to Wigan Pier* (London, 1937), Pilgrim Trust, *Men Without Work* (Cambridge, 1938).

4 A. Taylor, *English History, 1914-45* (Oxford, 1992 ed.), p.317.

5 Source: C. Feinstein, *National Income, Expenditure and Output of the United Kingdom* (Cambrige, 1972), Table 58.

that real wages remained stagnant over the course of the economic recovery. The persistence of unemployment did not reflect weak job creation.

Instead we look at the behaviour of the participation rate over the course of the interwar period. The data suggests a marked decline in labour force participation in the early 1920s, when recession first engulfed the British economy. This decline was reversed in later years. These oscillations in participation cause the unemployment rate and the non-employment rate to paint very different pictures of the experience of joblessness during the 1920s. In particular, the latter series suggests that the problems of the 1920s were at least as serious as those of the 1930s. It is not to be disputed that the 1930s deserve the epithet 'the devil's decade'. But we suggest that the 1920s might be equally deserving of such a title.

II

A first potential explanation for why unemployment appears to have been higher during the 1930s asserts that aggregate demand was consistently weaker than during the 1920s. The economy is envisaged as having experienced a severe adverse demand shock during the period of the Great Depression which was only gradually reversed, so that high rates of unemployment persisted.

Broadberry argues, for example, that interwar unemployment "resulted primarily from fluctuations in employment, which resulted in turn primarily from fluctuations in aggregate demand".[6] This assessment is based on Broadberry's attempt to capture movements in the aggregate demand and aggregate supply schedules over the course of the interwar period, through a price/unemployment scatterplot. With money wages evincing substantial nominal inertia from the mid-1920s any movement in aggregate demand would precipitate positively correlated movements in prices and output.

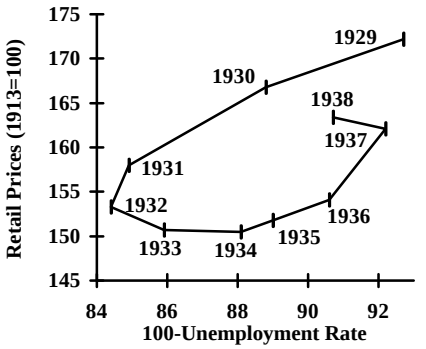

Figure 2: Prices and Unemployment[7]

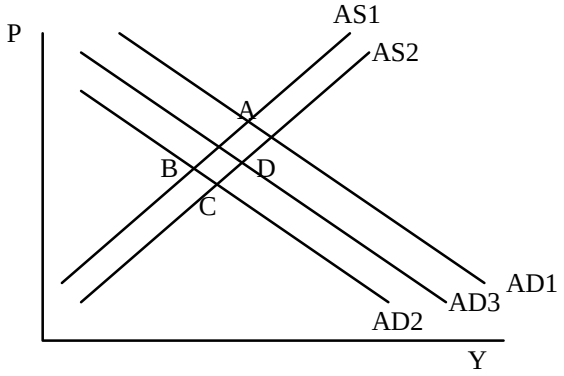

Figure 3: Aggregate Demand and Supply

[6] S. Broadberry, *The British Economy between the Wars: A Macroeconomic Survey* (Oxford, 1986), p.101.

[7] Source: C. Feinstein, *National Income*, Table 57, Table 65.

Figure 2 plots Broadberry's findings for the 1930s, and reveals a clear anti-clockwise cycle between 1929-37, which we attempt to interpret in Figure 3. The period 1929-32 is consistent with there having been a shift in the aggregate demand schedule from AD1 to AD2, and a movement from A to B. The movement from 1933 to 1937 is similarly consistent with a shift outwards of the aggregate demand schedule. But with prices lower for any given unemployment rate during the economic recovery there would also appear to have been a small positive aggregate supply shock, so that AS1 moves to AS2. This may have reflected the impact of productivity growth.[8] Hence we move from B to C and then from C to D. Unemployment remains high for much of the 1930s because there is initially a severe demand shock, and because this shock is only gradually reversed. With unemployment only just returning to 1929 levels by the end of the 1930s, it is clear from Figure 3 that aggregate demand never returned to AD1. Given the positive aggregate supply shock, a return to AD1 would have implied unemployment falling to below its 1929 level. The unequivocal impression conveyed by Figures 2 and 3 is that the adverse demand shock of the Great Depression was only gradually reversed. Unemployment was higher than in the 1920s because demand was weaker.

However, there are two problems with this explanation. Firstly, the evidence suggests that Britain's experience of the Great Depression was relatively mild in nature. The downturn reached Britain's shores through a collapse in exports, the value of which declined by 42% between 1929-31.[9] The key point, however, is that, as Thomas notes, "the shock did not permeate through the economy, creating secondary waves of unemployment and bankruptcies".[10] Investment did fall in real terms, but only by 14%, and real consumer expenditure actually rose by 2%.[11] Aggregate industrial production declined by just under 11% over the course of the slump, but production rose in sectors such as gas, water and electricity, food, paper and printing, distribution and miscellaneous services.[12] The fall in real GDP between 1929-32 amounted to a modest 4.9%. Thomas' measure of the 'output gap' suggests that the impact of the Great Depression was only slightly more serious than the 1926 General Strike, and paled into insignificance compared to the recession of the early 1920s.

It seems clear that the term 'the Great Depression' is a misnomer in characterising British experience in the early 1930s. Britain's abandonment of the Gold Standard in 1931, the robustness of the domestic banking system, an improving terms of trade and the fact that having been relatively depressed for much of the 1920s the British economy had less far to fall compared with most other countries all contributed to Britain emerging from the crisis relatively unscathed.

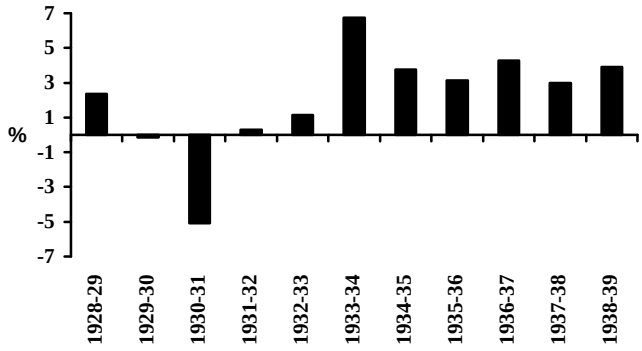

Figure 4: Real GDP Growth in Depression and Recovery[13]

8 M. Thomas, 'The Macroeconomics of the Interwar Years', in R. Floud, D. McCloskey (eds.), *The Economic History of Britain since 1700, 2nd ed., Vol. II (*Cambridge, 1994), p.348-49

9 C. Feinstein, *National Income,* Table 3.

10 M. Thomas, 'The Macroeconomics of the Interwar Years', p.344.

11 C. Feinstein, *National Income,* Table 5.

12 *Ibid.*, Tables 51-53.

13 *Ibid.,* Table 5.

Secondly, we also know that the subsequent economic recovery was strong and sustained. Figure 4 shows that real GDP growth was 3% or more for six years running. Bank rate was held at 2% from June 1932 and money base rose by 28% between 1932-38, a comparable increase to that recorded during the boom of the 1890s.[14] Investment was the engine of the recovery, gross fixed capital formation rising by 50% between 1932-38.[15] Activity in the building sector, a leading light of the recovery, rose by 50% during the upswing.[16] The adoption of protectionist measures reduced import penetration, boosting domestic production. Hence although export performance remained depressed, the home market expanded strongly. In total, real GDP increased by 29% between 1932-39.

These descriptions of Britain's experience of depression and recovery seem inconsistent with the story told by Figures 2 and 3. There is little support for the contention that aggregate demand recovered only sluggishly from the ill effects of the Great Depression. The output gap estimated by Thomas had returned to its pre-Depression level by 1935.[17] Moreover, *The Economist*'s index of economic activity, a measure embracing factors such as coal, cotton and electricity consumption, railway freight and postal receipts, had bounced back from the adverse shock of the Great Depression by 1934, as Figure 5 illustrates. Real GDP in 1934 was already higher than the 1929 level.

Figure 5: The Economist's Index of Business Activity, 1929-38[18]

In short, what appeared at first to be a simple, attractive explanation for why unemployment was so much higher during the 1930s does not stand up to close scrutiny. Aggregate demand was not persistently weaker during the 1930s relative to the 1920s. The Great Depression depressed demand only modestly, and these ill effects were soon reversed as the economy experienced an extended and vigorous economic upturn.

III

An alternative explanation for why high rates of unemployment should have persisted during the economic recovery of the 1930s draws on the theory of hysteresis. This approach was formulated during the 1980s in an attempt to explain the experience of persistently high rates of unemployment during those years. The essential intuition is that an adverse shock to aggregate demand - such as that experienced in the early 1980s, or the early 1930s, perhaps - might still have an impact on unemployment long after the initial demand shock has disappeared.

Blanchard & Summers, pioneers of this approach, posited a model of the form,[19]

(1) $$U_t = \rho U_{t-1} + \varepsilon_t$$

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[14] F. Capie, A. Webber, *A Monetary History of the United Kingdom, 1870-1982, Vol. I* (London, 1985), Table I.(1).

[15] C. Feinstein, *National Income*, Table 5.

[16] *Ibid.*, Table 51.

[17] M. Thomas, 'The Macroeconomics of the Interwar Years', Figure 13.2.

[18] Source: F. Capie, M. Collins, *The British Economy: A Statistical Abstract* (Manchester, 1983), Table 3.1.

[19] O. Blanchard, L. Summers, 'Hysteresis and the European Unemployment Problem', *NBER Macroeconomics Annual* (1986), p.15-78.

where U is the unemployment rate and ε is an error term. A test for hysteresis effects is then to examine whether the unemployment series has a unit root (in other words, if ρ=1). In such circumstances, unemployment is strongly influenced by its past. A positive shock to the error term at time t, for example, would raise the unemployment rate at time t. But even if the shock disappears at time t+1, unemployment will remain at a higher level because unemployment at time t+1 is so strongly influenced by unemployment at time t. The unemployment effect persists even though the initial disturbance lasts for only a brief period. Blanchard & Summers found apparently strong evidence for hysteresis effects. For the U.K., using 1890-1985 data, they estimated that ρ=0.93, implying significant unemployment persistence in the wake of shocks.

What might generate these hysteresis effects? Attention has focused on the way in which unemployment influences the behaviour of those still in work. As one interwar Nottinghamshire collier recalled,[20]

> I used to say as we came out of the pit at the end of a day's shift - I used to call them pigeons - there'd be twenty pigeons sat on the railings waiting for a job. So you had to cooperate with the management, or they weren't long at getting you out.

By increasing the cost of job loss, a high unemployment rate is seen as acting as a disciplinary device, particularly in regard to wage behaviour. Workers moderate their wage demands when unemployment is high, in order to preserve their jobs.

However, a key distinction has been made between the long-term unemployed and those who have been out of work for less than one year. The former, it is suggested, represent less of a threat to those in work than the latter. Three justifications are given for this assumption. Firstly, the long-term unemployment pool may well contain a large number of low-quality workers. Such individuals have been out of work for an extended period for a good reason, namely that they are considerably less employable than the average unemployed individual. Secondly, in a world of imperfect information employers, unable to assess the productivity of potential recruits, may use the unemployment experience of an individual as a signal of their suitability. The long-term unemployed are discriminated against, and consequently represent less of a threat to incumbent workers. Finally, it is possible that the long-term unemployed search less enthusiastically for work, their determination having been sapped by their lack of success thus far.

For these three possible reasons, therefore, it is postulated that the higher the proportion of long-term unemployed in the unemployment pool, the weaker will be the impact of aggregate unemployment on wage-setting behaviour. The theory holds that the 'effectiveness' of any excess supply of labour (in holding down wages) will be diminished when a large percentage of the unemployed have been out of work for more than a year. Nickell formalises this intuition with the following log linear wage equation,[21]

$$(2) \qquad w - p = \gamma_0 - \gamma_1 u + \gamma_2 LT - \gamma_3 (p - p^e) + y_4 x + z$$

where w is the wage rate, p the price level, u the unemployment rate, LT the proportion of the unemployed who have been out of work for a year or more, x is trend productivity and z a vector of wage pressure variables, such as the benefit:wage replacement rate. Nickell obtained a significant, positive coefficient for y_2 when he estimated (2) on postwar data. With the proportion of long-term unemployed rising from 21% in 1980 to 42% in 1987, this finding appears to offer an explanation for why wages seemed so impervious to high rates of unemployment during the 1980s. The recession of the early 1980s had caused unemployment to rise, and as the proportion of the unemployed out of work for over a year began to increase the market-clearing mechanism is envisaged as having broken down. The long-term unemployed can be seen as having essentially been disenfranchised from the

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20 R. Waller, *The Dukeries Transformed: The Social and Political Development of a Twentieth Century Coalfield* (Oxford, 1983), p.127.

21 S. Nickell, 'Why is Wage Inflation in Britain so High?', in R. Cross (ed.), *Unemployment, Hysteresis and the Natural Rate Hypothesis* (Oxford, 1988), p.274.

labour market. With those already in work less fearful of replacement by the unemployed, wage pressure was heightened and the subsequent economic recovery served to boost real wages rather than employment.

This explanation for why high rates of unemployment can persist even as economic activity revives holds obvious attractions for the economic historian of the interwar period since, as Beveridge noted, "the legacy of the Great Depression was a host of long-period unemployed".[22] Figure 6 plots the proportion of long-term unemployed between 1932-38. It is clear that the economic recovery of the 1930s, as in the 1980s, was accompanied by a rising proportion of long-term unemployed.

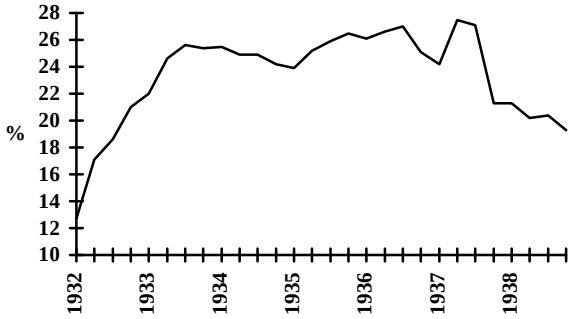

Figure 6: Long-Term Unemployment Rate, 1932-39[23]

Evidence can also be advanced to support the hypothesis that the long-term unemployed represented a diminished threat to incumbent workers. Firstly, the Unemployment Assistance Board judged that,[24]

> There are large numbers of men whose long unemployment is due to the fact that they are without skill or experience. Many such men are victims of 'blind-alley' employment, having spent their most impressionable years in some occupation which gave them no lasting industrial value.

This observation would appear to provide some support for the contention that the long-term unemployed contained a substantial number of 'unemployables', and it is also worth noting that the Pilgrim Trust estimated that up to one fifth of the long-term unemployed it surveyed in 1938 had "obvious physical defects".[25]

Secondly, there is good reason to believe that employers discriminated against the long-term unemployed. Bakke observed that "even a short period of unemployment handicapped a man in his efforts to market his labour".[26] A 1925 survey of Glasgow noted that,[27]

> Employers do not care to take on men who have been unemployed for a long period. They are usually out of working trim, and it would be weeks before they regained their normal working capacity.

The Unemployment Assistance Board argued that,[28]

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22 W. Beveridge, *Full Employment in a Free Society* (London, 1944), p.66.

23 Source: N. Crafts, 'Long-Term Unemployment in Britain in the 1930s', Table 1.

24 *Report of the Unemployment Assistance Board for the Year Ended 31st December, 1938 (*1939), p.4.

25 Pilgrim Trust, *Men Without Work,* p.66.

26 E. Bakke, *The Unemployed Man,* p.50.

27 J. Astor et al, *Unemployment Insurance in Great Britain: A Critical Examination* (London, 1925), p.36.

28 *Report of the Unemployment Assistance Board,* p.5.

> A long record of unemployment may itself be a serious obstacle to obtaining work. However competent a man may be in fact, a prospective employer may look askance at him if he has been unemployed for years.

The Pilgrim Trust concluded that,[29]

> An employer will generally feel suspicious of a man submitted to fill a vacancy who has been out of work for twelve months or more. If our judgement is right, however, many of these men are potentially excellent material, and what keeps them out of work is their inability to force a way back for themselves.

Thirdly, the suggestion that the very experience of unemployment diminished an individual's desire for work has been extensively debated with reference to the interwar period. Some writers have suggested that the unemployed experienced a process of mental disintegration, so that the seeker of work gradually became an inhabitant of the local library, cinema or street corner, responding to his circumstances with an increasingly fatalistic attitude. As the Pilgrim Trust put it,[30]

> Unemployed men are not simply units of employability who can, through the medium of the dole, be put into cold storage, and taken out immediately they are needed. While they are in cold storage, things are liable to happen to them.

The 'stage theory' of unemployment, however, did almost go as far as proposing a 'mathematical relation'. Originally formulated on the basis of a survey of the unemployed in Marienthal, Austria after a local textile mill had closed, the theory maintained that unemployed individuals passed through a series of stages in their response to unemployment, with optimism eventually ceding to pessimism and fatalism.[31] The Pilgrim Trust's report on long-term unemployment in Britain, *Men Without Work*, was influenced by this approach, and proposed that there were essentially three stages in the response to unemployment.[32] Initially, the individual still thought only in terms of work. During the second stage, the individual was seen as beginning to accept unemployment as a normal state. Individuals at the third stage had finally accepted unemployment as a normal state. The speed with which individuals reached this third stage was held to be dependent upon whether there were others around him in a similar predicament and upon the level of benefit on offer.

It should be noted, however, that 'stage theory' has its critics. McKibbin notes the tendency of its proponents to draw sweeping generalisations from small, probably biased samples, and he concludes that "we cannot convincingly argue that the unemployed disintegrated, that their mental faculties withered, that they lost interest in work".[33] He even highlights the problems the Carnegie Trust had in contacting its sample participants because they were so busy looking for work. Bakke reckoned that the average unemployed man in Greenwich spent between four and five hours a day looking for work.[34]

However, the key assumption underpinning the emphasis on long-term unemployment is that (for whatever reason) the long-term unemployed found it harder to regain work, and consequently represented a diminished threat to those already in employment. The evidence in favour of this assumption is compelling. Crafts found that, regardless of age or locality, the probability of re-employment diminished the longer that an individual had already been out of work.[35] Similarly, using data from a 1929 Ministry of Labour survey, Hatton shows that there was a downward-sloping

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29 Pilgrim Trust, *Men Without Work*, p.64-65.

30 *Ibid.*, p.67.

31 M. Jahoda, P. Lazarsfeld, H. Zeisel, *Marienthal: The Sociography of an Unemployed Community* (London, 1972).

32 Pilgrim Trust, *Men Without Work*, p.144.

33 R. McKibbin, *The Ideologies of Class* (Oxford, 1991), p.253.

34 E. Bakke, *The Unemployed Man*, p.129.

35 N. Crafts, 'Long-Term Unemployment in Britain in the 1930s', Table 4.

relationship between the probability of leaving unemployment and the length of the unemployment spell already endured.[36]

Unfortunately, testing whether the duration composition of interwar unemployment actually fed through to wage behaviour is complicated by an absence of data on long-term unemployment prior to 1932. There are two potential solutions to this problem. The first approach, adopted by Crafts, attempts to estimate what long-term unemployment might have been during the years for which we lack data. Crafts regressed the long-term unemployment rate between 1932-39 on lags of the aggregate unemployment rate, and used his model to predict the long-term unemployment rate during the 1920s, on the basis of the total unemployment rate that prevailed in those years.[37] In other words, it is assumed that the relationship that held between long-term and total unemployment in the 1930s also held in the 1920s. Using this partially-inferred long-term unemployment series, Crafts estimated a quarterly wage equation on 1925-39 data and found clear evidence that the duration composition of unemployment mattered. For a given unemployment rate, a rise in the long-term unemployment rate (the number out of work for a year or more, as a percentage of the number insured) appears to have had a positive impact on wage pressure. Crafts concludes that,[38]

> At the sample means a 1 percentage point increase in unemployment composed entirely of long-term unemployed would have a predicted net effect of raising wage growth by 0.2 percentage points.

An alternative solution to the problem of inadequate data is simply to estimate a wage equation only for those years for which we have data. Whilst this approach involves a smaller number of degrees of freedom it has the obvious advantage of relying only on published, rather than imputed, statistical information. We estimated a version of (2) on half-yearly data between 1932-39, our results being reported in Table 1.[39]

We proxied the price surprise term in (2) with Δp, the change in prices. This is based on the relatively reasonable assumption that agents set $p^e=p_{t-1}$, implying that the best prediction of current period prices was the level of prices in the previous period. Our results suggest the presence of substantial nominal inertia in wage setting during the 1930s, so that money wages adjusted only slowly to price shocks.

We experimented with a number of potential z-vector variables in our empirical work, but found a statistically insignificant role for both productivity and the replacement rate.[40] On the other hand, the real level of import prices was significant at conventional levels, a familiar finding for the interwar period. We also obtained a significant, negative coefficient for the unemployment rate. Our findings suggest that a doubling of the unemployment rate would reduce real wages by 2%, other things being equal.

Table 1: Wage Equation, 1932(1)-1939(1)[41]

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36 T. Hatton, 'Unemployment and the Labour Market in Interwar Britain', in R. Floud, D. McCloskey (eds.), *The Economic History of Britain since 1700, 2nd ed., Vol. II (*1994), Figure 14.2.

37 N. Crafts, 'Long-Term Unemployment and the Wage Equation in Britain, 1925-39', *Economica*, 56 (1986), p.247-54.

38 *Ibid.*, p.253.

39 The Nickell specification has been used with some success in studies of interwar wage behaviour. See N. Dimsdale, S. Nickell, N. Horsewood, 'Real Wages and Unemployment in Britain during the 1930s', *Economic Journal*, 99 (1989), p.272-92, N. Dimsdale, N. Horsewood, 'Fiscal Policy and Employment in Interwar Britain: Some Evidence from a New Model', *Oxford Economic Papers*, 47 (1995), p.369-96.

40 Using a shorter sample period arguably makes it harder to pick up longer-term determinants of the real wage. Above all, however, the level of real wages was stable during the 1930s whilst productivity and the replacement rate were rising.

41 Note W = money wage, P = cost of living, U = unemployment rate, LT = proportion of long-term unemployed, Pm = import prices. Sources: F.Capie, M.Collins, *The Interwar Economy: A Statistical Abstract*, Table 4.2, Table 4.4, Table 2.11, Table 2.13, N. Crafts, 'Long-Term Unemployment in Britain in the 1930s', Table 1. DW reports the Durbin-Watson statistic, and autocorrelation is also tested for with the LM statistic (denoted AR).

Dependent Variable: log W/P_t

Independent Variable	**Coefficient (t-ratio)**
Constant	4.76 (42.8)
$\Delta \log P_t$	-0.80 (13.0)
$\Delta \log P_{t-1}$	-0.41 (7.7)
$\log U_t$	-0.02 (2.9)
$\log LT_t$	0.05 (4.2)
$\log Pm/P_t$	-0.06 (2.5)
R^2	0.97
σ	0.004
DW	1.37
AR	1.87 (0.22)
ARCH	0.15 (0.71)
Normality	3.64 (0.16)
Reset	2.95 (0.14)

Most importantly, for present purposes, we find a significant and positive coefficient for the proportion of the unemployed out of work for a year or more. This confirms Crafts's findings (obtained using a different specification for the wage equation) and offers further support for the hysteresis interpretation. Our results suggest that a doubling in the proportion of long-term unemployed from 20% to 40% of total unemployment would boost equilibrium real wages by 5%. This is a similar estimate to that obtained by Nickell for the postwar period.

Everything else remaining equal, therefore, our estimates suggest that real wages would have risen by 5% as the proportion of long-term unemployed rose from 13% early in 1932 to just under 26% in 1936. The key point, however, is that everything else was not equal. In particular, two points should be emphasised. Firstly, our wage equation provides evidence of substantial nominal wage rigidity during the 1930s. Employers, having abstained from cutting wages as prices fell during the Great Depression, resolved to limit the magnitude of wage increases conceded once prices began to recover. Rising prices during the economic recovery consequently served to erode the level of real wages. Secondly, the years of recovery also witnessed rising real import prices. Falling real raw material prices had enabled employers to preserve wages during the slump, but the subsequent rebound in real import prices put pressure on profit margins and heightened the incentive to resist union demands for increased wages.

Hence whilst the rising incidence of long-term unemployment was a factor encouraging a rise in real wages there were also forces acting in the opposite direction. The end result was that real wages rose only moderately over the course of the economic recovery. The emergence of a serious long-term unemployment problem may have eased incumbent workers' fear of replacement by the unemployed, but in no sense were the fruits of economic recovery transferred exclusively into the pay packets of those already in work. Figures 7 and 8 make it clear that in this respect the 1930s were fundamentally different from the 1980s. The boom of the 1980s was in many ways a jobless recovery, whilst real wages rose strongly. In contrast, the 1930s witnessed a stable level of real wages, whilst employment rose by 15% between 1932-38. These two figures suggest that we should be wary of automatically using explanations devised for the 1980s in accounting for the experience of the 1930s.

ARCH tests for whether the residuals have an autoregressive conditional heteroskedasticity structure. NORMALITY is the Jarque-Bera statistic whilst the RESET test checks for functional form. All of these tests are passed. σ is the standard error of the equation.

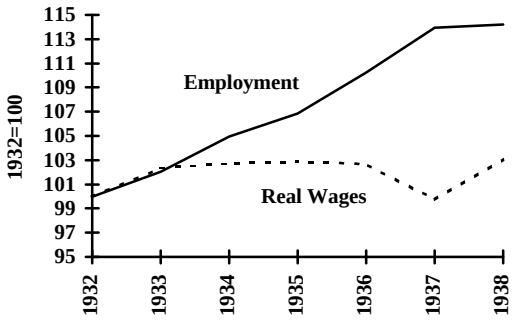

Figure 7: Employment and Real Wages in the 1930s[42]

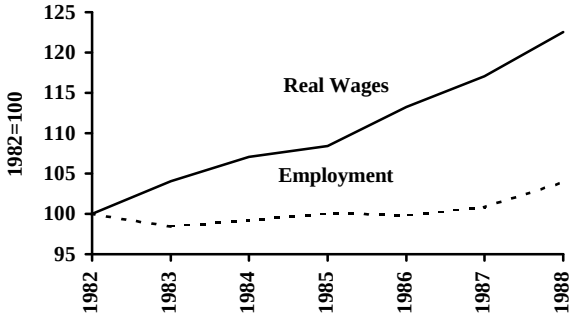

Figure 8: Employment and Real Wages in the 1980s[43]

In sum, although we do find some evidence that the duration composition of unemployment affected the path of wages, we do not believe that this was the primary cause of persistently high unemployment during the 1930s. The key point is that real wage growth was modest during the recovery of the 1930s whilst employment opportunities expanded dramatically. It was *not* the case that the fruits of economic recovery in the 1930s fed through to wages rather than to employment. Understanding how unemployment could have remained so persistently high despite rapid employment growth is the task of the next section.

IV

Jobs were created during the 1930s. Feinstein's estimates suggest that aggregate full-time employment increased by some 2.6 million between 1932-38, from 18.8 million to 21.4 million.[44] He computes that roughly 3.4 million individuals were out of work in 1932, so had the jobs that were subsequently created been filled by these individuals then the unemployment total would have fallen to 800,000 by the end of the period. This would have amounted to just over 3½% of the 1932 working population, which would have been the lowest unemployment rate since 1920.

The key point is that the expansion of employment opportunities during the 1930s was accompanied by an increase in the size of the working population. The workforce is estimated to have increased by 1.4 million between 1932-38. As a result, the unemployment total had only declined to 2.2 million by

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[42] Source: C. Feinstein, *National Income*, Table 57, Table 65.

[43] Sources: Department of Employment, *Employment Gazette* (various), Table 5.6, *Economic Trends, Annual Supplement 1996/97*, Table 2.1, Table 3.2. Wage data is for average weekly earnings (excluding those whose payment was affected by absence) for all workers in all occupations who are on adult rates. For 1982, the mean of earnings for all workers over 18 and for all women over 18 and men over 21 was used. Employment data pertains to employees in employment. Retail price index is for all items.

[44] C. Feinstein, *National Income*,Table57.

1938, or 9% of the workforce at that date. It was this increase in the supply of labour as the economy recovered that meant that unemployment remained persistently high over the course of the 1930s.

In part, the expansion of the labour force was the result of demographic factors. The total population of Great Britain increased from 45.1 million in 1932 to 46.2 million in 1938.[45] Moreover, the percentage of the population who were of working age (15-64) rose from 65.8% in 1932 to 68.3% in 1938. These factors combined to boost the size of the working population, limiting the potential for the economic recovery to alleviate the unemployment problem. Employers in expanding industries such as vehicle manufacture were able to draw on a pool of new labour, untainted by any previous industrial experience. Makower, Marshak & Robinson found that the principal way in which labour was redistributed between expanding and declining industries was through varying levels of juvenile recruitment, rather than through the direct transfer of workers from one sector to another.[46]

The expanding workforce reflected more than demography, however. It is also important to realise that there was a rise in the proportion of the population of working age who were actually seeking work, and who were therefore counted as belonging to the workforce. As a fraction of those aged 15-64, the working population rose from 70% in 1932 to 71.5% in 1938. This is consistent with Heim's assessment that the recruitment requirements of the new industries during the 1930s were partly met by drawing previously economically inactive individuals into the workforce.[47]

As it happens, however, the data suggests that the participation rate had been rising for some years *prior* to the economic recovery of the 1930s. Beenstock, Capie & Griffiths argued, for example, that a rise in the participation rate over the course of the Great Depression had contributed to the severity of the unemployment problem in those years.[48] Indeed, Figure 9 shows that the estimated participation rate had actually been rising since 1924.

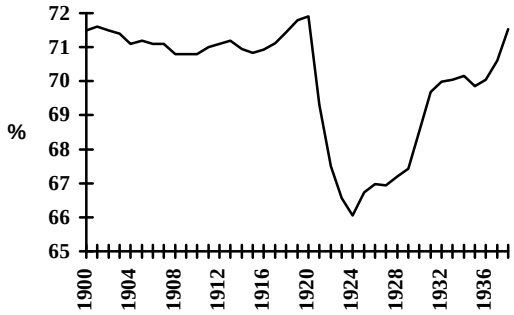

Figure 9: Labour Participation Rate, 1900-1938[49]

Figure 9 is derived by dividing Feinstein's working population estimates by his measure of the population of working age (15-64). It suggests that the participation rate slumped during the early 1920s, reaching a nadir of 66% in 1924. This apparent decline in participation has gone largely unremarked by previous writers, yet it could have important implications for our interpretation of the interwar period.

The fall in participation stems from a sharp contraction in estimated employment in the early 1920s which is not matched by an increase in estimated unemployment. Obviously, therefore, much depends

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[45] *Ibid.*, Table 55.

[46] H. Makower, J. Marschak, H. Robinson, 'Studies in the Mobility of Labour: Analysis for Great Britain, Part II', *Oxford Economic Papers*, 4 (1940), Table 6.

[47] C. Heim, 'Structural Transformation and the Demand for New Labor in Advanced Economies: Interwar Britain', *Journal of Economic History*, 44 (1984), p.585-95.

[48] M. Beenstock, F. Capie, B. Griffiths, 'Economic Recovery in the United Kingdom in the 1930s', *Bank of England Panel Paper No. 23* (1984), p.60.

[49] Computed as working population as a percentage of population aged 15-64. Source: C. Feinstein, *National Income*, Tables 56-57.

upon the reliability of the employment series, derived from Chapman.[50] There are, as it happens, some causes for concern. Chapman's general approach was to take the 1931 Population Census and the Censuses of Production of 1924, 1930 and 1935 as benchmarks, with interpolation between these dates guided by the unemployment insurance data. Chapman admits that her estimates for 1920 are the least reliable. With little published information available to guide the process of estimation, Chapman has in a number of instances to opt for what seems to be a reasonable figure. "It was assumed that there was a 10% drop in employment from 1920 to 1921 in line with the slump in industrial activity", she writes in regard to distribution, insurance, banking & finance and a number of miscellaneous services.[51] Of 132 estimates for wage and salary earners in various industries in 1920, Chapman assigns an A rating - implying a 95% chance that the error is no more than 5% - in only 6 cases, whilst 28 individual estimates are simply labelled 'conjectures'.[52] This reliance on guesswork is troubling, given the discrepancies between Chapman's estimates for 1920 and the figures reported in the Ministry of Labour's Z8 reports, although this data is itself far from ideal, with limited coverage of the service sector.

However, the apparent fall in participation in Figure 9 continues until 1924, and Chapman argues that by this date her estimates are more reliable, with the Census of Production of that year available, and the unemployment insurance statistics having been reorganised from 1923. Another key point, however, is that the decline in participation implied in Figure 9 between 1911 and 1921 is confirmed by the Population Censuses of these years, as Table 2 shows. This data also offers some idea of changes in participation by worker group between these dates.

Table 2: Participation Rates, 1911-31[53]

	1911		1921		1931	
Age Group	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**
14-15	73.1	47.9	64.7	44.7	63.2	50.7
16-17	92.1	69.4	91.4	71.2	88.5	75.6
18-24	96.9	65.4	96.8	66.5	96.4	70.9
25-44	98.5	29.3	97.9	28.4	98.3	30.9
45-64	94.1	21.6	94.9	20.1	94.3	19.6

Table 2 shows that there was a particularly sharp decline in the participation rates of female and male juveniles between 1911-21, and a mild decline in the participation of males aged 25-44 and the participation rates of females aged 25-44 and 45-64. The subsequent rebound in participation between 1921-31 appears to have particularly been the result of the recovery in the participation rates of females. For males, only the participation rate for 45-64 year olds in 1931 matched 1911 levels.

The participation rate has been little discussed in studies of the interwar labour market, but an exception to this rule is the work of Beenstock & Warburton.[54] They emphasise the importance of real wage movements in accounting for fluctuations in participation over the course of the interwar period. When real incomes rose, they suggest, this increased the attractions of work relative to leisure, and encouraged workers who had previously opted for leisure to reassess their decision. Oscillations in the participation rate over the course of the interwar period are therefore seen as having reflected changes in the number of people actively wishing to work. Some support for this thesis is offered by Hatton &

50 A. Chapman, *Wages and Salaries in the United Kingdom, 1920-38* (Cambridge, 1953).

51 *Ibid.*, p.148, p.154, p.206, p.209, p.213, p.222.

52 *Ibid.*, p.232-33.

53 Source: Ministry of Labour, *Twenty-First Abstract of Labour Statistics of the United Kingdom, 1919-33* (1934), p.2-3.

54 M. Beenstock, P. Warburton, 'Wages and Unemployment in Interwar Britain', *Explorations in Economic History*, 23 (1986), p.153-72, M. Beenstock, P. Warburton, 'The Market for Labor in Interwar Britain', *Explorations in Economic History*, 28 (1991), p.287-308.

Bailey's cross-sectional evidence which suggests that female labour participation both in London in the 1929-31 period and in York in 1936 was positively related to the wage on offer.[55]

The problem with Beenstock & Warburton's model, however, is that it struggles to account for the experience of the early 1920s, when Figure 9 shows the participation rate declined sharply. The implication of their approach is that the rewards offered by employment must have collapsed in these years, so that individuals who had previously actively desired to work instead chose to quit the workforce and to embrace a life of leisure. It is certainly true that money wages were severely reduced in 1921 and 1922, with aggregate weekly earnings declining by 25% between 1920-22.[56] But prices fell slightly further. Figure 10 shows that real wages actually rose in these years, even when employee contributions to national insurance are deducted.

Workers must have been subject to money illusion if they quit the workforce owing to diminished returns from work, and this seems an unreasonable assumption given that in many industries a large proportion of the wage cut focused on elements of the pay packet that were explicitly tied to the cost of living.

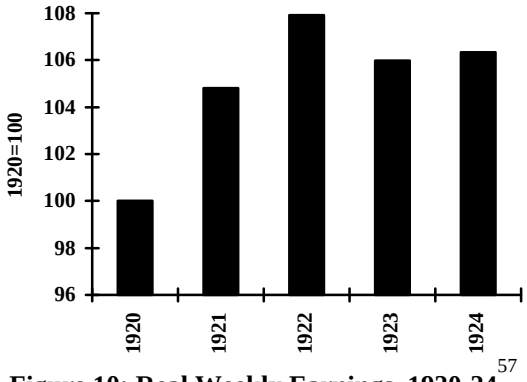

Figure 10: Real Weekly Earnings, 1920-24[57]

It seems more persuasive to argue that the fall in participation reflected the response of individuals to the most severe recession the British economy had ever experienced. Bank Rate was held at 7% for twelve months and money base was squeezed by 16% between 1920-23.[58] The value of exports halved between 1920-22.[59] Figure 9 suggests that this sudden deterioration in economic fortunes forced some workers to drop out of the workforce. The suggestion is that it was not the case that most of these individuals did not want to work, but rather that economic circumstances, with the number of employment opportunities contracting by 10% between 1920-24, deterred the search for work - what is termed the 'discouraged worker' effect.

The hypothesis that the decline in participation reflected the impact of discouraged individuals dropping out of the workforce has an interesting implication. If those individuals who quit the workforce still wished to work, then the unemployment total is likely to have represented an underestimate of the extent of joblessness, since it will have failed to include those out of work who had left the workforce.

There has been some recognition in the UK in recent years that changes in how unemployment is recorded can mean that the unemployment rate offers a misleading impression of joblessness. Instead,

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55 T. Hatton, R. Bailey, 'Household Labor Supply and Women's Work in Interwar Britain', *Explorations in Economic History*, 30 (1993), p.229-56.

56 C. Feinstein, *National Income*, Table 65.

57 Average weekly wage, adjusted for employee national insurance contributions, deflated by the cost of living. Sources: C. Feinstein, *National Income*, Table 65, P. Ormerod, G. Worswick, 'Unemployment in Interwar Britain', *Journal of Political Economy*, 90 (1982), Table 1, London & Cambridge Economic Service, *The British Economy Key Statistics, 1900-70* (1971) Table H.

58 F. Capie, A. Webber, *A Monetary History*, Table I.(1), Table III.(10).

59 C. Feinstein, *National Income*, Table 3.

some economists prefer to focus on the non-employment rate, or the fraction of those of working age who are not in work.[60] This is a measure of how well the economy is able actively to engage those capable of work. Obviously, some individuals of working age will have chosen not to seek employment, but others may be out of work involuntarily but are not recorded as even belonging to the workforce, perhaps because they are not entitled to benefit (so that their joblessness is not noted) or because they have been discouraged from actively seeking work by a dearth of opportunities.

The fluctuations in the participation rate revealed in Figure 9 suggest that the non-employment rate over the course of the interwar period might be worth examining, and we plot this series in Figure 11.

Figure 11: Unemployment and Non-Employment, 1910-38

Note firstly that the non-employment rate at any time was significantly higher than the unemployment rate. Even in the prewar period non-employment was roughly 30% of those of working age, compared to an estimated unemployment rate of 2%. This divergence reflects the fact that many individuals of working age, particularly females, did not wish to work and were therefore not included in the workforce. Nevertheless, in the absence of significant changes in participation the movement of the non-employment rate will mirror that of the unemployment rate, as we see during the prewar years.

By implication, the oscillations of the participation rate over the course of the interwar period mean that path the non-employment and unemployment rates often diverge in these years. The most important difference concerns the 1920s. Whilst both unemployment and non-employment rise dramatically during the early 1920s, the latter series declines only very slowly from its 1922 peak, whilst unemployment soon fell to a plateau well below its peak rate. Relative to past experience, the 1920s emerge as having experienced a much more serious problem of joblessness when the non-employment rate is examined. Whilst the unemployment rate averaged some 4½ percentage points of its 1910-13 mean between 1923-29, the non-employment rate settled at a level some 7 percentage points above its prewar average.

With the 1920s appearing to have been more depressed than the unemployment data would suggest, the subsequent impact of the Great Depression emerges as less severe (relative to past experience) when the non-employment data is examined, an impression that is consistent with the evidence discussed in section II.

The most important finding as far as this paper is concerned, however, is that the non-employment rate falls *below* its average level of the 1920s relatively early during the recovery of the 1930s. By 1935 the non-employment rate had fallen back to its 1929 level and with the economic upswing maintained in subsequent years the non-employment rate ended the decade at its lowest level since 1920.

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[60] See, for example, Bank of England, *Inflation Report* (August 1996), Chart 4.4.

The 1920s clearly emerge, therefore, as having experienced a sustained and significant problem of inactivity, with nearly four in every ten persons of working age not having a job. This is consistent with the economic experience of these years. Exports, in real terms, averaged just 78% of their 1913 level during the 1920s.[61] Monetary policy was consistently tight - money base expanding by an average of just 1.2% - as the authorities acted initially to combat inflation and facilitate a return to gold and subsequently to maintain the commitment to a fixed exchange rate.[62] Whilst the weakness of world trade in the 1930s meant that Britain's export performance remained sluggish in the later decade the devaluation of 1931 paved the way for a policy of cheap money and monetary growth averaged 2.9% between 1930-38. Hence at least one of the constraints under which the economy of the 1920s had laboured was removed from 1932 onwards.

Figure 11 suggests, therefore, that although joblessness peaked during the Great Depression the 1930s as a whole do not appear to have witnessed an increase in the excess supply of labour compared to the 1920s. The average non-employment rate during the 1920s was 37.4%, that for the 1930s 37.5%. The 1920s would seem to have been as much a 'devil's decade' as the 1930s. But a fraction of joblessness in the 1920s seems to have been concealed through non-participation in the workforce. There appears to have been a second army of jobless individuals during the interwar period, hidden in the home rather than loafing on street corners.

V

The picture painted by the unemployment data is of a labour market, already experiencing dislocation during the 1920s, suffering even more serious difficulties following the Great Depression. Yet we have seen that aggregate demand rebounded quickly from the ill effects of the slump, and employment growth was substantial during the 1930s.

The non-employment rate suggests an alternative interpretation of the interwar period, with the impression that joblessness was a more significant and protracted problem during the 1920s, as the British economy struggled to adjust to a decline in export volumes, the effort to return to the Gold Standard at prewar parity and the imbalances engendered by having placed the economy on a war footing. The onset of the Great Depression undoubtedly added to the labour market's misfortunes, but the subsequent recovery witnessed a marked decline in joblessness. The non-employment rate data suggests that by the end of the 1930s the percentage of the population of working age who were in work was higher than had been the case throughout the 1920s.

Joblessness became more visible during the 1930s, both because unemployment was rising and because long-term unemployment emerged as evidence of significant dislocation in the labour market. But the magnitude of joblessness declined much more rapidly during the 1930s, and was a more intractable problem in the 1930s.

Our tentative explanation for why unemployment was higher in the 1930s than in the 1920s, therefore, is a rather surprising one. We argue that it may well be wrong to speak of the 1930s as having witnessed more serious problems of excess supply of labour than the 1920s. Instead, over the course of the 1930s the estimated unemployment rate seems simply to have become a more accurate measure of the extent of joblessness.

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