

Nordic Unemployment in a European Perspective

Jørgen Elmeskov*

Summary

■ In contrast to the high and persistent unemployment which has plagued most European countries for two decades, the Nordic countries until recently maintained a resemblance of full employment. Since the early 1990s, however, unemployment has increased dramatically in the Nordic countries. Against that background, this paper reviews a number of potential explanations for the different unemployment experiences in the past in order to assess their relevance and the implications for future unemployment trends in the Nordic countries. Higher past unemployment in other European countries probably contained both an element reflecting a rise in the natural rate of unemployment and an element reflecting slow adjustment back to the natural rate following adverse employment shocks. There are some indications that Nordic labour markets have been exposed to smaller shocks, *inter alia* because real wages have been relatively flexible, labour forces have been pro-cyclical and public sector employment has at times offset some of the weaknesses in private labour markets. With many features common to both Nordic and other European labour markets, there is a risk that Nordic unemployment could persist at a high level as has happened elsewhere in Europe. ■

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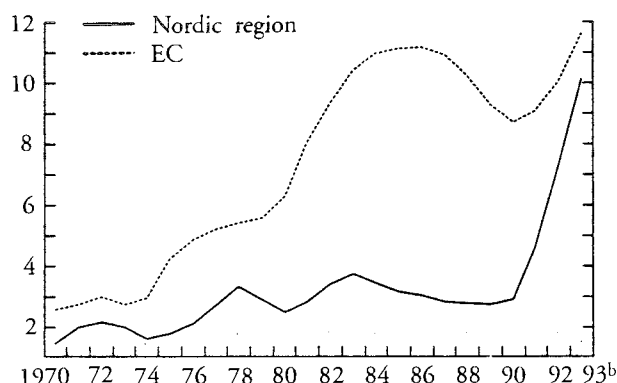
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A few years ago most of the Nordic region resembled an island of low unemployment in a sea of high European joblessness. Since the early 1990s this picture has changed dramatically and Nordic unemployment is now at almost the same level as that of the EC countries (Figure 1). This has naturally prompted fears that the Nordic countries are about to repeat the EC experience of unemployment persisting at a high level and has also increased the interest in finding explanations for the previous, superior performance. Against that background, this paper reviews and compares a number of labour market features and institutions which may have had an impact on past developments and potentially also a bearing on whether the Nordic countries are about to go down the same road of persistently high unemployment as the EC countries.

An initial word of caution may be appropriate, however. As will be seen subsequently, it is very difficult to distil either *a European* or *a Nordic* unemployment story. Indeed, variation across countries in both their experience with unemployment and their institutional set-up makes it hazardous to group them in regions like the EC and the Nordic countries. An obvious example is that Denmark has experienced much the same aggregate unemployment rates as the other EC countries but has institutional arrangements in the labour market which in many ways resemble those of the (other) Nordic countries. Throughout this paper,

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Figure 1. Unemployment rates in the Nordic region and EC^a

^aThe Nordic region is defined as comprising Sweden, Finland, Norway and Iceland. The EC is defined as comprising the current 12 member countries, i.e., including Denmark.

^bFigures for 1993 are based on OECD (1993).

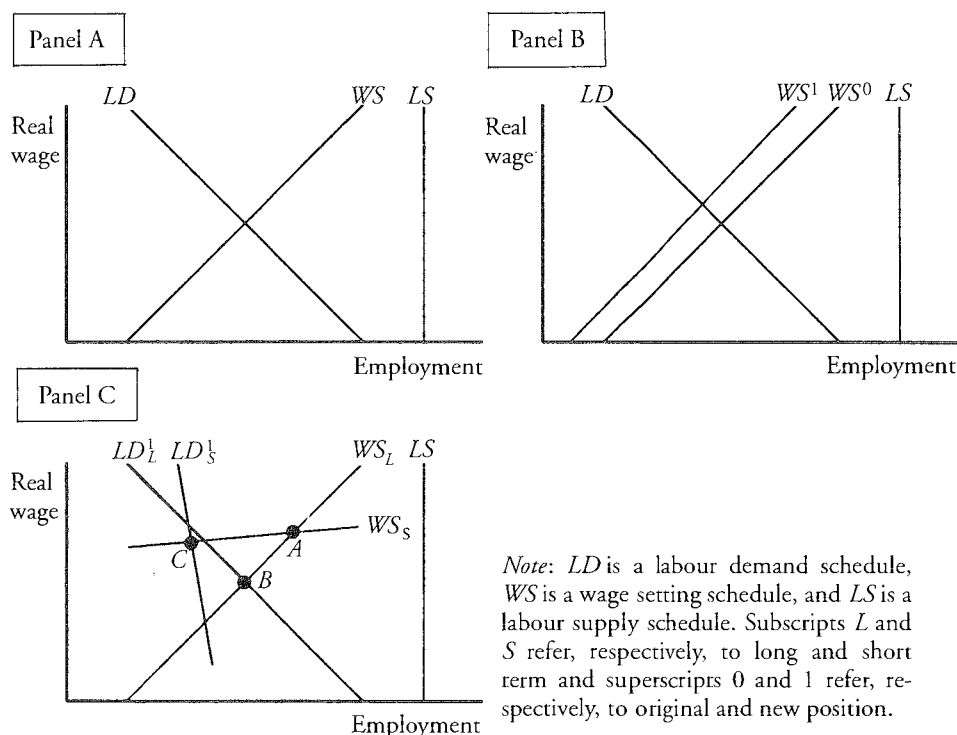
Denmark will be treated as being “European”, not “Nordic”. This leaves four Nordic countries but, given the weakness of data coverage for Iceland, the main emphasis is on Finland, Norway and Sweden.

The paper is organised as follows. In the following section, various evidence concerning the character of European unemployment is reviewed. A main question is whether its persistence at a high level should be taken as a sign that the long-run equilibrium rate of unemployment, the natural rate, has risen correspondingly or, instead, that adjustment back to a lower level of equilibrium unemployment is just occurring very slowly. Based on the findings in that section, the subsequent section contains an examination and comparison of various features of Nordic and other European labour markets which may explain past differences in unemployment and give some hints as to whether future unemployment trends are likely to be more similar. The final section offers a few concluding comments.

I. The character of unemployment

I.1. A conceptual framework

The broad framework which will be applied has been used extensively in the literature over recent years (see e.g. Alogoskoufis and Manning, 1988; Bean, 1992; Layard *et al.*, 1991 or Lindbeck, 1992). At the aggregate level, equilibrium employment and the corresponding real wage are determined by the intersection of labour demand and wage setting schedules (Figure 2, panel A). Unemployment is the difference between labour supply and demand at the equilibrium real wage.

Figure 2. A conceptual framework for studying unemployment

The *labour supply schedule* (LS) shows the amount of labour people are willing to supply at different real wages when acting individually. Both LS and the other curves in Figure 2 are drawn with labour relative to the total population on the horizontal axis. For simplicity, the LS curve is drawn as being vertical, i.e., labour supply is assumed to be independent of the real wage.

The location of the *labour demand schedule* (LD), which may alternatively be thought of as a price setting schedule, depends, *inter alia*, on labour efficiency, on the extent of product market competition, on cost components other than wages and on the size of public sector employment. Its downward slope may reflect either pro-cyclical price mark-ups or the presence of a fixed factor, entailing a diminishing marginal product of labour. In the short term, thus, when the capital stock is fixed, the labour demand curve may consequently be relatively steep, whereas it may become flatter over the longer term when factor proportions are more flexible and labour demand therefore responds more strongly to real wages.

The *wage setting schedule* (WS) reflects the moderating effect of unemployment on real wages. Its position relative to that of labour supply illu-

strates how much unemployment is “necessary” for the wage bargaining process to deliver a certain real wage. This depends, *inter alia*, on social attitudes, the level of unemployment benefits and other factors which affect the relative bargaining strengths of labour market parties. Moreover, the wage bargaining process may be thought of as “internalising” firms’ labour demand behaviour, implying that factors which affect labour demand may also affect wage setting. The wage setting curve is likely to be steeply sloped over the long run, with the hypothesis of a constant natural rate of unemployment represented by a vertical long-run wage setting curve. In the shorter run the wage-setting schedule is probably flatter since wages can be assumed to react only slowly to changes in unemployment.

This framework can be used to illustrate various hypotheses concerning the rise in European unemployment. The simplest one is that various factors have weakened incentives for wage restraint. This can be illustrated by a leftward shift of the wage setting schedule (Figure 2, Panel B) implying that higher unemployment is associated with each level of real wages. Possible reasons are increased generosity of unemployment benefits, increased public acceptance of unemployment and increased mismatch in the labour market.

An alternative view of European unemployment is that it reflects very slow adjustment back to a lower level of equilibrium unemployment. Panel C in Figure 2 illustrates the situation following a downward shock to labour demand due, for example, to higher oil prices or higher real interest rates. The long-run equilibrium is portrayed as having shifted from *A* to *B*. Due to aggregate demand effects, the short-run labour demand curve shifts strongly to the left. As a result, the immediate effect of the shock is sharply lower employment but, because of slow wage adjustment, only a small reduction in real wages (point *C*). Over time, as higher unemployment exerts downward pressure on the short-term wage setting schedule, real wages continue to fall, but the fall may be slow, as those out of job gradually see a reduction in their influence on wage formation. In the short term, lower real wages have only a limited impact on employment because the short-term labour demand schedule is relatively steep and only gradually shifts rightwards as a result of lower real wages. The upshot is that adjustment to a new equilibrium can be a very drawn-out process, which on the way may involve a complicated process of convergence with risks of overshooting. This evidently also goes for a disturbance originating on the wage setting side of the labour market.

A final view on European unemployment is that, following a shock, somehow the process of adjustment comes to a halt before joblessness has

returned to its initial equilibrium. Considering the same example as in the previous case, the short-term wage setting curve may fail to shift downwards despite higher unemployment. That is, the real wage initially responds to the fall in employment but does not continue to adjust despite the higher level of unemployment. This might be represented by the long-term wage setting curve shifting to the left. The view, sometimes referred to as the hysteresis hypothesis, that only changes in unemployment, not levels, influence wage setting might be associated with an extreme version of the insider-outsider model of wage formation.

1.2. Review of evidence

The view of higher European unemployment as mainly reflecting a rise in equilibrium unemployment receives some support from the shifting upwards of simple Phillips curves (Figure 3). Based on the notion that when unemployment is below the equilibrium rate of unemployment wages tend to accelerate, and vice versa, the left-hand panel for each country/region in Figure 3 suggests that the non-accelerating wage rate of unemployment (the *NAWRU*) has indeed risen strongly in the EC. The United States and Japan provide a contrast, where the *NAWRU* appears to have changed relatively little between the early 1970s and early 1990s. Ominously, there is also some suggestion of a recent upward shift for the Nordic countries.

The information in the left-hand panels of Figure 3 can be used to construct series for the trend *NAWRU*. Assuming that wages, W , accelerate (decelerate) when unemployment, U , is below (above) the *NAWRU*, and assuming linearity, one has:

$$D^2 \log W = a \cdot (NAWRU - U), \quad (1)$$

where $a > 0$ and D is the first-difference operator. Assuming further that the *NAWRU* is unchanged between consecutive observations, a can be found as:

$$a = -D^3 \log W / DU \quad (2)$$

which, when substituted back into equation (1) yields an estimate of the *NAWRU*:

$$NAWRU = U - (DU / D^3 \log W) \cdot D^2 \log W \quad (3)$$

The raw *NAWRU* estimates obtained from applying equation (3) have subsequently been smoothed, using the Hodrick–Prescott filter, to obtain the trend *NAWRU* shown in the right-hand panels of Figure 3. In all

Figure 3. Actual and trend unemployment

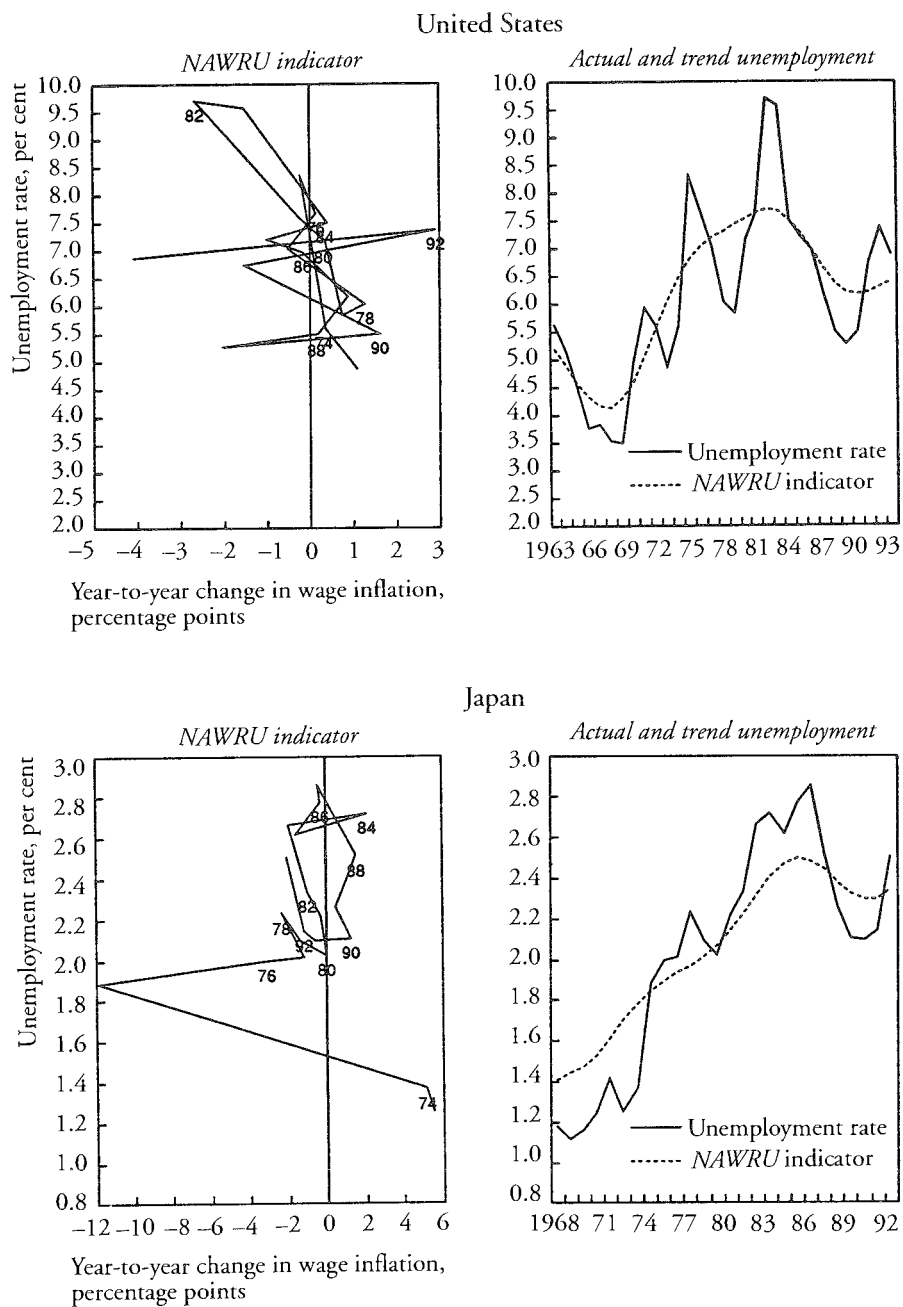
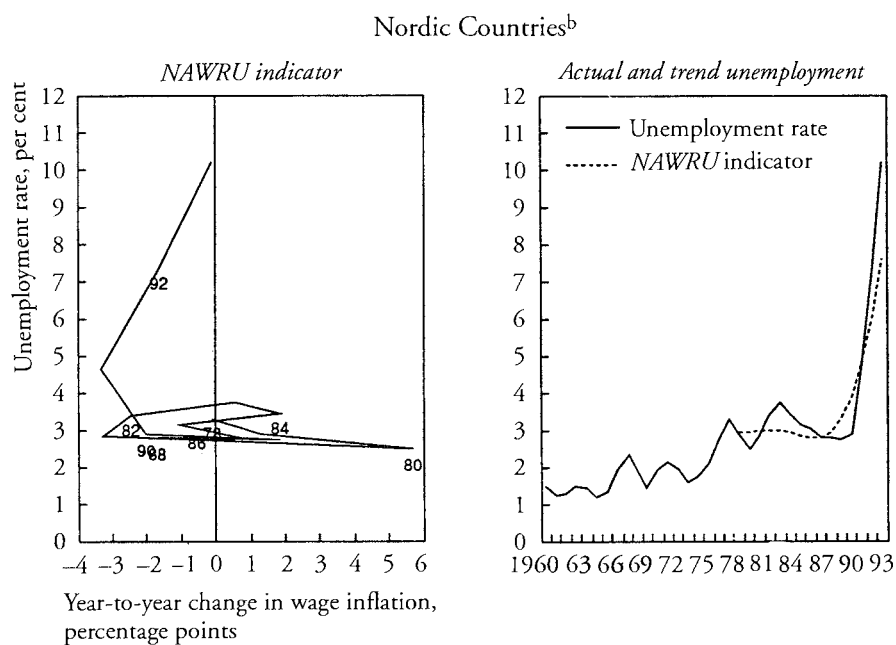
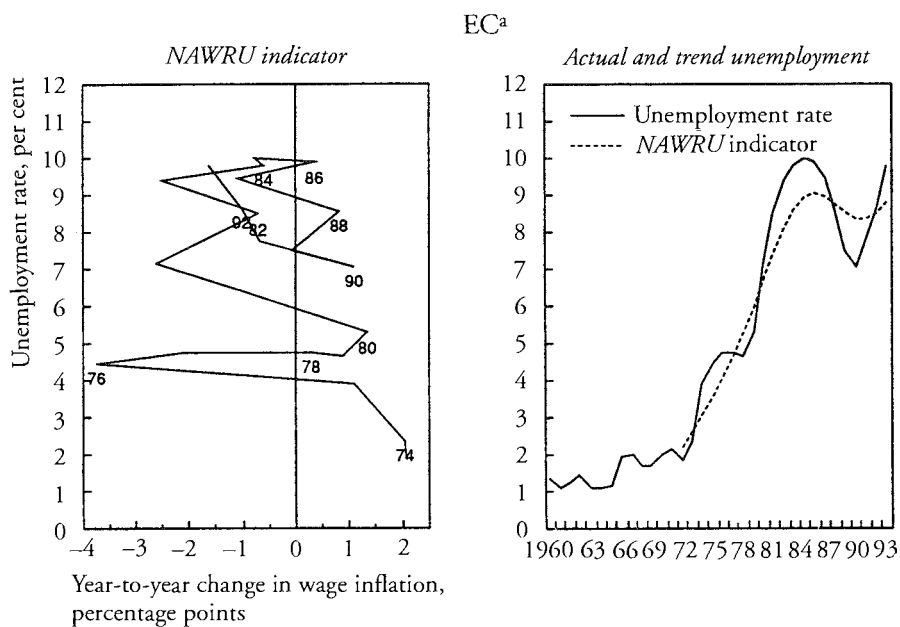


Figure 3 (continued)



^a Germany, France, United Kingdom, Belgium and Denmark.

^b Finland, Norway and Sweden.

countries or regions, this trend *NAWRU* is close to a simple trend unemployment rate.

Nevertheless, evidence also exists which contradicts the hypothesis that the rise in European unemployment was largely accounted for by a rise in equilibrium unemployment, suggesting instead that slow adjustment may be playing a major role. If equilibrium unemployment had risen in line with trend unemployment, it might be expected that wage inflation would be affected only by deviations of unemployment from its trend. On this point, the available evidence is not very supportive. Table 1 reports on estimations of wage equations of the Phillips-curve type which have been kept simple and where, admittedly, compromises have been made concerning statistical properties in order to have as broad and comparable country coverage as possible. Two basic specifications have been used, one implying very few restrictions on wage formation (equations 1 and 3) and one imposing both static and dynamic homogeneity, implying that unemployment can only be durably affected by either permanently rising or falling inflation (equations 2 and 4). Concentrating first on equations 1 and 2, these include both the level of unemployment as well as its difference from trend as explanatory variables.¹ With a few exceptions, the deviation of unemployment from trend does not come in significantly, and for two of the three countries where it does come in significantly with the right sign (France, Denmark and Austria), the level term remains significant (France and Denmark).

Other evidence is also suggestive of unemployment in many European countries deviating persistently from its longer-term equilibrium. Thus, labour shares in business sector value added have fallen significantly in the course of the 1980s and early 1990s (Figure 4). In many cases, wage shares appear to have broken out of their previous fluctuation ranges (Elmeskov, 1993) and have reached levels which are lower than at any time since the beginning of the 1960s. Falling wage shares in themselves do not imply that unemployment is above its equilibrium level, but it is noticeable that such a fall has been either absent or much less pronounced in most countries which have avoided a strong rise in unem-

¹ Evidently the choice of trend rate of unemployment is arbitrary and is likely to affect the estimation results. The trends used in the estimations have been constructed by regressing actual unemployment rates against simple time trends, but using trend *NAWRUs* as in Figure 3 does not materially alter the results. Moreover, the hypothesis that only deviations of unemployment from trend affect wage formation was also examined by Egebo and Englander (1992), who likewise found little empirical support for this conclusion among ERM countries despite using a number of different unemployment trends, including those estimated by Layard *et al.* (1991).

Table 1. Testing for the influence of unemployment on wage formation

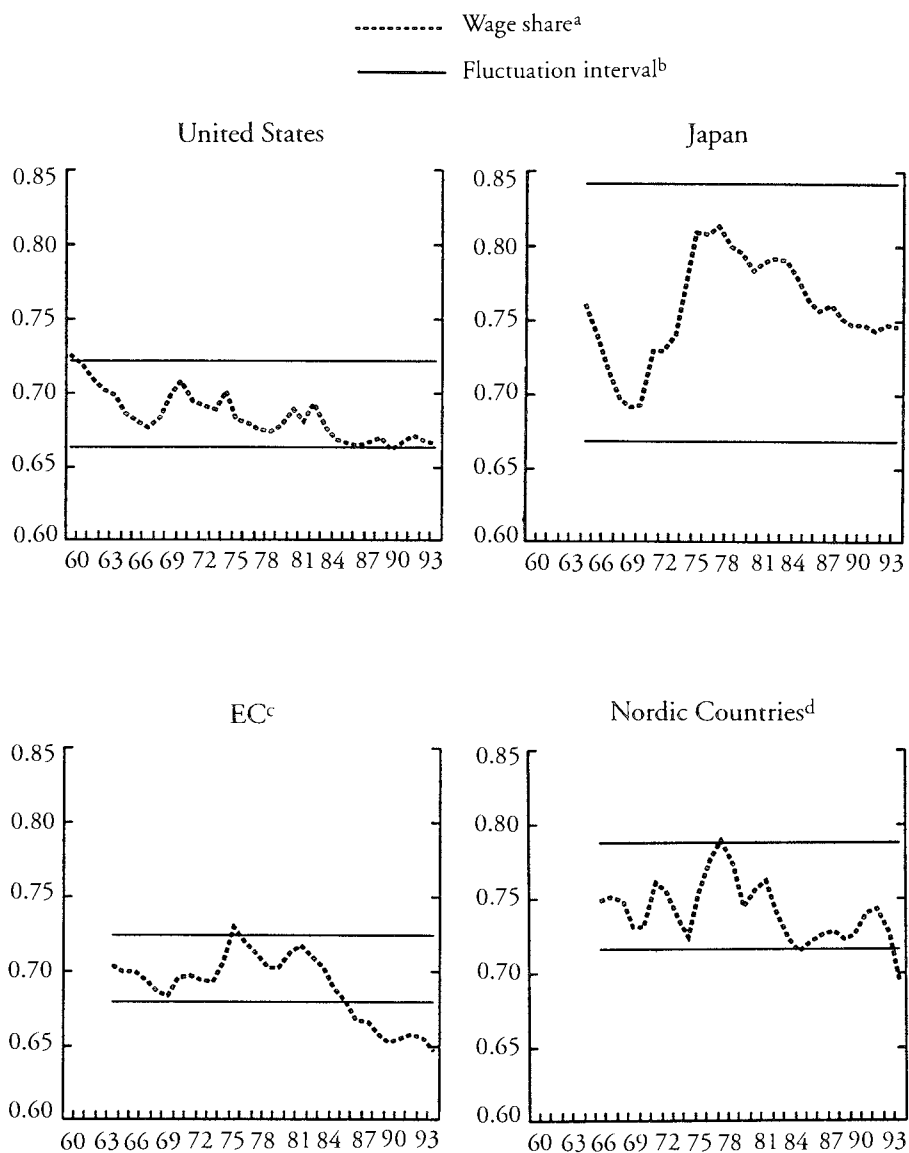
- (1) $D\log WR = c + a \cdot LD\log WR + B(L) \cdot D\log PCP + C(L) \cdot D\log PGDPB + d \cdot f(UNR) + g \cdot (UNR-UTREND)$
- (2) $D\log(WR/PCP) = c + a \cdot LD\log(WR/PCP) + b \cdot DD\log PCP + C(L) \cdot D\log(PGDPB/PCP) + d \cdot f(UNR) + g \cdot (UNR-UTREND)$
- (3) $D\log WR = c + a \cdot LD\log WR + B(L) \cdot D\log PCP + C(L) \cdot D\log PGDPB + d \cdot f(UNR) + e \cdot DUNR$
- (4) $D\log(WR/PCP) = c + a \cdot LD\log(WR/PCP) + b \cdot DD\log PCP + C(L) \cdot D\log(PGDPB/PCP) + d \cdot f(UNR) + e \cdot DUNR$

| Equation | (1) | | | (2) | | | (3) | | | (4) | | |
|----------------|----------|----------|--|----------|----------|--|----------|----------|--|----------|----------|--|
| Coefficients | <i>d</i> | <i>g</i> | | <i>d</i> | <i>g</i> | | <i>d</i> | <i>e</i> | | <i>d</i> | <i>e</i> | |
| United States | -0.07 | -0.19 | | -0.32* | -0.05 | | -0.20 | -0.33* | | -0.30** | -0.42** | |
| Japan | -2.70** | 1.04 | | -1.99* | 1.09 | | -2.25** | -0.61 | | -1.47 | -2.41 | |
| Germany | -0.83** | 0.13 | | -0.84** | 0.36 | | -0.76** | -0.75 | | -0.73** | -0.96** | |
| France | -0.68** | -0.17 | | -0.51** | -0.45 | | -0.71** | -0.36 | | -0.61** | -0.77 | |
| Italy | -0.79** | -0.06 | | -0.70** | 0.60 | | -0.85** | -0.80 | | -0.79** | -1.01 | |
| United Kingdom | -0.01 | 0.04 | | -0.07 | 0.44 | | -0.00 | 0.06 | | 0.01 | -0.47 | |
| Canada | -0.15 | -0.00 | | -0.26 | 0.03 | | -0.14 | 0.15 | | -0.25 | -0.25 | |
| Australia | -0.41 | -1.20 | | -0.41 | -1.20 | | -0.85* | 0.80 | | -0.81* | 0.80 | |
| Austria | -0.24 | -1.55 | | -0.15 | -1.66* | | -0.22 | -2.21* | | -0.29 | -2.10** | |
| Belgium | -1.17** | 0.08 | | -1.01** | -0.14 | | -1.15** | -0.51 | | -1.09** | -0.84 | |
| Denmark | -0.26** | -0.67** | | -0.28** | -0.64** | | -0.46** | 0.39 | | -0.38** | 0.16 | |
| Netherlands | -0.70 | -0.07 | | -0.11 | -0.63 | | -0.54 | -0.74 | | -0.41 | -0.97 | |
| New Zealand | -0.07 | -0.92 | | -0.05 | -0.70 | | -0.05 | -0.24 | | -0.02 | -0.37 | |
| Norway | -0.62 | 0.70 | | -0.41 | 0.47 | | -0.28 | -0.99 | | -0.12 | -1.29 | |
| Portugal | -1.47 | -0.35 | | -1.22** | -0.54 | | -1.76** | -0.25 | | -1.40** | -0.11 | |
| Spain | -0.45** | 0.56** | | -0.44** | 0.56** | | -0.20 | 0.33 | | -0.13 | -0.18 | |
| Sweden | 1.57 | -4.00 | | -1.78 | 0.04 | | -0.63 | -3.68** | | -0.66 | -4.46** | |
| Switzerland | -4.21** | 3.56 | | -4.21** | 3.56 | | -3.87** | 1.44 | | -3.56** | 0.79 | |
| Turkey | 0.33 | -1.95 | | 0.34 | -1.96 | | -1.13 | -2.57 | | -0.68 | -1.43 | |

Asterisks represent significance: ** = 5 per cent; * = 10 per cent.

Note: For the sake of cross-country comparability and in the light of sometimes short data series, common, relatively parsimonious specifications have been used. This sometimes leads to less than satisfying statistical properties of the estimated equations. The variables are as follows: *WR*: wage rate per employee in the business sector; *PCP*: private consumption deflator; *PGDPB*: value-added deflator in the business sector; *UNR*: unemployment rate; *UTREND*: trend unemployment rate. *D* is the first difference operator and *L* is a lag operator. The order of *L*-polynomials is 1. For most countries the estimation period stretches from the mid-1960s to 1991. In the cases of France, Australia, Austria, Belgium, the Netherlands and Turkey, the estimation period begins in the early 1970s.

Figure 4. Wage shares in the business sector



^a Calculated by imputing a wage compensation to self-employed equal to average compensation for wage earners.

^b Horizontal lines show fluctuation interval over the period up to and including 1980. They have been calculated as the mean wage share \pm two times its standard deviation.

^c Belgium and the Netherlands are excluded.

^d Finland, Norway and Sweden.

ployment, such as the United States, Japan and, until recently, Austria, Finland, Iceland, Norway, Sweden and Switzerland. Other factors than above-equilibrium unemployment might potentially account for a drop in wage shares, but it may be difficult to identify such factors which affected only the EC countries with strongly rising unemployment.

If rising trend unemployment in a number of European countries had been entirely a result of a similar rise in equilibrium unemployment, there would be little reason to expect the degree of cyclical variability of unemployment to bear any relation to the size of the trend rise in unemployment. Yet, such a relationship seems to be present (Figure 5). The countries with the most cyclically volatile unemployment rates also saw the largest increases in trend unemployment (using a different method to derive the degree of cyclical variation in unemployment does not seem to affect the results; see Elmeskov and Pichelman, 1993). This correlation across countries points to slow adjustment in the wake of negative shocks as a mechanism leading to higher trend unemployment, with the countries experiencing the largest unemployment shocks also experiencing the largest increases of trend unemployment as the shocks were superimposed on each other. The cross-country correlation is not perfect, however: French unemployment fluctuated very little around a strongly rising trend, while unemployment in the United States has been very volatile but has shown little trend increase.

Conceptually, testing for a unit root in unemployment seems like an appealing way of determining the character of rising unemployment.² When tested against the simple hypothesis of unemployment being stationary around a constant level, the hypothesis of a unit root cannot be rejected for any country (Table 2). Since the alternative hypothesis would correspond to unemployment reverting to a stable natural rate, the acceptance of the null hypothesis is perhaps not surprising, at least for the EC countries. When the alternative includes a drift, the unit root is rejected for the United States, Iceland and Sweden at the 10 per cent level. For these countries, unemployment has in the past tended to revert to a trend. When the alternative is expanded to include both a drift and a trend, the unit root hypothesis can be rejected for a number of countries (including the Nordic countries except Norway) but not for most EC countries. This might seem suggestive of either very slow adjustment back to equilibrium in these

² Strictly speaking, unemployment rates are bounded between 0 and 1 and, therefore, cannot possess a unit root. Nevertheless, given the typical fluctuation range for unemployment rates in most OECD countries, this is hardly a serious objection to the use of unit root tests to provide evidence about the character of unemployment.

Figure 5. Cyclical and trend rise of unemployment
Percentage points

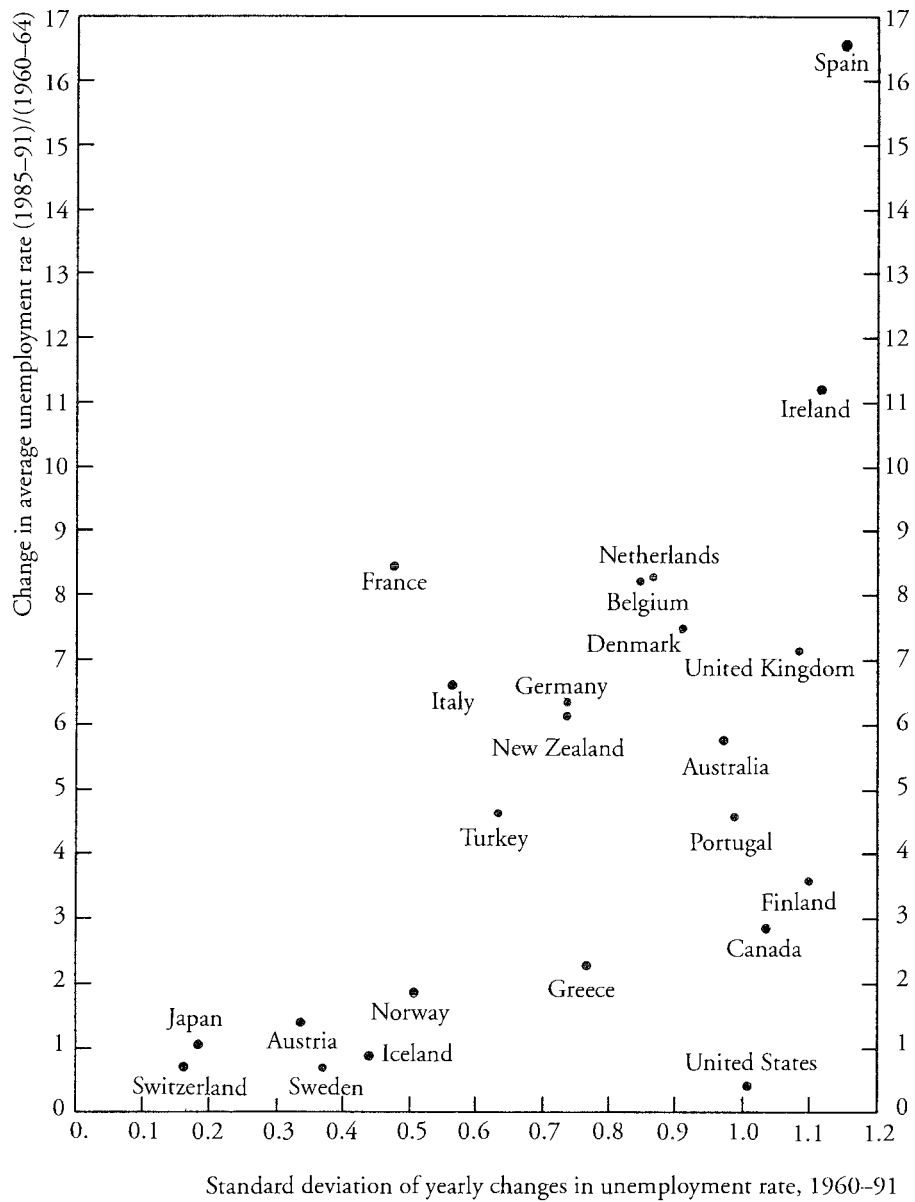


Table 2. Time-series properties of unemployment

| | Probability of unit root ^a against hypothesis of stationarity with: | | |
|----------------|--|-------|-----------------|
| | Constancy | Drift | Drift and trend |
| United States | 0.59 | 0.08 | 0.09 |
| Japan | 0.87 | 0.80 | 0.69 |
| Germany | 0.54 | 0.55 | 0.11 |
| France | 0.99 | 0.95 | 0.51 |
| Italy | 0.98 | 0.91 | 0.30 |
| United Kingdom | 0.84 | 0.72 | 0.02 |
| Canada | 0.77 | 0.55 | 0.08 |
| Australia | 0.98 | 0.95 | 0.09 |
| Austria | 0.94 | 0.87 | 0.75 |
| Belgium | 0.62 | 0.56 | 0.54 |
| Denmark | 0.99 | 0.91 | 0.37 |
| Finland | 0.98 | 0.89 | 0.01 |
| Greece | 0.79 | 0.63 | 0.62 |
| Iceland | 0.16 | 0.03 | 0.04 |
| Ireland | 0.97 | 0.91 | 0.33 |
| Netherlands | 0.74 | 0.74 | 0.15 |
| New Zealand | 1.00 | 1.00 | 1.00 |
| Norway | 0.99 | 1.00 | 0.53 |
| Portugal | 0.39 | 0.23 | 0.36 |
| Spain | 0.89 | 0.86 | 0.01 |
| Sweden | 0.90 | 0.09 | 0.02 |
| Switzerland | 0.98 | 0.98 | 0.07 |
| Turkey | 0.97 | 0.68 | 0.20 |

^a Based on augmented Dickey–Fuller test. For the seven major countries, semi-annual data covering the period 1961:1 to 1991:2 were used, while annual data covering the same period were used for the small countries. The hypotheses being tested concern the noise process, Z , of the unemployment series, U , which also contains a deterministic trend, D , i.e., $U = D + Z$. Three different specifications of the deterministic trend are considered, $D = c$ (first column), $D = c_1 + c_2 \cdot \text{TIME}$ (second column), and $D = c_1 + c_2 \cdot \text{TIME} + c_3 \cdot \text{TIME}^2$ (third column). In all cases, the noise component is assumed to be an AR(1) process and the test concerns the parameter a in $Z = a \cdot Z(-1) + \epsilon$, where ϵ is white noise. The null hypothesis of a unit root is represented by $a = 1$ while stationarity implies that $a < 1$. The table reports probabilities of accepting the null hypothesis. For additional information, see Campbell and Perron (1991).

countries or the absence of an adjustment process as in the extreme hysteresis hypothesis. The power of these tests to distinguish between slow reversion and a unit root is, however, limited. Moreover, other specifications of the stationarity hypothesis might conceivably have led to rejection of the unit root hypothesis also for most EC countries.

If the circumstantial evidence suggests that there is an important element of slow adjustment in European unemployment, the question still

needs to be answered as to why the trend "equilibrium" rates of unemployment of Figure 3 are so close to actual unemployment trends. One potential explanation for the *NAWRU* indicator being at the same level as actual unemployment in the late 1980s is that perhaps not only the level of unemployment but also its rate of change plays a role for wage inflation. Thus, high levels of unemployment may have born down on wage inflation but this effect could have been offset by the tendency for unemployment to fall, resulting in wage developments which, when interpreted in a simple Phillips-curve framework, suggested that equilibrium was close to actual unemployment.

Some support for the notion that rates of change of unemployment affect wage formation can be gathered from the wage equations in Table 1. Equations 3 and 4 correspond to equations 1 and 2 discussed above but with the deviation of unemployment from trend replaced by the first difference of unemployment. This term generally comes in with the expected (negative) sign, though it is significant in only a modest number of countries. Estimation results reported in Alogoskoufis and Manning (1988), Andersen (1992) and Layard *et al.* (1991) also support the hypothesis that rates of change of unemployment do affect wage setting. Such a rate-of-change effect may be rationalised on the basis of insider-outsider theories, with a rise in unemployment in the short term associated with an increased number of unemployed insiders but with these gradually drifting into outsider status.

It is difficult to draw a bottom line from the evidence discussed above. Most likely, the increase of unemployment in Western Europe contains both an equilibrium component and a slow adjustment component. Moreover, these components are difficult to separate: part of the rise in EC equilibrium unemployment may have been caused by a gradual transformation from cyclical over slow-adjustment to equilibrium unemployment. This gradual transformation corresponds to the observation in Jackman *et al.* (1990) that outward shifts in the Beveridge curve in many countries often occur as the combined effect of, first, a movement along the curve as the economy enters a downturn and, subsequently, a return to a "normal" level of vacancies which, however, is not associated with a corresponding drop in unemployment.

2. Comparing EC and Nordic countries

The rather abrupt rise in unemployment and the many signs of excess supply in Nordic labour markets suggest that slow adjustment back to lower equilibrium unemployment is an important potential threat in the Nordic countries and that, therefore, learning from European experience in this field is useful. In addition, it is important to identify factors which in the past may have accounted for equilibrium unemployment rising more strongly in EC than in Nordic countries. This section goes about these tasks by examining across countries a number of features relating to the three curves in the basic conceptual framework outlined in Section 1.1. First, labour supply is discussed; secondly, labour demand is taken up; thirdly, the wage setting relationship is considered; and, finally, the role of government intervention is examined within the overall framework.

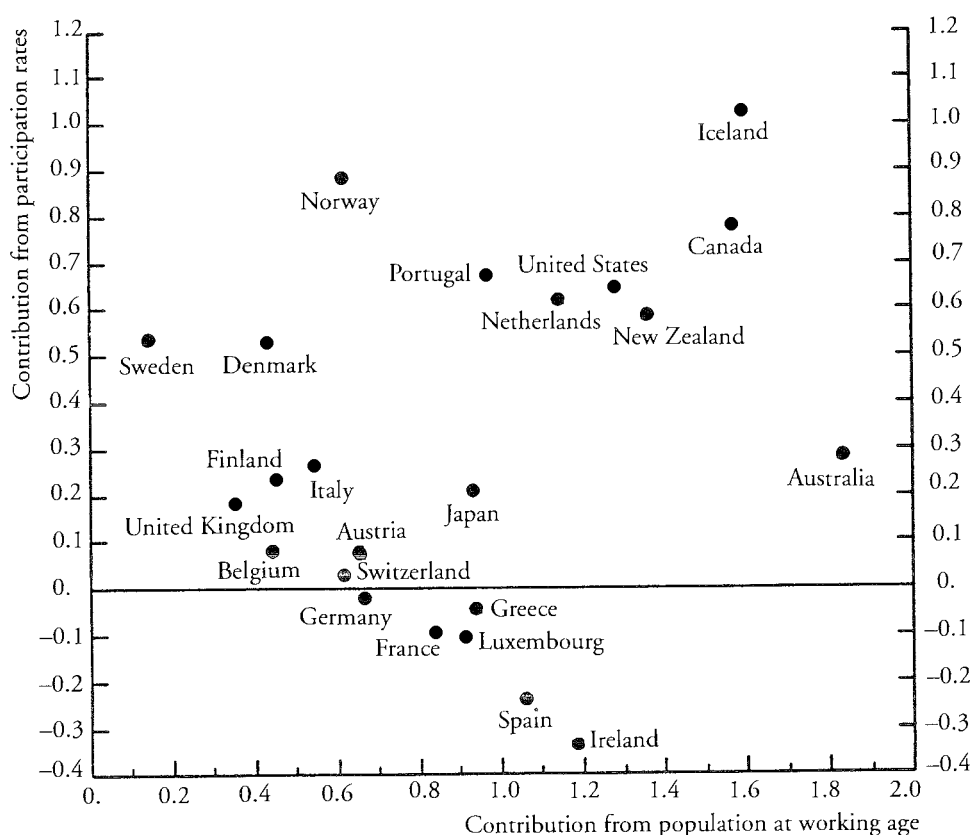
2.1. Labour supply: trends and cycles

Trends. Labour forces in Sweden and Finland grew in line with most other Northern and Central European countries over the two decades from 1970 while in Norway, and particularly in Iceland, growth was markedly higher (Figure 6). The composition of labour force growth differed considerably from most other European countries, with comparatively slow growth in the population at working age but marked rises in participation rates (even though these were already relatively high at the beginning of the period).

Relatively stable participation rates in most EC and Central European countries were the combined result of strongly falling male participation and some rise in female participation, whereas in the Nordic countries male participation fell much less and female participation rose more strongly.

Despite strongly rising female participation rates and the particularly high frequency of female part-time work in the Nordic countries, the indications are that average working hours declined less in most Nordic countries than in the rest of Europe. This is explained, not least, by the fact that female part-time frequencies rose strongly elsewhere in Europe while they declined slightly, albeit from a high level, in most Nordic countries, Norway being an exception. Overall, thus, labour supply measured in hours has in the past developed more strongly in the Nordic countries than in most other European countries. It cannot, therefore, account for contrasting unemployment trends until a few years ago, even if

Figure 6. Decomposition of labour force growth, 1970–91
Contributions to average annual growth, percentage points



Source: OECD, Labour Force Statistics

labour supply growth were thought to have a lasting impact on unemployment.

Cycles. Countries differ strongly in the extent to which a negative shock to output shows up in higher unemployment. One of the determinants of the unemployment sensitivity to output variations is the degree of pro-cyclicality of the labour force, which also varies strongly across countries. This pro-cyclicality, which in most cases seems to reflect causality predominantly running from employment to labour force (Elmeskov and Pichelmann, 1993), has historically been relatively high in some of the Nordic countries. In Sweden this may perhaps partly reflect that participants in some active labour market programmes are classified as being

outside the labour force. In contrast, many EC countries appear to have cyclically inflexible labour forces.

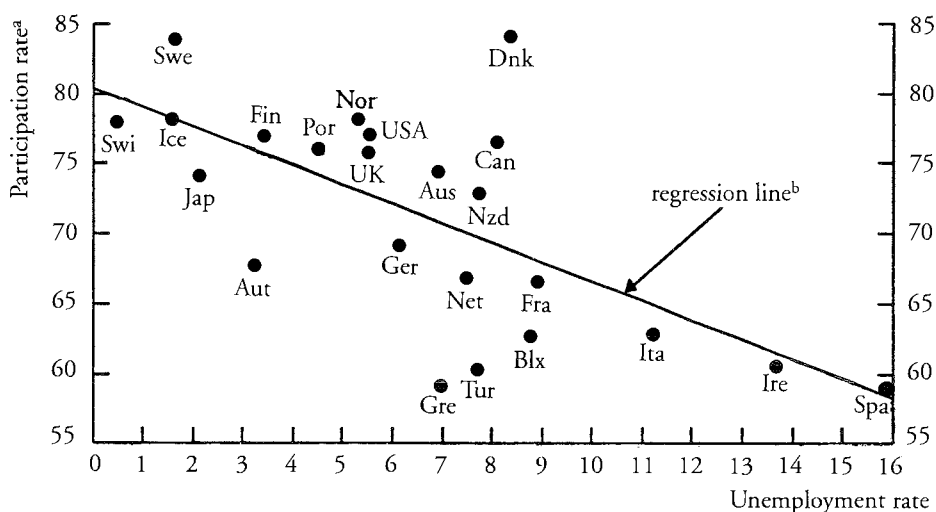
Interaction between cycles and trends. While unemployment tends to persist following a negative shock to an economy, no such persistence effects seem to operate on the labour force. The Nordic countries with a relatively cyclical labour force have not suffered from slower trend growth of the labour force than countries with more stable labour supply, such as most EC countries. If anything, there might be a slight tendency for participation rates to be higher and to have increased more in countries with cyclical labour forces. More generally, countries with high and/or strongly rising trend unemployment have experienced low or negative changes in participation rates (Figure 7). Thus, at least at the aggregate level, there is very little evidence pointing in the direction of a trade-off across countries between low unemployment and a high participation rate with underemployment showing up in some countries as low participation and in others as open unemployment. This factor has certainly not been the explanation for either low Nordic unemployment until recently or the subsequent strong rise.

2.2. Labour demand

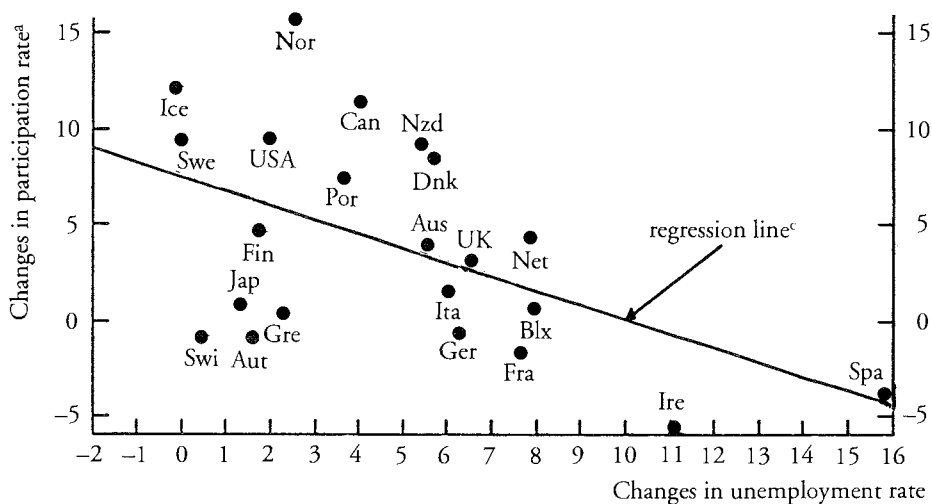
Shifts in the labour demand curve. Many of the factors which have tended to shift labour demand curves over recent decades are common across countries. A factor which is often associated with downward shifts in the labour demand curve is the successively higher energy prices through the 1970s and into the 1980s. It may be argued that the Nordic countries had more of a cushion against the effects of higher energy prices than other European countries. Thus, due to indigenous energy sources, which did not experience the same price development as oil, some of them relied less on imported energy than other European countries. Norwegian oil production makes that country a special case, though employment in the oil sector is limited and the rest of the economy is likely to face the same situation as any other country experiencing a rise in the price of energy. It is also worth noting that Finland's bilaterally balanced trade regime with the Soviet Union helped to cushion that country against the international slowdown in the wake of the second round of oil price increases. Moreover, at least in the 1970s, raw materials prices in general, not only energy prices, rose markedly, tending to boost output prices for the raw material producing Nordic countries.

Figure 7. Unemployment and participation rates, cross-country trends and levels

A. Levels 1990 (per cent)



B. Changes between average 1966–70 and average 1986–90 (percentage points)



^a Labour force as a share of total population 15–64 years

^b The line is based on the estimated equation:

$$\text{Participation rate} = 80.4 - 1.38 \cdot \text{unemployment rate}; R^2 = 0.42$$

absolute *t*-values (31.5) (4.09)

^c The line is based on the estimated equation:

$$\text{changes in participation rate} = 7.47 - 0.74 \cdot \text{changes in unemployment rate}; R^2 = 0.23$$

absolute *t*-values (4.43) (2.68)

Higher real interest rates in the 1980s entailed an increase in the costs of capital and tended to shift the labour demand curve downwards. The size of the shift evidently depended on the size of the increase in real interest rates as well as on the capital intensity and the substitution possibilities in production. Evidence on the two latter points is not very robust. However, there is some indication that production is relatively capital intensive in the Nordic countries compared to other European countries (Englander and Gurney, 1994).

Real interest rates are generally unobservable and, in addition, the Nordic countries moved from having highly regulated financial markets in the 1970s to gradually more liberalised markets in the 1980s. Comparisons across countries are therefore difficult. However, results based on a number of strong assumptions do not suggest that long-term real interest rates rose either more or less in the Nordic countries than was the case in most other European countries, though their average level in the 1980s may have been comparatively low by European standards (Tease *et al.*, 1991). In recent years, capital costs in the Nordic countries were evidently boosted by exchange rate pressures as well as by troubles in financial sectors which are likely to have contributed to a downward shift of the labour demand curve at the time when unemployment rose.³

Another common factor lowering labour demand (or limiting its rate of increase over time) is the slowdown in growth of total factor productivity (TFP) at the beginning of the 1970s. To the extent this slowdown was not fully internalised in wage setting behaviour, the labour demand curve shifted down relative to the wage setting schedule and unemployment increased. There is some indication that the slowdown in TFP growth may have been slightly less pronounced in the Nordic countries than in EC countries. Comparing the pre-1973 period with the 1980–90 period, a simple average of annual TFP growth rates over the 12 EC countries fell from 3.1 per cent to 1.2 per cent. The simple average for Finland, Norway and Sweden fell from 2.6 to 1.3 per cent between the same two periods (Englander and Gurney, 1994).

One factor which has clearly tended to raise labour demand in the Nordic countries compared to other European countries is rapidly growing public sector employment (Table 3). The evidence on the net effects over the long run is not clear, though if the wage setting and labour sup-

³ Whether real interest rates (or energy prices) have any impact on equilibrium unemployment depends, *inter alia*, on the extent to which wage-setting behaviour internalises the effect of higher real interest rates on labour demand. Some arguments and evidence concerning such long-run effects are surveyed in Elmeskov (1993).

Table 3. The share of public sector employment
Per cent of total labour force

| | 1970 | 1990 | 1993 ^a |
|------------------|------|------|-------------------|
| United States | 15.2 | 14.7 | 14.7 |
| Japan | 7.6 | 8.0 | 7.9 |
| EC | | | |
| Belgium | 13.4 | 17.6 | 16.6 |
| Denmark | 17.0 | 27.6 | 27.9 |
| France | 17.5 | 20.7 | 21.3 |
| Germany | 11.2 | 14.2 | 14.0 |
| Greece | 7.1 | 9.5 | 9.2 |
| Ireland | 11.3 | 14.8 | 14.8 |
| Italy | 11.6 | 15.1 | 16.2 |
| Netherlands | 10.2 | 10.8 | 10.2 |
| Portugal | 7.6 | 14.0 | 15.1 |
| Spain | 5.6 | 11.2 | 11.6 |
| United Kingdom | 17.7 | 18.5 | 17.8 |
| Average | 13.0 | 16.1 | 16.1 |
| Nordic countries | | | |
| Finland | 11.8 | 20.0 | 19.3 |
| Iceland | 12.3 | 18.0 | 17.8 |
| Norway | 17.2 | 26.5 | 28.8 |
| Sweden | 20.7 | 31.4 | 31.9 |
| Average | 17.4 | 27.0 | 27.5 |

^a Estimate from OECD(1993).

Source: OECD Secretariat

ply curves are both vertical, unemployment should be unaffected. However, in the short term, when the wage setting curve is likely to be more flat and unlikely to shift so as to completely offset the rise in government employment, there may be some effect on unemployment. It may be argued that the Nordic countries have lived through a continuum of such short terms. Recent years have, however, seen a stabilisation of public employment both in the Nordic and other European countries. This was evidently more of a break with the past for the former group of countries.

The slope of the labour demand curve. The slope of the labour demand curve determines the impacts of shifts in the wage setting curve on unemployment and real wages. It may be considered both in the short and the somewhat longer term, the difference between the short- and long-run slopes indicating the speed of adjustment of labour demand. In the very

long term, however, when the wage setting curve is likely to be vertical, the slope of the labour demand curve will have no influence on unemployment.

Evidence on the longer-term real wage sensitivity of labour demand is, unfortunately, scarce. Estimations used for the OECD's Interlink model rely on relatively restrictive assumptions⁴ to derive results concerning elasticities of substitution between labour and either capital or a capital-energy bundle. Elasticities for the Nordic countries do not seem to deviate markedly from those of other small countries, though those for Norway and Sweden do seem somewhat lower than those for the four large European countries. Tyrväinen (1994) finds broadly comparable long-term employment elasticities for Sweden and Finland on the one hand and a broad range of countries on the other.

As regards speeds of adjustment in labour demand, the evidence is mixed, reflecting the different assumptions made in different studies as well as different data sets. Torres *et al.* (1989) find relatively slow speeds of adjustment in Norway and Sweden but relatively rapid adjustment in Finland based on labour demand equations derived from a CES framework and not distinguishing between adjustment speeds with respect to output or real wage changes. Also using a CES framework, but with less restrictions imposed and focusing on adjustment speeds with respect to output, Elmeskov (1993) also found a low adjustment speed in Sweden, but average European adjustment speeds in Finland and Norway. Tyrväinen (1994) found relatively low adjustment speeds to real wage changes in both Sweden and Finland. In contrast to these findings, Alogoskoufis and Manning (1988) derived very low persistence parameters for labour demand based on two other studies in the case of Norway and also relatively low persistence for Sweden, while results for Finland were contradictory. Finally, Layard *et al.* (1991) estimate a parameter for hysteresis in price setting which is related to the speed of employment adjustment and which indicates that adjustment speeds are very low in all three countries. Insofar as a bottom line can be drawn from this review, there is some evidence to suggest that, compared to other European countries, adjustment speeds are low in Sweden and perhaps Norway, whereas the evidence concerning Finland seems too mixed to allow any conclusions. Compared to other countries, thus, employment in some of the Nordic countries may have reacted less negatively to short-term hikes in real wages.

⁴ In particular, perfect competition, constant returns to scale and a CES production structure (Torres *et al.*, 1989 and Torres and Martin, 1990).

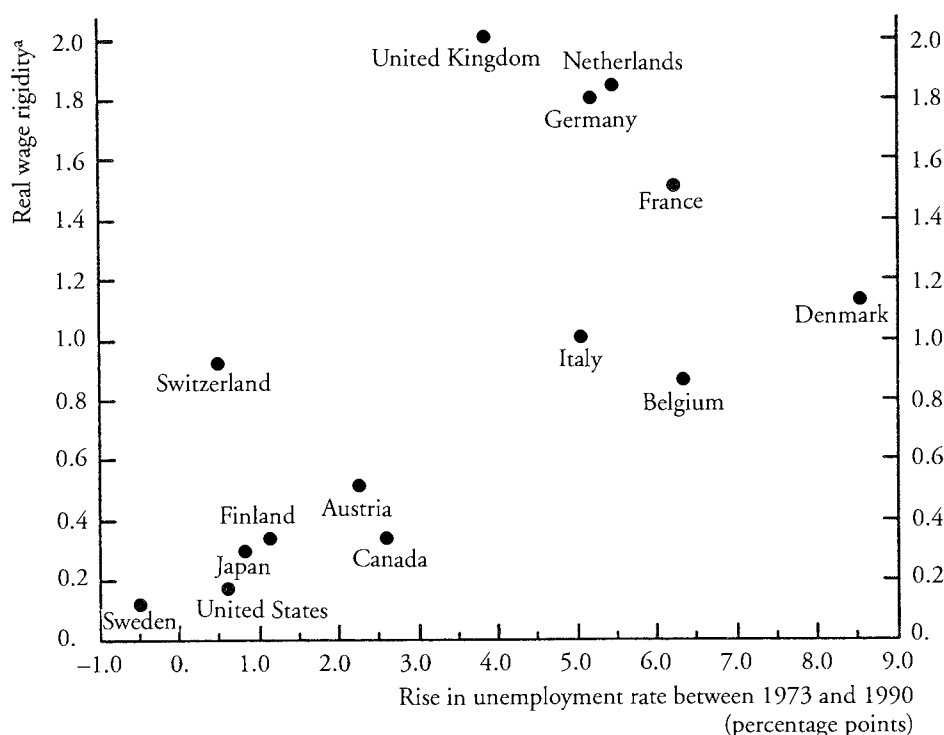
2.3. Wage setting and unemployment

As with the labour demand curve, both shifts and slopes of the wage setting curve are of interest in understanding past unemployment developments in Nordic and EC countries. However, many of the factors which may have shifted wage setting schedules in the past are related to policy shifts, which are taken up in the next section. This section begins by considering aggregate wage flexibility, i.e., the slope of the curve, and subsequently discusses imbalances in sub-aggregate labour markets and relative wage adjustments as causes of shifts in the aggregate wage setting curve.

The slope of the wage setting curve. Available empirical results indicate that in the short run, real wages have typically been more sensitive to unemployment in the Nordic countries than has been the case elsewhere in Europe (outside Austria and Switzerland) and more in line with behaviour in North America or even Japan (Alogoskoufis and Manning, 1988; Calmfors and Nymoen, 1990; Heylen, 1993; OECD, 1989 and Tyrväinen, 1994). That is, the short-term wage setting curve seems at least historically to have been more steeply sloped in the Nordic countries than in most of continental Europe. The importance of this finding for explaining low Nordic unemployment until the beginning of the 1990s is illustrated by Figure 8, which uses the measure of real wage rigidity reported in OECD (1989).

Most empirical estimates of the medium- or long-run real wage sensitivity to unemployment also suggest that it is relatively high in the Nordic countries (Alogoskoufis and Manning, 1992; Andersen 1992; Calmfors and Nymoen, 1990; Elmeskov and Pichelmann, 1993 and Layard *et al.*, 1991). As concerns the speed of wage adjustment, comparisons across different studies are more difficult given the different ways of specifying real wage persistence and effects from changes in unemployment, but an impressionistic conclusion is that speeds of adjustment are typically found to be at least as high as elsewhere in Europe.

The set-up of the wage bargaining system is among the factors potentially having an influence on both the sensitivity of real wages to unemployment and the speed of adjustment. Arguments can be made that very decentralised bargaining systems are superior to intermediate systems of bargaining in generating aggregate real-wage flexibility and that centralised bargaining may be at least equal to or superior as compared to decentralised systems in this respect (Calmfors, 1993). Based on historical data, a hump-shaped relationship between measures of real-wage flexibility and a classification of countries according to the degree of centralisation of wage bargaining has sometimes been found (e.g. Alogoskoufis and

Figure 8. Short-run real wage rigidity and unemployment increase

^a Short-run real wage rigidity is measured by the amount of additional unemployment (as per cent of the labour force) needed to offset the short-term wage impact of a one percentage point price shock.

Source: OECD, 1989

Manning, 1988; OECD, 1989; Heylen, 1993). The significance of this finding, when contrasting Nordic and most other European countries' unemployment experience, is that Nordic wage bargaining is generally regarded as having been more centralised than bargaining elsewhere in Europe, which is often characterised as being in the intermediate category (Calmfors and Driffill, 1988).

The concept of centralisation is, however, itself somewhat fuzzy and is not the only characterisation of wage bargaining that has been invoked to explain differences in real wage rigidities across countries. Thus, different rankings of countries have been obtained based on, e.g., co-ordination of bargaining or corporatism, leading to different results.⁵ To give an exam-

⁵ Layard *et al.* (1991) find that the wage sensitivity increases linearly both with the degree of centralisation and the degree of employer and union co-ordination. Emphasising employer co-ordination, Soskice (1991) reports a similar result.

ple of the uncertainties involved: the Nordic countries have the highest degrees of unionisation in the OECD area; with the exception of Norway, all had unionisation rates above 70 per cent in 1988, while France had the lowest degree of unionisation with 12 per cent (OECD, 1991). Nevertheless, France had a higher coverage of collective contracts than the Nordic countries due, in part, to the practice of legally extending bargaining results to whole sectors of the economy.

Despite the potential beneficial effects of centralised bargaining on real wage flexibility, the trend in Nordic wage bargaining during the 1980s was in the direction of increased decentralisation, but since the onset of recession in the early 1990s developments have been more uneven. The move towards decentralisation was in part related to the perception that while aggregate wage flexibility may be enhanced by centralised bargaining, the opposite is true for relative wage flexibility. Moreover, centralisation in practice often means multi-level bargaining. As a consequence, some inflation may be required for centralised bargaining to lead to *real wage* restraint, if each bargaining level has to be seen to produce a *nominal wage* increase (Calmfors, 1993). In the past, the Nordic countries typically had relatively high inflation rates, relying on exchange rate depreciation rather than money wage disinflation to achieve rapid real wage adjustment in the face of increasing unemployment. More emphasis is now placed on maintaining low inflation, with explicit inflation targets having been adopted in both Finland and Sweden.

Shifts in the wage setting curve. In principle, changes in the composition of labour supply and demand may affect the position of the wage setting curve through e.g. "mismatch" or "turbulence" effects or because some groups in the labour market, such as young persons, and some types of jobs, for example in seasonal industries, are inherently associated with relatively high unemployment. It is, however, difficult to draw a bottom line on the extent to which such factors may have tended to shift the wage-setting curve to the left, and thereby raised equilibrium unemployment in different countries (see Elmeskov, 1994, for further details). It seems unlikely, however, that these factors have been major elements explaining the different past unemployment trends in continental Europe and the Nordic countries.

One feature may, nevertheless, be of some importance: a characteristic aspect of Nordic unemployment has been its low incidence of long-term unemployment, in stark contrast to the experience in the EC countries. There is some indication that long-term unemployed exert less downward

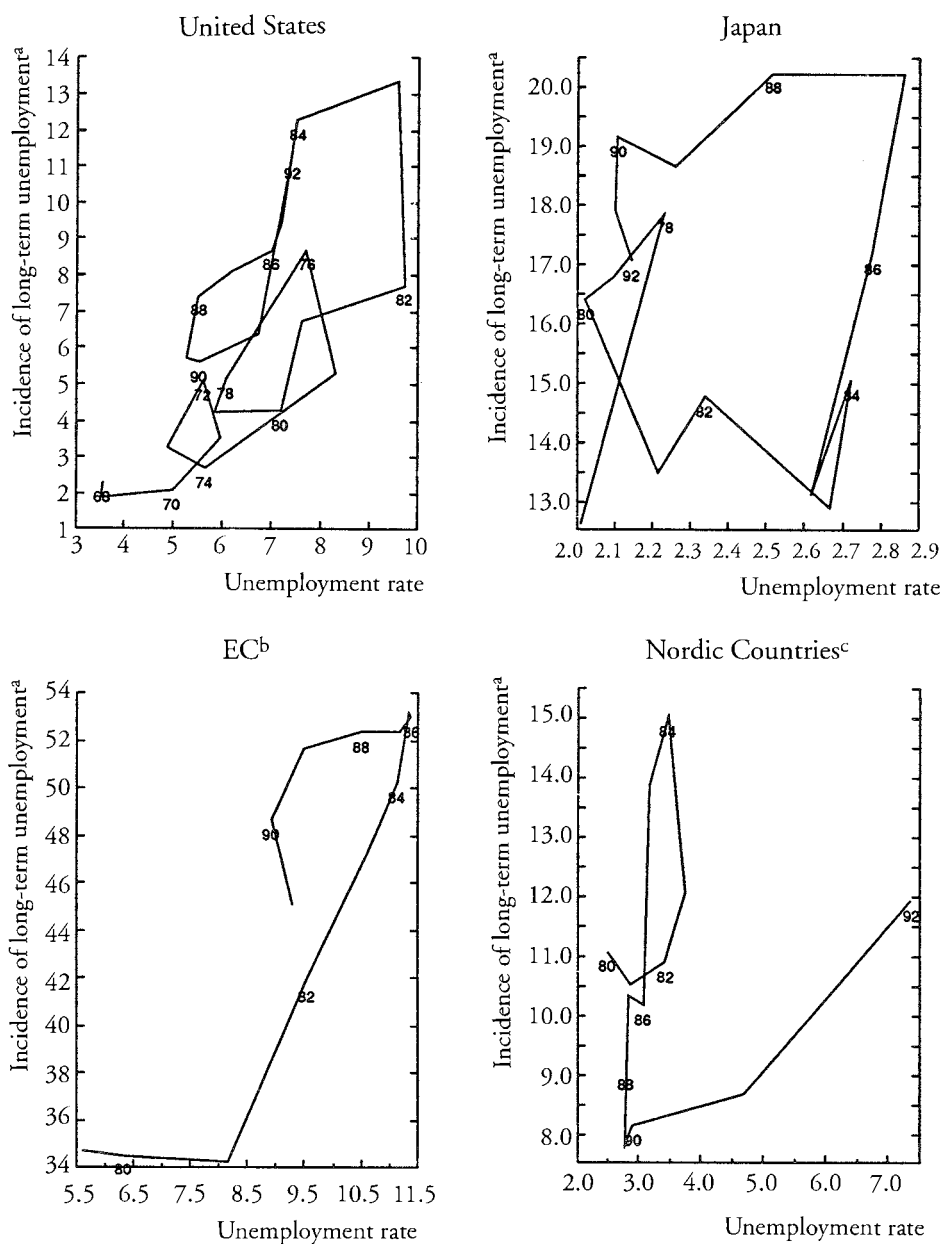
pressure on wages than persons unemployed for a shorter period. Thus, pooled time-series/cross-country regressions reported in OECD (1993a) indicate that, when compared to unemployment in general, long-term unemployment exerts a smaller, though still a significantly negative, impact on wages. Based on corresponding semi-elasticities of real wage growth with respect to total and long-term unemployment rates (shown in Elmeskov and Macfarlan, 1994), long-term unemployed appear to exert a slightly stronger negative impact on real wage growth in Sweden than elsewhere, though the impact is only half as big as that of short-term unemployed. In the case of Norway, the estimation results suggest little effect from long-term unemployment on real wages. Most EC countries fall between these two Nordic countries as concerns the real wage sensitivity to long-term unemployment.⁶ In conclusion, an increased incidence of long-term unemployment may lead to a leftward shift of the wage setting curve (or, to the extent that wage adjustment is just slowed down, a more flatly sloped short-term wage setting schedule).

It is, however, difficult to compare the incidence of long-term unemployment at different stages in the cycle: when aggregate unemployment begins to rise, the proportion of long-term unemployment either first falls or remains flat but subsequently increases as aggregate unemployment stabilises and begins to fall (Figure 9). Nevertheless, shifts are recognisable across cycles in the proportions of long-term unemployment to aggregate unemployment. Thus, the data in Figure 9 are indicative not only of big differences in levels but also of some upward drift in the incidence of long-term unemployment in the EC countries between the downturn beginning in 1980 and the one beginning in 1991, while some fall took place in the Nordic countries. It should be noted, though, that active labour market measures which serve to interrupt unemployment spells give a downward bias to the figures for incidence of long-term unemployment and that such measures are relatively more important in the Nordic countries.

The impression of somewhat more dynamism in the Nordic unemployment pools, and therefore of lower risks that some unemployed lose contact with the ordinary labour market and cease to exert downward pressure on wages, is strengthened by figures which suggest that gross flows into and out of unemployment are larger in the Nordic countries than in most other European countries. Thus, through the 1980s monthly inflows and out-

⁶ It should be noted that Calmfors and Nymoen (1990) found no evidence that a higher incidence of long-term unemployment (defined as those having been unemployed more than *six* months) tends to raise wages in the Nordic countries.

Figure 9. The concentration of unemployment
Per cent



^a Share of long-term in total unemployment.

^b Average of Western Germany, Belgium, Denmark, Spain, France, Ireland, Italy, Netherlands, United Kingdom, using labour force weights.

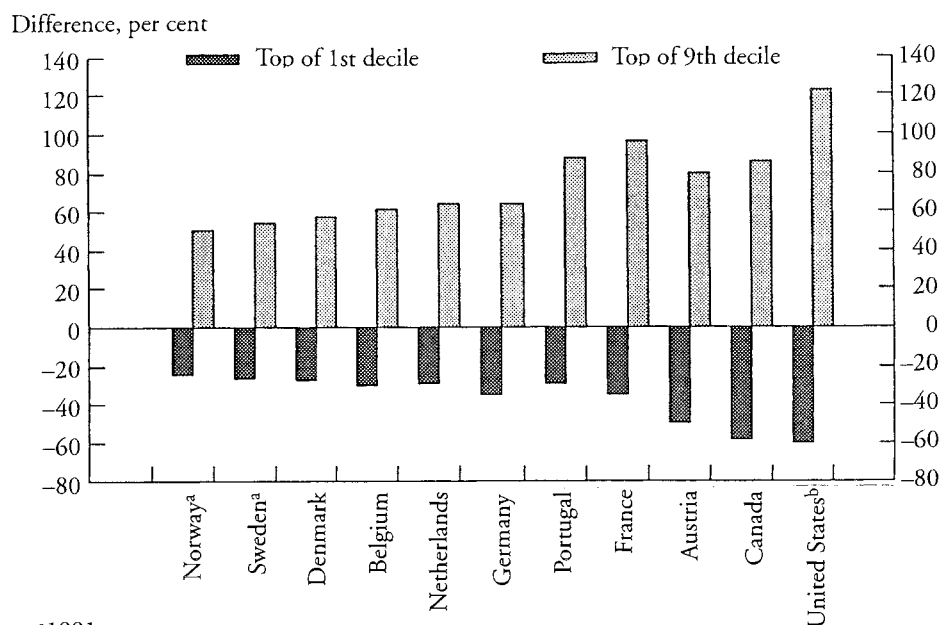
^c Average of Finland, Norway, Sweden, using labour force weights.

flows to/from unemployment were in the magnitude of 1½ per cent of the labour force in Finland, 1 per cent in Norway and about 0.6 per cent in Sweden (Elmeskov and Pichelmann, 1993). For comparison, only the United Kingdom, Denmark and Ireland among EC countries for which such data is available had monthly gross flows of ½ per cent or more of the labour force. It is noticeable, however, that in Sweden there was a clear tendency for gross flows to decline through the 1980s, though this should be seen in the context of the prolonged boom during that decade.

Relative wages. The distribution and flexibility of relative wages are likely to affect unemployment in several ways. Thus, individual wage flexibility allows the person who has become unemployed to price her/himself back into work, thereby reducing the risk of sliding into long-term unemployment. In principle, such individual wage flexibility should speed up adjustment and possibly also reduce equilibrium unemployment. Evidently the need for such flexibility depends, *inter alia*, on government policies, such as employment protection legislation, as does the extent of flexibility, which is affected by among other factors minimum wages and the unemployment benefit regime. Group wage flexibility should allow adjustment to changes in demand for and supply of categories of labour with particular characteristics and thus affect the extent of mismatch.

Empirical evidence on relative wages is often sporadic and lacking in international comparability. With this general caveat, some general observations can nevertheless be made. Across manufacturing industries, Rowthorn (1992) found that Sweden was the country having the lowest coefficient of variation of average wages in 1985, as had been the case in 1973. However, the other Nordic countries were in line with a number of other European countries, though industrial wage dispersions were significantly lower than in the United Kingdom, Austria and Switzerland among European countries as well as Canada, Japan and the United States. Part of the explanation for low Swedish wage dispersion seems to have been more equal wages between men and women, with industrial wage dispersion for men actually being at level with or larger than in Denmark, Germany, Italy and the Netherlands. The three Nordic countries all witnessed some increase in industrial wage dispersion for each sex separately while the trends differed between other European countries. Comparing the persistence of the industrial wage structure, Holmlund and Zetterberg (1991) found that correlation coefficients between the industrial wage structure in 1965 and 1985 were about the same in the three Nordic countries as in Germany and the United States.

Figure 10. Earnings dispersion, 1990
1st and 9th decile compared to median



^a1991.

^b1989.

Source: OECD (1993a)

Data on regional wage structures are not directly comparable across countries, but developments over time may be. Correlations between the regional wage structure in 1975 and 1987 were almost perfect in the cases of Sweden, France and the United Kingdom but changes took place in Germany and the United States and, in particular, in Canada, Italy and Australia (OECD, 1990).

Drawing on individual earnings distributions, Figure 10 uses the spread between the median of the earnings distribution and the 1st and 9th decile, respectively, as an indicator of earnings dispersion. Compared to most continental European countries, wage dispersion in Norway and Sweden is lower but not dramatically so – particularly not at the bottom end. Over the period from 1980 to around 1990, it is also characteristic that the spread between the first and the ninth decile has remained largely unchanged in both the Nordic and the continental EC countries for which data are available. In contrast, it increased significantly in English-speaking countries, Japan and Austria (OECD, 1993). In virtually all countries, there seems to be evidence that whatever change wage disper-

sion underwent over the 1980s, it took place mainly within individual industrial sectors.

Dispersions of relative wages and changes therein provide only limited information on the flexibility of relative wages, i.e., on the capacity of wages to react in response to supply and demand shocks. Thus, a low wage dispersion and/or little change in the wage distribution over time could in principle be a perfect market outcome.

Correlation coefficients between regional unemployment rates and levels and changes of regional wages are indicative of a significant negative relationship in levels for France, the United Kingdom and the United States (suggesting that relative wage developments have been affected by relative unemployment developments) (OECD, 1990). For Sweden, an insignificant negative correlation is found, while a significant positive correlation is found for Italy (suggesting that relative wage developments have been driving relative unemployment developments). Holmlund and Zetterberg (1991) report that industrial wages in Sweden, Finland and Germany are affected by industry-specific output gaps but do not find similar results for Norway and the United States. Industry wages in the Nordic countries, on the other hand, seem to be less responsive to sector-specific changes in prices and productivity increases. Finally, Edin and Holmlund (1992) find signs that the education wage premium in Sweden has responded to relative developments in demand and supply.

Among the determinants of relative wage flexibility are the existence of minimum wage regulations and the pervasiveness and character of collective bargaining. Rowthorn (1992) finds evidence that industrial wage dispersion is related to the degree of centralisation of wage bargaining, and together with Calmfors (1993) provide arguments why this is likely to be the case. Nevertheless, while bargaining in the Nordic countries historically has been relatively centralised, the share of the labour force covered by collective agreements is also high in a number of European countries, owing not least to the practice of legally extending agreed contracts. In contrast to a number of continental European countries, including France, Greece, the Netherlands, Portugal and Spain, the Nordic countries have no legal minimum wages.

The bottom line concerning the extent of relative wage flexibility is one of considerable uncertainty. Wage dispersions in general do not seem widely out of step with those in many EC countries and an argument may be made that relatively well-educated labour forces in the Nordic countries could explain a relatively compressed wage structure. There are also some signs that relative wages respond to changes in supply and de-

mand. Data give no ground for assuming that this responsiveness is either larger or smaller than is generally the case in continental Europe, and that such a difference has played a major role in accounting for different unemployment trends between Nordic and continental European countries.

2.4. Policy interventions

Government policies with respect to the labour market can affect both equilibrium unemployment and speeds of adjustment. In practice, however, it is often hard to pinpoint the impact of government intervention on unemployment. This is partly because of the many dimensions involved in government intervention, which make cross-country comparisons difficult. Partly, it also reflects that implementation of regulation is not equally strict in all areas and across all countries. An additional important consideration is the interplay with more general societal norms and standards. Thus, regulations may not necessarily be the binding constraint on firm behaviour, and job seekers and employed may under some conditions and in some countries make full use of provisions to their advantage, such as e.g. in unemployment benefit systems, but refrain from doing so under other circumstances.

Unemployment benefits. Features of unemployment benefit regimes affect unemployment primarily through their impact on the position of the wage setting curve in both the short and long term.⁷ Thus, reservation wages may fall more slowly (or not at all) due to unemployment benefits, which will retard adjustment in the wake of a negative shock and raise equilibrium unemployment associated with any given level of turnover in the labour market.⁸ Turnover in the labour market and associated equilibrium unemployment may also be raised to the extent that implicit contracts exist between employers and employees to take advantage of incomplete experience rating by using the unemployment benefit system as a wage subsidy in times of slack production. Finally, and perhaps most importantly, the existence and generosity of unemployment benefits affect the incentives facing wage bargainers, strengthening the fall-back position of wage earners.

⁷ In principle, unemployment benefits may be regarded as a subsidy to market work and therefore possibly capable of shifting the labour supply curve. The taxes necessary to finance unemployment benefits might, however, tend to offset such an effect.

⁸ Some doubts about the importance of this argument may stem from the fact that unemployed persons seem to receive, and reject, very few job offers (Pedersen and Westergård-Nielsen, 1993).

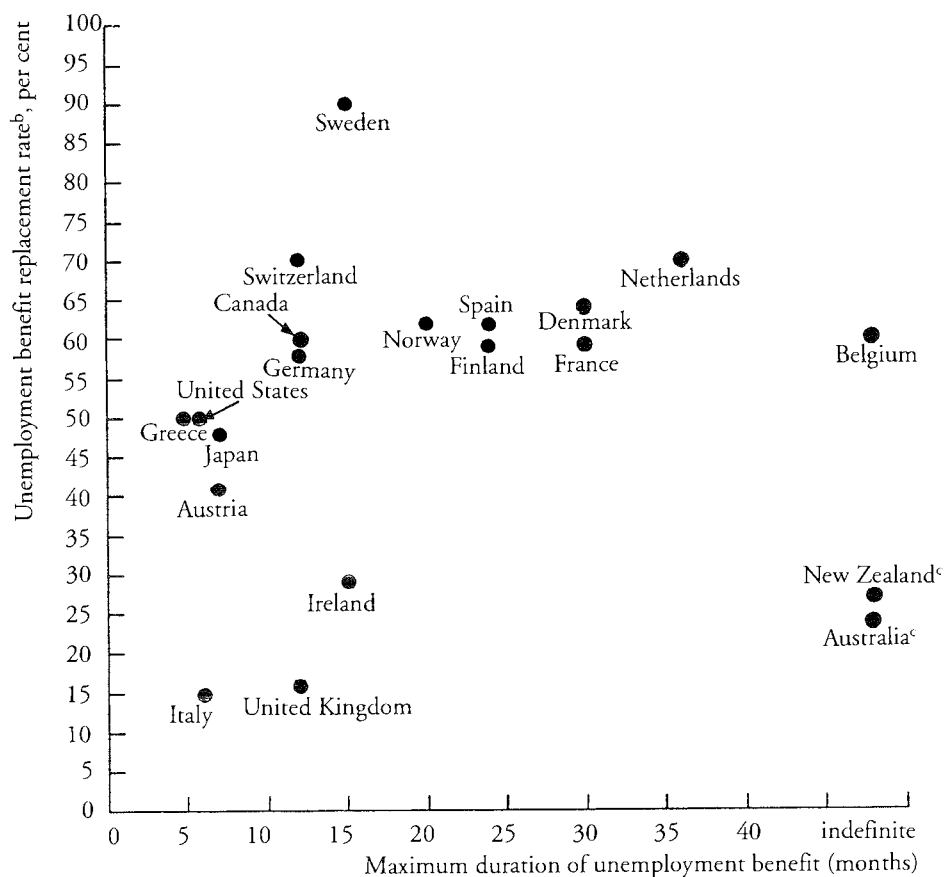
Among the many dimensions in countries' unemployment insurance systems, the two features which have attracted the most interest are the replacement rates and the maximum duration of benefits. Studies based on panel data will pick up only some of the effects from these features on unemployment. Nevertheless, for the United States, Canada and the United Kingdom such studies have frequently been able to show effects from replacement rates and, in particular, benefit duration on the hazard rate of escaping from unemployment (and in some cases of becoming unemployed) (e.g. Pedersen and Westergård-Nielsen, 1993 and Atkinson and Micklewright, 1991 and the references contained in these). Similar results have, however, been scarce in studies relating to continental European countries. Cross-country studies of aggregate unemployment or long-term unemployment suffer from a general problem of few degrees of freedom but have regularly found significant effects from features of unemployment benefits (e.g. Layard *et al.*, 1993; Heylen, 1991 and OECD, 1993a).

Figure 11 plots two indicators for replacement rates and benefit duration across a range of OECD countries. Finland and Norway in 1989 had short-term replacement rates broadly at the same level as most continental European countries while the Swedish level was somewhat higher (subsequently, the statutory replacement rate for the majority of wage earners in Sweden has been reduced from 90 to 80 per cent). Maximum durations of unemployment benefits were, however, short by continental European standards.

Though less often emphasised, other features of unemployment benefit systems may be of considerable importance but difficult to quantify. Such features comprise job search requirements and the control and enforcement of these and availability requirements. Obviously, such control and enforcement is easier when unemployment is low than when it is high, entailing a risk that the unemployment-driving effects of a generous unemployment benefit system may be higher at high unemployment rates than at low ones. Another potentially important feature of benefit systems is the way they interact with active labour market policies, in particular whether participation in active measures enables unemployed to renew their eligibility for receiving benefits. This currently seems to be the case in the Nordic countries, which also rely heavily on active measures (see below), and implies an effective prolongation of the benefit duration.

Employment protection. Employment protection legislation (EPL) comprises legal requirements in areas such as minimum notice period, severance pay, dismissal and hiring procedures. The impact of such legislation is like-

Figure 11. Maximum duration and replacement ratio of unemployment insurance^a



^a The indicators refer to the situation on 1 January 1989.

^b Initial gross replacement rate at average production worker levels of 1988 earnings (single).

^c Refers to guaranteed income; the countries have no unemployment insurance scheme.

Source: OECD (1991)

ly to be a slower adjustment of labour demand, i.e., a steepening of the short-run labour demand curve. Such legislation is, therefore, likely to increase persistence phenomena in the labour market. In principle, such persistence effects should occur at both high and low levels of unemployment but they are obviously more undesirable at high levels of unemployment.⁹

⁹ EPL may have positive effects in other respects, e.g. by reducing labour turnover it could increase incentives for investment in (firm-specific) human capital. Such positive effects may be larger at low levels of aggregate unemployment than at high levels, when labour turnover anyway tends to be low.

Moreover, the persistence effects are likely to be stronger at high unemployment levels, implying not only more of a steepening of the labour demand curve but possibly also a steepening of the wage setting curve. The former effect relates to the point that voluntary quits are more frequent when unemployment is low and vacancies high, which makes EPL less binding on firm behaviour (Blanchard and Summers, 1988). The effect on wage setting occurs because EPL reduces turnover and increases the risk that unemployed persons drift into long-term unemployment, where they may have less influence on wage setting, while the employed insiders become more clearly defined and better protected.

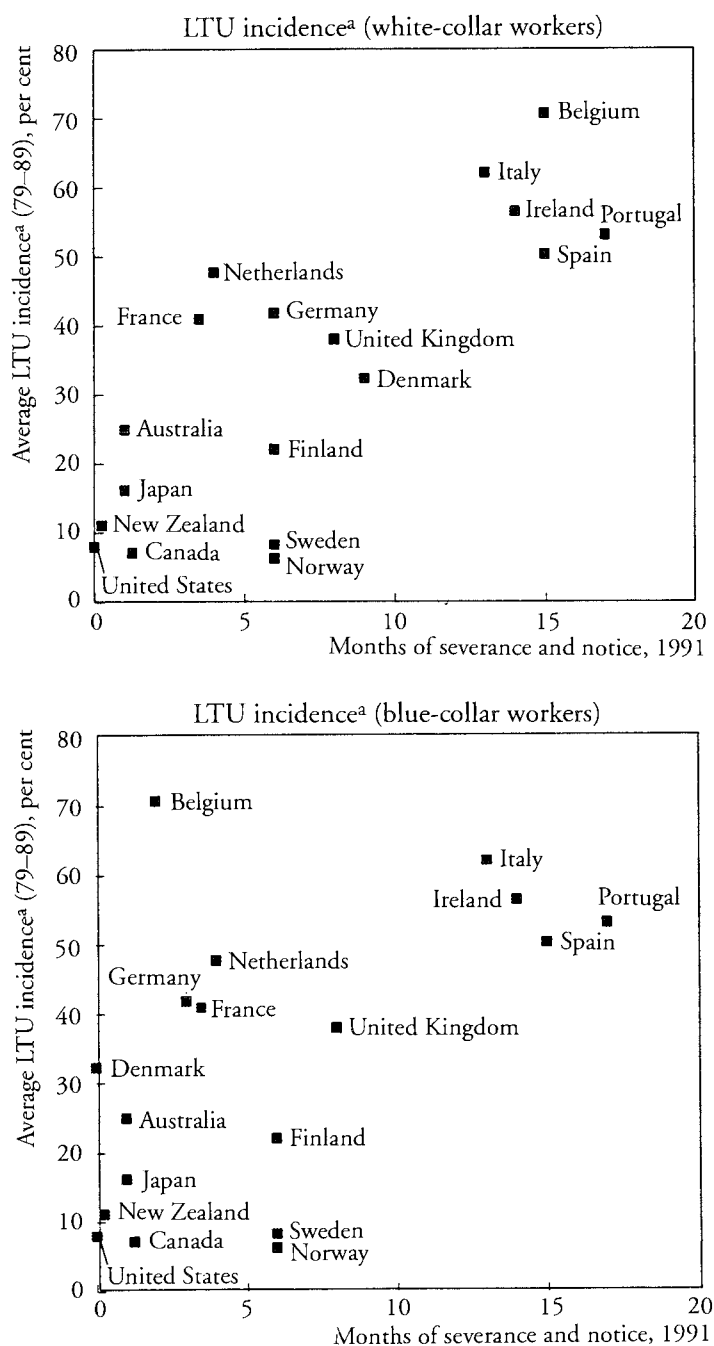
While EPL is likely to slow down adjustment in the labour market, it is not necessarily the case that equilibrium unemployment is raised. The tendency for EPL to raise firms' expected labour costs could in principle be compensated by corresponding wage restraint. Such necessary wage restraint is likely to differ across the wage distribution, affecting primarily workers with little firm-specific human capital and with skills that are easy for firms to find in the labour market, i.e., primarily labour with a "bulk" character.

Given the many dimensions of EPL and occasional changes in legal requirements, simple cross-country comparisons are obviously difficult to make. Nevertheless, Figure 12, which shows the maximum combined length of notice periods and severance pay, is suggestive of the cross-country stance of EPL with respect to individual dismissals. On this indicator, which pertains to 1991, the Nordic countries appear to have intermediate regimes being less strict than those of some EC countries but stricter than those of others. Overall, the expected relationship between the EPL stance and long-term unemployment seems in large measure to be borne out. The conclusion should not be given too much weight, though. For example, rules for collective dismissals are important as well, and a number of European countries have "softened" EPL by allowing temporary contracts to which general EPL provisions do not apply.

Taxation. Different taxes are likely to shift labour supply, labour demand and wage setting curves. Thus, over the short to medium term changes in tax rates are likely to affect unemployment. Whether equilibrium unemployment will be affected by changes in tax rates is less clear, with the empirical evidence being mixed on this issue (see e.g. Andersen, 1992a and Kistoris, 1991 for evidence suggesting little long-run impact and Tyrväinen, 1994 for evidence of more substantial effects).

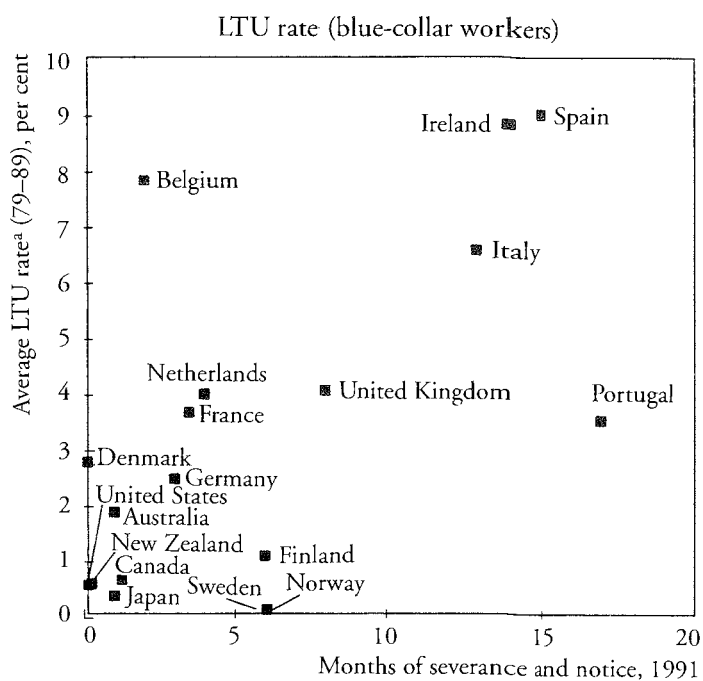
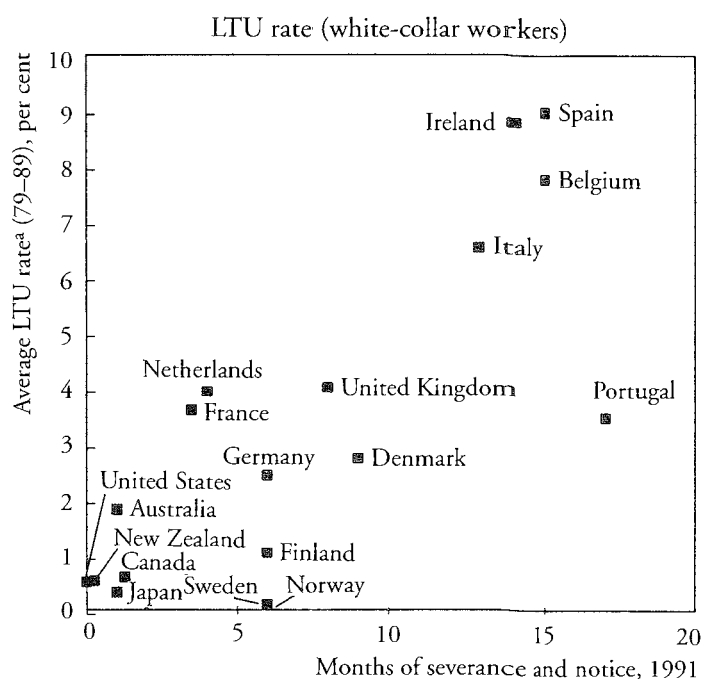
Recognising that tax changes are likely to have short- and medium-term

Figure 12. Dismissal costs and long-term unemployment (LTU), 1979–89



^a Share of long-term in total unemployment.

Figure 12 (continued)



Source: OECD (1993a)

effects does not, however, seem to help much in explaining past unemployment trends in the EC and Nordic countries. Thus, the overall effective tax rate on wage income rose more in the low-unemployment Nordic countries than in (a simple average of) EC countries over the period 1965–89 (based on figures in Andersen, 1992a, the average increases were, respectively, 14 and 11 percentage points).

Nor does the composition of taxes seem to contribute to explaining relative unemployment trends. There are some empirical indications that payroll taxes have stronger short-term impacts on unemployment than indirect and, in particular, direct taxes. However, the low-unemployment Nordic countries experienced larger increases in payroll taxes between 1965 and 1989 than the (simple average of available) EC countries (based on figures in Andersen, 1992a, the average increases were, respectively, 15 and 6 percentage points).

Active labour market policies. The effects of active labour market policies (ALMP) on both equilibrium unemployment and speeds of adjustment remain in dispute. Conceptually, and focused on equilibrium effects, OECD (1993a) distinguished between five different effects:

- A *Beveridge curve effect* relates to improved matching in the labour market which may reduce the rate of unemployment required to produce a given real wage outcome of wage bargaining, i.e., a rightward move of the wage setting curve. (Conceivably, if vacancies are costly to employers, the costs of employing a given workforce will be reduced and the labour demand curve may shift to the right.)
- To the extent ALMPs boost *labour productivity* (e.g. by raising the human capital of the workforce), the labour demand curve is likely to shift to the right. Possibly, however, such a rise would be appreciated by wage bargainers and lead to a leftward shift in the wage setting schedule.
- A *supply effect* relates to empowerment of potential outsiders as a result of ALMP, making them effective competitors for jobs and thus putting downward pressure on wages. The result is a rightward shift of the wage setting curve
- A *substitution effect* describes the incentives for employers to replace regular labour by subsidised labour, implying that the labour demand curve for regular labour may shift to the left and thus tend to dampen

the shift to the right of the total labour demand curve (inclusive of participation in ALMPs).

- The provision of ALMP may reduce the incentives for *wage moderation* in much the same way as is done by unemployment benefits, thereby tending to shift the wage setting schedule to the left.

Reflecting these various effects, empirical research based on both aggregate and panel data has shown very diverse results concerning the impact of ALMP on wages and employment (recent overviews of research in this field include Calmfors, 1994; OECD, 1993a and Pedersen and Westergård-Nielsen, 1993). Using aggregate cross-country data, very large effects of ALMP on unemployment have often been found, perhaps reflecting that ALMP efforts are often correlated with other features of the labour market that also have an impact on unemployment (e.g. Heylen, 1991). Similarly, the finding of large effects from ALMP in studies based on time-series data may reflect simultaneity bias because a number of studies use ALMP expenditure relative to unemployment as a measure of policy efforts and this variable tends to fall when unemployment goes up because governments typically do not expand ALMP in line with open unemployment (Calmfors, 1994).

The diversity of empirical results may also reflect that ALMPs consist of many different types of programmes with different effects and that these programmes may work well at certain unemployment levels but may lose in efficiency when vacant jobs are few. Comparing figures for spending on ALMP, the Nordic countries seem to spend more than most EC countries, also if spending related to wider social aims, such as providing employment for disabled persons, is excluded in order to concentrate on "core" ALMP (Table 4).

2.5. Summing up

The overview of factors influencing labour supply, labour demand and wage setting in the past does not allow one to draw conclusions with any great confidence. Among other reasons this is because it is very difficult to distil one Nordic and one EC story of unemployment. The two groups of countries show considerable heterogeneity in many respects.

Nevertheless, it seems likely that low Nordic unemployment compared to that of the EC countries during the 1970s and 1980s owed much to the fact that unemployment did not experience big shocks, as

Table 4. Expenditure on active labour market policies.
Per cent of GDP, 1992^a

| | Expenditure on active labour market policies of which: | | |
|----------------------|--|-----------------------|-------|
| | "Core" activities ^b | Measures for disabled | Total |
| United States | 0.20 | 0.05 | 0.25 |
| Japan | 0.12 | 0.01 | 0.13 |
| EC | | | |
| Belgium | 0.88 | 0.16 | 1.04 |
| Denmark | 1.16 | 0.40 | 1.56 |
| France | 0.82 | 0.06 | 0.88 |
| Germany | 1.40 | 0.24 | 1.64 |
| Greece | 0.38 | 0.01 | 0.39 |
| Ireland | 1.37 | 0.14 | 1.51 |
| Luxembourg | 0.18 | 0.10 | 0.28 |
| Netherlands | 0.52 | 0.60 | 1.12 |
| Portugal | 0.81 | 0.05 | 0.86 |
| Spain | 0.57 | — | 0.57 |
| United Kingdom | 0.56 | 0.03 | 0.59 |
| Average ^c | 0.89 | 0.14 | 1.03 |
| Nordic countries | | | |
| Finland | 1.59 | 0.17 | 1.76 |
| Norway | 0.90 | 0.24 | 1.14 |
| Sweden | 2.31 | 0.90 | 3.21 |
| Average ^c | 1.78 | 0.55 | 2.32 |

^a Or latest available year.

^b Includes public employment services and administration, labour market training, youth measures and subsidised employment.

^c Weighted by 1991 GDP weights expressed in 1991 purchasing power parities.

Source: OECD (1993a)

was the case in a number of EC countries. The causes for this are multiple, but the following elements were probably important. Real wages seem to have reacted more strongly in the face of increases in unemployment and thereby contained such increases. Among the causes of relatively flexible aggregate real wages may have been that the centralised structure of wage bargaining allowed such flexibility in an environment of relatively high inflation and accommodating exchange rate policy. Labour supply also appears to have been more procyclical in most Nordic countries than in the majority of EC countries, helping to contain shocks to unemployment. The causes for such procyclicality are not particularly clear, but active labour market policies may have played some role as may

the features of the unemployment benefit regime. Finally, labour demand may have held up better in the Nordic countries than in most EC countries without being fully offset by higher real wages. An important factor in this regard was strong growth of public sector employment – a development which, it is generally recognised, has reached the end of the road.

3. Some tentative remarks on the outlook for unemployment

What is the outlook for Nordic unemployment now that it has risen strongly? Many of the features which are associated with European unemployment persistence also seem to be present in Nordic labour markets. Unemployment benefit schemes imply generous replacement rates, which can be enjoyed for long periods if the possibility for renewal of eligibility through participation in active labour market measures is taken into account. At the same time, high unemployment makes control and enforcement of availability and job search requirements more difficult. Employment protection legislation, while less stringent than in some EC countries, is not out of line with the European mainstream. The bottom part of the wage distribution is relatively compressed and wide coverage of collective bargaining leaves little scope for unemployed individuals to price themselves back into employment. The experience of Denmark, which shares many institutional features with the (other) Nordic countries and which experienced a marked rise in unemployment early on, may serve as an illustration of the risk that high unemployment could persist.

However, some features of Nordic labour markets may also give rise to hope. High real wage flexibility was mentioned above, though the inflation environment is now different from the past and the real test of this flexibility will come only when unemployment begins to fall significantly. As yet, the incidence of long-term unemployment is relatively low and at least during the low-unemployment period, turnover in Nordic labour markets gave an impression of more dynamism. This may in part also be related to the traditionally larger role played by active labour market policies, though the evidence on the net benefits of these measures is still somewhat contradictory.

In a sense, the Nordic countries may also benefit from the unemployment experience of other European and non-European countries. Comparing developments over two decades in Europe with those in the

United States and elsewhere, there is now widespread agreement that the cause of unemployment persistence in Europe to an important extent lies with structural features of European labour markets which have generated higher equilibrium unemployment and slowed down adjustment speeds. This also implies more agreement on what policy changes may help to reduce unemployment persistence. The extent of such changes and the speed with which they are implemented are obviously political decisions that will have to take into account possible tradeoffs with other policy goals.

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