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The Diversity of Unemployment
Experience Since 1973

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I.   **AN OVERVIEW**

The year 1973 marks a decisive turning point in the postwar history
of the OECD economies.   Since that date, virtually all OECD countries have
experienced a reduction in the growth of industrial production; this, in
turn, has induced a considerable, though less dramatic, fall in the growth
of service output.   In some countries, the growth of agricultural production
has also slowed since 1973, but the deceleration is by no means universal,
and is largely unrelated to the industrial slowdown.   The scale of what has
happened can be gauged from Table 1.

The reduction in output growth has been accompanied by a considerable
reduction in productivity growth.   As a result, its impact on employment has
been relatively small.   In the OECD as a whole, the growth rate of total
employment has fallen from 1.1% p.a. before 1973 to 0.9% p.a. since then.
This represents a fall of only 0.2 percentage points, which is really very
small compared to the fall in output growth.   Of the fall in output growth
since 1973, nearly nine-tenths is statistically accounted for by slower
productivity growth and only one-tenth by slower employment growth (see
Table 1).   The picture is rather different if we look at individual sectors.

In the industrial sector (manufacturing, construction, mining, and
energy), there has been a marked reversal in employment trends.   After
rising quite fast prior to 1973, industrial employment has been falling over
the past decade.   In 1985 there were 104 million people employed in the
industrial sector of the OECD countries.   If industrial employment had
continued to rise at the pre-1973 rate, this figure would have been 129
million.   Thus, the reversal of the pre-1973 trend in industrial employment

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represents a loss of around 25 million potential jobs in the OECD as a whole. This loss is probably the largest single factor behind the observed increase in unemployment since 1973. If industrial employment had continued rising at its pre-1973 rate there would have been no increase at all in unemployment. Official statistics indicate that the number of people unemployed in the OECD area rose by 20 million over the period 1973-83 (from 11 million to 31 million), as compared to the loss of 25 million potential industrial jobs caused by the reversal of the pre-1973 trend.

Labour Supply

So far we have been talking almost exclusively about the demand for labour. To explain what has happened to unemployment, we must also look at the supply of labour. To measure the supply of labour is not easy and raises a host of conceptual and practical problems, some of which are considered below. The conventional approach is to regard certain activities as non-economic and to classify all people who perform them as "economically inactive." As a result, many students, housewives and others potentially available for paid work are excluded from the supply of labour as conventionally measured. So, too, are the majority of retired persons, irrespective of whether or not they are potentially available for paid work. When all of these various categories are excluded, the result is the narrow definition of labour supply which appears in official statistics under the heading "labour force." This measure of labour supply varies either because the underlying population of working age alters in size, or else because persons previously in the category "inactive" become economically active. The latter phenomenon is recorded as a change in the "participation

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rate." The growth rate of the labour force is equal to the growth rate of the population plus the growth rate of the participation rate. As explained in Appendix Note 1, the growth of unemployment depends on the difference between labour force growth and employment growth.

Table 2 shows how these factors have contributed to the growth of unemployment since 1973. Information is given separately for males and females because the experience of these two groups has been so radically different.

From Table 2 it can be seen that, in the OECD as a whole, employment and labour force grew roughly in step during the period 1960-73. As a result, the measured unemployment rate remained virtually constant during this period, fluctuating in a narrow band between 3 and 4 percent. Since 1973, however, the situation has changed radically. As previously mentioned, employment growth has slowed (from 1.1% p.a. to 0.8% p.a.), whilst labour force growth has accelerated (from 1.1% p.a. to 1.3% p.a.).[1]

The recent acceleration in labour force growth is not a demographic phenomenon, but has been caused by variations in the participation rate. After falling in the 1960s, the overall participation rate (i.e. men and women combined) began to rise in the 1970s. The growth rate of working-age population has not accelerated during this period and in most countries it has grown somewhat more slowly. Thus, the huge rise in OECD unemployment since 1973 is not in general the result of increased demographic pressures.

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[1]From this point in the paper onwards "OECD" refers to the sample of 19 countries (representing 93% of OECD employment in 1985) analysed in Part II of this paper (see footnote 3).

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Male and Female Unemployment

Of the rise in total unemployment since 1973--male and female combined--
about two-fifths is statistically "explained" by faster growth in the labour
force, and three-fifths by the slower growth rate of employment. However,
as can be seen from Table 2, the relative importance of these factors is
quite different for men and women. For men, it is the growth rate of
employment which is the crucial factor. This has fallen from 0.8% p.a.
before 1973 to 0.3% p.a. afterwards. For women, on the other hand, the
crucial factor is labour-force growth. Female employment has grown more
rapidly since 1973 than before, but the increase has not been sufficient to
keep pace with the even greater increase in labour-force growth (from 1.7%
p.a. to 2.2% p.a.). The latter, in turn, is the result of a much faster
growth in the female participation rate (from 0.6% p.a. to 1.2% p.a.).

The calculations in Table 3 highlight this contrast. Between 1973
and 1985 male unemployment in the OECD countries increased by 10.7 million.
This increase is entirely the result of slower employment growth as compared
to the preceding period 1960-73. Between 1973 and 1983 female unemployment
rose by 7.7 million. This rise is entirely explained by the faster growth
in female participation rates; it has occurred despite the fact that female
employment has risen faster since 1973 than before.

Thus, rising male unemployment is primarily a demand-side phenomenon,
reflecting the slower growth of male employment since 1973. This in turn
reflects the decline in industrial employment. Meanwhile the growth rate of
service employment for men has fallen. Between them, these developments
explain why total employment for men in the OECD has risen very slowly in
recent years, and this accounts for the steep rise in male unemployment.

The situation faced by women is more complex.[2] Employment opportunities for women have increased rapidly since 1973 in most OECD countries. Indeed the female "employment rate" (i.e. the ratio of employment to population of working age) has grown faster since 1973 than before. However, this development has been accompanied by important structural shifts in the sectoral composition of female employment and in the type of women employed. On the one hand women, like men, have experienced a shrinkage of employment opportunities in the industrial sector. After substantial growth in the 1960s, industrial employment for women--especially in traditional areas like textiles and clothing--has stagnated. On the other hand, there has been an extremely fast growth of employment opportunities for women in the service sector with hardly any slowdown since the pre-1973 period. This explains why, despite the stagnation of industrial jobs, total employment for women has continued to grow rapidly since 1973. However, such employment growth has been swamped by an even more rapid increase in the female labour force, caused mainly by the growing tendency for women to continue in paid employment after marriage and to return sooner to the paid labour force after childbirth. As a result, there has been a considerable rise in female unemployment, as measured by official statistics, despite the growth in employment opportunities for women.

The qualification "as measured by official statistics" is important here. Official statistics are notoriously inadequate in their treatment of female unemployment and consistently understate its true magnitude.

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[2]For a good general discussion of female unemployment in the OECD countries see Paukert (1984).

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However, the degree of understatement has almost certainly declined in recent years and so the true increase in female unemployment is less than indicated by official statistics.[3]

Finally, we should mention that unemployment among single, especially young, women has increased despite the growth of female employment in general. This is partly due to the fact that employers often prefer married women, sometimes because they are willing to work part-time, often for very low rates of pay, and sometimes because they are more experienced. Whatever the reason, the growing reliance on married women may have also reduced employment opportunities for single women, thereby contributing to unemployment amongst the latter. In some countries it may have also helped to increase male unemployment because married women have been hired in jobs which had traditionally been reserved for men.

II. DIVERSITY OF UNEMPLOYMENT EXPERIENCE

Unemployment rate diversity

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[3]The explanation for this is as follows. At one time there was a vast amount of hidden unemployment among married women. Millions of married women without jobs were excluded from official statistics on unemployment, even though they were potentially available for paid work. The extent of such hidden unemployment has declined for two reasons. Firstly, most countries have witnessed a massive increase in employment opportunities for married women over the past ten or fifteen years. As a result, the true level of unemployment among such women has almost certainly fallen. Secondly, unemployment insurance schemas have become more comprehensive in their coverage of women so that a woman without employment is nowadays more likely to be officially classified as unemployed than used to be the case.

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We turn now to the main task of this paper: to examine the diversity of experience within our sample of OECD countries.[4]

The data in table 4 shows this diversity in 1985, ranging from Switzerland with an official rate of 0.9 per cent to Spain with a rate of 22.1 per cent.[5] Because unemployment rates were mostly low in 1973, the correlation between levels of unemployment in 1985 and changes since 1973 (table 5) is inevitably high; however, it is by no means perfect (0.89) as there were a few countries which already had substantial unemployment in 1973 (Canada, U.S.A., and Italy). Throughout the present section our analysis will be mainly concerned with changes in the unemployment rate since 1973, as we are mainly concerned with the extent to which countries have held down unemployment growth in the less favourable economic circumstances after 1973.

Intertemporal changes in participation rates have an important influence on unemployment performance. These changes vary greatly from country to country. For example, over the period 1973-85 the overall participation rate fell by more than 8 percent in Spain and Switzerland, and

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[4]Of the 24 countries for which OECD assembles comprehensive labour force data, we have excluded Iceland and Luxembourg because they are so small, having a population of well under half a million. Greece and Turkey are excluded because of their highly agrarian employment structure (agriculture accounted for 29% and 57% respectively of total employment in these two countries in 1985). Portugal is excluded because reliable intertemporal comparisons are made impossible by the severe disruptions caused by the 1974 revolution (it was also the only other country with over 20% of employment in agriculture).

[5]In this section we use the official definitions of unemployment used by each country to calculate unemployment rates as a percentage of the civilian labour force. The OECD's standardised series for unemployment are not available for all our 19 countries. The correlation between the national and standardised rates of unemployment, and between changes in the two measures, is very high (0.99 for changes in the rate between 1973 and 1983).

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rose by more than 10 percent in Canada and Norway (Table 5).[6]   As a result, changes in <u>unemployment</u> do not fully capture the extent to which the economies have provided additional jobs for the population.[7]   For example the Netherlands has performed better than Germany in terms of employment but worse in relation to unemployment, because participation rates have risen in the Netherlands and fallen in Germany.

Population, Participation, and Employment

The first panel in Table 6 shows how the increase in each country's unemployment can be decomposed into three key variables: growth in population, growth in participation rates, and growth in employment.   The second panel repeats this analysis using <u>changes</u> in growth rates between 1960-73 and 1973-85.   The latter approach is of interest, since <u>changes</u> in the growth rate of certain variables may be of more importance in explaining unemployment performance than is the absolute level of these growth rates. Tables A3-A5 showing decompositions for the non-agricultural sector and for men and women separately, are given in an appendix.

A glance at the tables shows a rather bewildering diversity of experience. What follows, therefore, is an attempt to discern systematic patterns through regression analysis.   We start with the "supply-side" of the labour market--the growth of population and participation rates--before examining the impact of changes in employment and its structure.

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[6]For women, participation rates rose everywhere except Switzerland and Austria, and by more than one third in Norway and Netherlands.   Male participation rates fell everywhere except Norway and Denmark, and by 10% or more in a number of European countries.

[7]The R^2 between changes in employment rates and changes in unemployment rates between 1973 and 1985 is 0.69 (0.36 for women and 0.78 for men).

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On a bivariate basis, there is no systematic relation over the period 1973-85 between the extent to which unemployment increased within a country and the growth rate of population of working age (equation 1 of Table A4). Amongst the group of countries with relatively small increases in unemployment were the U.S.A. with rapid population growth and Sweden with the slowest (Table 6).

For most of the countries concerned, a rapidly growing population after 1973 represented a mere continuation of the pre-1973 trend, and so these economies were already geared up to providing a rapidly growing number of jobs. It is not surprising that their unemployment after 1973 was on average no worse than in those countries with a slower growth of working age population throughout. However, an <u>acceleration</u> in population growth after 1973 might be expected to put countries at a disadvantage as compared to those where population growth slowed down. Indeed, <u>changes</u> in population growth of working age after 1973 are significantly correlated with <u>changes</u> in unemployment (equation 2). The R^2 implies that nearly one-third of the variance of unemployment increases over the period 1973-85 as a whole can be accounted for by changes in the growth of working-age population. Whilst population of working age can be manipulated by immigration policies (see section IV for the cases of Austria and Switzerland), other changes in population growth (such as occurred in Japan), are entirely fortuitous. Any effect they may have had on unemployment since 1973 is exogenous. In the preceding section, we showed that demographic factors do not explain why total unemployment has risen in the OECD as a whole. However, the evidence presented here suggests that such factors do help to explain why certain countries have been worse hit by unemployment than others. Extreme examples

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are Japan, which had the biggest slowdown in population growth (-0.8 per year), and Ireland with the biggest acceleration (0.9 per cent per year).

In a few countries, a faster release of people out of agriculture after 1973 seems to have exacerbated unemployment problems, Ireland and Spain being the obvious examples. In most other countries, however, the worsening unemployment situation has reduced the exodus from agriculture (often substantially), and thus helped to keep down the rise in measured unemployment. Not surprisingly, given this complex pattern, non-agricultural population growth is only a little better as an explanatory variable than total population growth in accounting for the diversity of unemployment experience (equation 3).[8]

A rise in the participation rate adds to the growth of the labour force. If such movements were independent of employment opportunities, reflecting only underlying social developments (extension of education, changes in provision of child care and so forth), then rising participation rates would tend to be associated with rising unemployment. Over the years

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[8]Non-agricultural population is estimated as total population (aged 15-64 years) less agricultural employment. This crude method of estimation assumes that participation and employment rates amongst the agricultural population are 100%. For most countries (including Spain and Italy) there are far less women officially recorded as employed in agriculture than men, whereas in a few countries (Germany and Japan) the recorded numbers of men and women are practically the same. In the former countries female participation in agriculture is probably underestimated. One simple method for correcting this defect is to assume that the true number of men and women employed in agriculture is the same. Under this assumption, total employment in agriculture can then be estimated simply by doubling the official figure for male employment in agriculture. The effect of such a correction is, of course, to alter our estimates of non-agricultural population and its growth rate. For example, in the case of Spain, the growth rate of non-agricultural population over the period 1973-85 is raised from 1.8 percent a year to 2.2 percent a year; for Italy the corresponding figures are 1.2 percent and 1.4 percent.

since 1973 the reverse pattern occurred (equation 4), with unemployment changes being inversely correlated with changes in participation.

We anticipated that this negative relationship between unemployment and participation rates would be stronger for women than for men, in line with the conventional wisdom that women are more likely to move in and out of the recorded labour force in response to economic conditions. In fact, however, the negative relationship between unemployment and participation rates applies only to men (equations 5 and 6). Presumably, men who lost their jobs were more able than women to leave the labour force via the less financially painful route of early retirement.

Despite the absence of a cross-sectional relationship between changes in female participation and unemployment rates, the female labour force does seem to respond to employment opportunities. Regressing participation rate changes on changes in the employment rate (equation 35), shows a strong positive relationship. The coefficient of nearly 0.7 implies that for every 10 extra women's jobs created after 1973 (over and above those necessary to keep pace with population growth) registered unemployment was, on average, held down by only 3. It is interesting to note that female participation has frequently outstripped job opportunities, so that female unemployment has risen despite a rapid increase in jobs for women. The most striking example is the Netherlands which has experienced the biggest percentage rise in female participation and the second biggest rise in the female employment rate combined with the third biggest increase in female unemployment (Table 5). A possible explanation of this phenomenon is that much of the additional female employment consists of part-time jobs taken by married

women. So a rapid expansion of employment in this category does not preclude rising unemployment amongst women seeking full-time jobs.

Whilst the picture on the supply side of the labour market is complex, and our analysis leaves a number of intriguing loose ends, some basic conclusions are clear. There is a tendency for unemployment to rise less in those countries where growth of population of working age has slowed down after 1973. Secondly, reduced employment opportunities have a depressing effect on participation rates. This makes the growth of the labour force partially endogenous. These two effects work in opposite directions and over the period 1973-85 have statistically counterbalanced each other. As a result, there is no cross-sectional relationship between labour force growth and unemployment changes over this period (equation 7).

Employment patterns

The growth of unemployment is simply the difference between the growth of the labour force and the growth of employment. There were very large differences between countries in the rate of employment growth, and these did not simply mirror differences in labour force growth. As a result, the trend of unemployment was significantly affected by employment growth (equations 8-10). The coefficient of 0.2 for the period as a whole implies that every 1 per cent faster growth of employment was associated with 0.2% per year slower rise in unemployment--the remainder being accounted for by a faster growth of the labour force.[9]

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[9]Except for 1973-79, the absolute growth rate of employment is more closely correlated with unemployment changes than is the change in employment growth as compared to 1960-73 (equations 22-24). This is a little surprising since it might be anticipated that deteriorations in the rate of growth of jobs, rather than slow growth in employment, would be more

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Labour can, in principle, move between sectors of the economy. It would therefore be natural to expect that unemployment would be more closely correlated with total employment than with employment in any particular sector. The most striking result of our statistical analysis is that this is not so. The change in the growth rate of industrial employment is a much better predictor of relative unemployment performance since 1973 than is total employment (equations 17-19). Furthermore, the correlation between unemployment changes and the growth of sectoral employment is a good deal stronger in the case of industry than services (equations 23-26).

Thus the rise in unemployment after 1973 has a strongly structural character. This seems particularly true of the years since 1979, during which some three-quarters of unemployment diversity is statistically explained by variations in the slowdown of industrial employment (diagram 1). The much weaker correlation over the period 1973-79 is partly accounted for by the extreme case of Switzerland which took special measures to preserve low measured unemployment despite a big fall in industrial jobs. But even omitting Switzerland the correlation is much weaker than after 1979 (see equations 20-22).

After discovering this relationship, we anticipated that industrial employment would prove a stronger predictor of male unemployment than female unemployment; after all, around three-quarters of industrial jobs are held by men, and women also have greater access to service jobs. This expectation was confounded by equations 27-32, which show that total

closely related to unemployment.

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industrial employment was as closely correlated with female as with male unemployment.[10]

To summarise with equation Al in Table A5 (total unemployment, whole period), the coefficient indicates that every year 1% year speed-up in population growth contributed about 0.4% per year to unemployment, whilst a 1% year· slowdown in the rate of provision of industrial jobs raised unemployment by 0.23 percentage points per year (about twice the statistically insignificant coefficient for services employment). Since industrial employment was about one-third of the total, the latter coefficient implies that most of the slowdown in industrial employment was reflected in rising unemployment rather than in more people working in services. Differences between the coefficients for men and women are generally rather small. The variables shown in these equations "account for" about two-thirds to three-quarters of the overall variance in unemployment growth. The degree of explanation is much the same for each sub-period and when employment is split up by gender. The greater importance of industrial jobs in determining measured unemployment may be explained as follows. Amongst industrial workers the vast majority are full-time (around 95% in the UK and Germany in 1983--Schor, 1987). Their skills are often specific to industrial work and of little use elsewhere in the economy. Moreover, industrial employment is often geographically concentrated in particular areas. When there is a major decline in industrial employment this cannot be achieved through natural wastage, but

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[10]this picture is confirmed when changes in unemployment rates for men and women are further regressed separately on industrial employment growth of men and women. (Data is only available for 13 out of the 19 countries and for the period after 1973.)

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only through wholesale redundancies in which large numbers of middle-aged workers are laid off. As a result, the local labour market in the industrial areas may be flooded with relatively immobile middle-aged workers, without the skills for immediate redeployment elsewhere in the economy Even when the decline in industrial employment is achieved by natural wastage the result is a drying up of job opportunities for the children of the many industrial workers living in the area.

In principle a decline in industrial employment can be offset by increasing employment in services. However, if the industrial decline is severe, this is unlikely to be sufficient. Most service employment, such as health, education, local administration, and distribution is population-based and spread relatively uniformly around the economy. Such population-based employment has limited potential as a device for combatting severe regional unemployment. Some service activities (for example, producer services) are more geographically mobile, but they often require different skills from those available in the old industrial areas. Moreover, many of the new service jobs created nowadays are part-time and do not provide adequate replacement for full-time industrial jobs. As a result, they are frequently occupied by married women drawn back into the labour force, rather than displaced industrial workers. Thus the growth of service employment may have only a limited impact on the unemployment created by the loss of industrial jobs.

The rise in unemployment, especially after 1979, has substantially the character of an industrial crisis. A number of countries (Spain, UK, Belgium, Ireland, Netherlands, France) lost industrial jobs at a very rapid rate (2.4 to 3.8% last year), and unemployment increased sharply despite the

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fact that in some of these countries (UK and Netherlands) service employment
continued to grow as fast or faster than before 1973. In some other
countries (Japan and Canada), where the growth rate of industrial employment
also slowed down a great deal, the situation was eased by a very substantial
slowdown in the growth rate of the population.

·A substantial part of the female labour force consists of women who
require full-time work. Most industrial employment is full-time, so a
reduction in this type of employment directly reduces the number of full-
time jobs available for women. Moreover, if the decline in industrial
employment is geographically concentrated it may have a knock-on effect in
certain types of local service employment through its effect of local
incomes (for example, distribution), thereby reducing still further the
amount of full-time employment available for women. The increase in
measured unemployment refers mainly to a section of the female labour force
directly or indirectly affected by the decline in industrial employment,
whilst the simultaneous creation of new service employment may provide jobs
for women not previously in the official labour force and not, therefore,
officially classified as unemployed.

General Economic Performance

At this point it may be helpful to round out the picture by
considering the relationship between production and unemployment. Has the
ability to keep unemployment down flowed directly from success in
maintaining growth rates of output, for example?

In fact, the relationship between unemployment and GDP growth, far
from being very close, is barely if at all significant (equations 37-40).

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Those countries which have maintained low unemployment rates, have done so with widely differing rates of GDP growth and of GDP slowdown (diagram 2 illustrates this rather striking result). This does not, of course, imply that ceteris paribus an individual country would not have achieved lower unemployment by faster output growth.

The relationship with industrial output is a little bit stronger (equations 51-53), but is much weaker than with industrial employment. This suggests that the maintenance of industrial output growth was neither a necessary nor sufficient condition for maintaining industrial jobs. It was only in the second sub-period (1979-85) that GDP and industrial growth (and slowdowns) bore a significant relationship to unemployment; this could perhaps be explained by the reduced importance of employment protection policies by governments (and resistance to lay-offs by unions) which had attenuated the relationship between output and unemployment after the first oil shock.[11]

Investment plays a complex role in unemployment determination-- driving output up through direct demand effects and through enhanced competitiveness but reducing the employment requirements per unit of output through the incorporation of labour saving technology. The relationship between investment and unemployment increase is a bit more significant than GDP (equations 41-43). Since it is also more significant than industrial output it cannot simply reflect the fact that investment demand is an important component of industrial output. Moreover, since productivity growth is if anything positively related to unemployment increase (equations

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[11]Not surprisingly there is no relationship between unemployment and the growth of individual components of demand such as exports or government spending.

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44-45), it cannot be because high investment has maintained productivity growth and competitiveness.[12]   A possible explanation could be that the ability to maintain investment growth is an indication of the degree of employer confidence which is simultaneously reflected in the maintenance of employment.

The years since the late 1960s have seen a pronounced slowdown in productivity growth and deterioration in the terms of trade in the OECD countries (see chapter 2). The failure of real wages to respond flexibly to these conditions is a popular explanation for the subsequent increase in unemployment.[13] On a cross section basis over the period 1973-79 there was a tendency for those countries with faster product wage growth (or less of a slowdown) to exhibit a bigger increase in unemployment.   About one-quarter of the variance in unemployment changes is statistically explained by the behaviour of product wages during this period (equations 54-58).   After 1979, however, the relationship is not significant at all. It seems likely that the industrial crises which provoked the big increases in unemployment after 1979 reflected far more deep-seated problems than a temporary rise in product wages.

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[12]We noted in section 1 that most of the reduction in output for OECD as a whole had been reflected in lower productivity rather than slower employment growth. It is interesting that this "beneficial" effect of productivity slowdown on unemployment is also reflected on a cross-sectional basis and over a substantial time period.

[13]This is usually explained in neoclassical terms of declining marginal productivity.   It is important to note that the NAIRU approach (Rowthorn [1977], Layard and Nickell [1986]) does not necessarily include such a relationship since real wages are determined by companies' mark-up on costs which may be insensitive to the cycle. In this approach a deterioration of the terms of trade or a productivity slowdown would result in a higher level of unemployment if wage bargainers could not be induced to accept lower real wages (or smaller increases).

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Finally (equations 46-50), increased unemployment was strongly correlated with the growth of real consumption per head of population over the final sub-period 1979-85 (diagram 3); but not at all during the years 1973-79. This underlines again the different character of the two sub-periods. During the first period, it appears that the ability to contain unemployment was largely independent of the extent to which economic circumstances were squeezing what was available for consumption (via slower growth, terms of trade effects and so forth). In the harsher climate after 1979 economic "realities" reasserted themselves and slow growth of consumable resources was frequently, although not universally, off-loaded onto one section of the population--the unemployed--who took a major cut in consumption. Impressive, therefore, was the performance of those countries (Japan and Italy stand out) which held down unemployment after 1979 despite a much slower growth of consumption per head than prior to 1973. Conversely the performance of the UK since 1979 was particularly poor in that there was a very large rise in unemployment despite a relatively small fall in the growth of consumption.

Table A6 shows the results of a multivariate analysis relating the growth of unemployment to the slowdown of population of working age and changes in the growth rates of GDP and product wages. A little over one-third of the variance in unemployment increases is accounted for by these variables.[14] Population slowdown is here always of significance in reducing

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[14]The degree of explanation may appear to be very low in comparison with the results of unemployment equations estimates by Bruno (1986) and McCallum (1986). It should be noted, however, that their results are for pooled time series and cross-section data and it may very well be that a disproportionate amount of the variance being explained is in fact of a time series nature. The pattern of unemployment change over time within countries may be well explained by variables with little or no explanatory

unemployment increase, GDP more or less significant and product wages only in the first sub-period. The lack of significance of the product wage rate in the second sub-period is probably misleading.

The wage measure used here is pre-tax and included such items as employers' contributions to social security. Later on, when discussing the so-called "star-performers," we shall suggest that a more appropriate variable, especially in recent years, may be the post-tax real wage. Unfortunately, international statistics on this latter variable are not readily available.

Conclusion

It is clear that economic growth is only loosely correlated with unemployment; countries with similar economic growth rates have widely differing rates of unemployment. The impact of population growth on unemployment, which has generally been neglected, clearly deserves stress. Some countries, notably Japan, benefitted substantially from a fortuitous slowdown in population growth of working age at the time economic conditions deteriorated. Most significantly the role of structural change, and in particular of industrial employment, is of central importance in understanding the variation in unemployment performance. The massive rise in unemployment, which is concentrated in a number of European economies--

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power in explaining unemployment differences between countries (budget balances or world trade performance, for example). Where the focus of interest is on intercountry differences it seems preferable to estimate simple cross-section equations of the type used in this paper. It may also be noted that McCallum uses in his explanatory variables "Okun coefficients" which measure the response within a country of unemployment to output changes. Since the diversity of such responses is amongst the main features to be explained, it is an unfortunate procedure and makes the R^2 quite misleading as an indicate of what is really being explained.

France, Germany, UK, Netherlands and Belgium with Ireland and Spain on the fringes suffering even more severely--has substantially the character of an industrial crisis. The countries which have succeeded in keeping unemployment down have in some way or other escaped from or contained this crisis.

Our analysis suggests, therefore, that two conditions are required for a country to maintain a low level of unemployment:

> (i) Industrial Employment. Wholesale redundancies must be avoided and any decline in industrial employment must be gradual. If this condition is not satisfied, the result will be structural unemployment which cannot easily be eliminated through the creation of additional service employment.
>
> (ii) Service Employment. Sufficient service employment must be created to absorb new entrants to the labour market (be they young people or married women) plus transfers from the industrial sector (on the modest scale assumed under condition (i)). If condition (ii) is not satisfied the result will be an increase in measured unemployment even if industrial employment holds up reasonably well.

The final sections of the paper will examine the extent to which, and more importantly how, the so-called "star performers" have met these conditions and thereby held down employment.[15]

III. LABOUR MARKET PERFORMANCE COMPARED

From the preceding discussion, it is clear that various indices can be used to measure the labour market performance of a country. In Table 7 the countries of our sample are ranked according to a number of such indices. Two of these indices are concerned with unemployment, as

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[15]The relation of our analysis to the NAIRU approach is discussed in Glyn and Rowthorn (1988).

officially measured, and the remainder with employment. There is a well-defined correlation between the various rankings; however, it is by no means perfect. Only Norway does well according to all of the indices shown in the table, although the performance of Sweden is also very impressive. At the opposite end of the spectrum are Belgium, France and Spain whose performance is uniformly bad. These countries have all experienced a dramatic reversal of fortunes since 1973. The table also reveals examples of inconsistency among the various indices. For example, Switzerland has maintained a low level of measured unemployment, yet its record on employment growth during this period is amongst the worst. The reason for this anomaly is a reduction in the labour force since 1973, which is unique to the sample (see table 6). The opposite case is Canada, which has experienced the highest rate of employment growth in our sample, yet also has a very high rate of unemployment (more than 10%), due to a 36% increase in the labour force. In this respect the USA is similar to Canada.

A final interesting case is Italy. It is one of the few in our sample where employment growth has accelerated since 1973 (see table 6). Moreover, Italy is the only country where non-agricultural employment (i.e. industry and services combined) has grown faster since 1973 than before. However, because of a steep rise in female participation rates, Italy's unemployment rate has actually risen.

The "star performers"

The above examples illustrate the difficulties involved in choosing an index of labour-market performance. In the discussion which follows we shall focus our assessment of performance on unemployment rates as

standardised by the OECD (where available). To avoid the distortion involved in choosing a single year, we shall take as our index a three-year average of unemployment rates for the period 1984-86. From diagram 4 we can identify only five "star performers" which have kept measured unemployment really low since 1973; Switzerland, where the unemployment rate was still only 1% in the mid 1980s; then Norway, Japan, Sweden and Austria where unemployment was in the range of 2 1/2 - 3 1/2 percent.[16]

Common features

Let us now consider what features, if any, our star performers (Switzerland, Norway, Japan, Sweden and Austria) have in common (see Tables 8 and 9). We shall consider three types of feature: structural change; industrial production; wages and consumption.

Structural change

Earlier we argued that for a country to maintain a low rate of measured unemployment: (i) any decline in industrial employment must be gradual, and (ii) service employment must grow sufficiently fast to absorb new entrants to the labour market plus transfers from the industrial sector. Of our star performers, Norway and Japan conform to this pattern well, and

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[16]Two other countries with fairly low unemployment are New Zealand and Finland, with a rate of approximately 5 percent in the mid 1980s. Finland is a borderline case. The country was hit hard by the world recession in the mid-70s and unemployment rose noticeably, but in more recent years its performance has been outstanding. Indeed, Finland is the only OECD country where the unemployment rate actually fell over the period 1979-85. However, an unemployment rate of 5% is too high to justify inclusion in our list of star performers. The same observation applies to New Zealand. Although its unemployment rate of 5% is still moderate by international standards, it represents a marked deterioration as compared to the early 1970s when measured unemployment was virtually zero.

Sweden moderately well. All three have experienced a fairly slow decline in industrial employment over the period 1973-85 as a whole, and also within both subperiods 1973-79 and 1979-85. Moreover, all three have had a sufficient increase in service employment. As a result, all three have experienced only a very small increase in measured unemployment since 1973.

Austria fits the pattern less well. Industrial employment in Austria has fallen quite fast, especially since 1979, whilst the growth rate of service employment has been equal to the OECD average. Such a combination would normally lead to a noticeable rise in measured unemployment. This has been largely avoided in Austria because many of those who have lost their jobs are foreigners who are not included in the official statistics on Austrian unemployment. The increase in such hidden unemployment is reflected in the overall participation rate which has fallen noticeably since 1973 (table 6).

Even more anomalous is the case of Switzerland, where service employment has stagnated whilst industrial unemployment has fallen dramatically. Yet measured unemployment remains negligible. As in the case of Austria, the reason is that unemployment in Switzerland has been either exported to other countries or simply ignored by official statistics.

Industrial Production

As we have seen earlier, there is a degree of inverse correlation between industrial growth and unemployment. Countries which have experienced the greatest increase in industrial production per capita, have in general experienced the smallest rise in unemployment. The reasons are obvious. Rapid growth in industrial production makes it easier to maintain

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industrial employment, and hence avoid some of the structural problems which contribute to unemployment. It also provides in a painless fashion the material resources required to support expanding employment in the service sector. Of our star performers, Norway and Japan conform unambiguously to this general pattern, and Austria fits it quite well. Sweden is a striking exception. Over the period 1973-85 as a whole, industrial production in Sweden has risen very slowly indeed (Table 9). Yet the country created a massive number of new jobs and experienced virtually no rise in measured unemployment. The Swedish example is important. It proves that rapid industrial growth, although helpful, is not absolutely essential for large-scale job creation and full employment. Under the right social conditions, both objectives can be achieved without rapid growth. Switzerland is another exception. Industrial production has stagnated but for reasons mentioned above, and discussed at length below, measured unemployment has remained negligible.

Wages and Consumption

Consumption per capita is strongly influenced by pre-tax real wages, the share of wages absorbed by taxes, the proportion of wages saved, and finally, the proportion of the adult population in employment. The behaviour of these variables during the period 1973-85 shows considerable variation within the group of star performers. In Austria and Japan, both pre-tax wage rates and per capita personal consumption rose more or less continuously. In Switzerland, real wage rates also rose continuously. However, total employment fell and the population rose, so wages per head of population remained almost stationary. This explains why per capita

personal consumption in Switzerland hardly changed over the period 1973-35 despite a fairly rapid growth in real wage rates. In Sweden the situation was reversed. Real wage rates fell noticeably from 1977 onwards (see diagram 7). However, this was accompanied by a large increase in female employment, mainly in the public services. As a result, total family income and average personal consumption were maintained.

Interestingly, Switzerland and Sweden have had much the same growth of personal consumption per head. However, in Switzerland an increasing fraction of the population is without employment, whilst in the Swedish model a growing fraction of the population is employed. Thus, in terms of the personal consumption of a typical family, the two models are similar. However, the Swedish model involves a much faster growth of public services and is, thus, superior both in terms of overall living standards and opportunities to participate in paid employment, especially for women.

The case of Norway is interesting because during the years of its oil boom the country combined Swedish-style social policy with Japanese-style industrial growth. Real wages were kept down whilst industrial productivity increased because of oil production. The resulting oil profits were taxed to finance an increase in public sector employment for women, together with a large rise in incomes for farmers. Despite the virtual freeze on real wages, many families received a substantial increase in total income and personal consumption.

IV. THE EXPERIENCE OF INDIVIDUAL COUNTRIES

Switzerland

Switzerland is frequently praised as a shining example of how to combine stable prices with full employment--a model of labour market "flexibility." In fact, its economic performance since 1973 has been very poor. Whilst it is true that Switzerland has experienced one of the lowest inflation rates in the OECD since 1973, this has been purchased at enormous cost in terms of output and employment. The result has been a massive, but hidden, rise in unemployment.

Over the period 1973-85 Switzerland experienced the slowest GDP growth of any country in our sample (0.3% p.a.). The fall in manufacturing output was second only to the U.K. This performance on the output side was accompanied by a large fall in total employment. In almost any other country, such a fall in employment would have led to a massive rise in measured unemployment. However, this did not happen in Switzerland. Many of the workers who lost their jobs were foreigners with temporary residence permits. By agreement between the unions and employers, such people are the first to be fired when jobs are eliminated and the last to be hired when new jobs become available. On being fired, unless they can find a new job quickly, they must leave the country. This mechanism provides a safety valve which permits a considerable reduction in employment to occur without having Swiss nationals unemployed. It also allows the Swiss to export their unemployment to surrounding countries. This mechanism was particularly important after the first oil shock. Over the period 1973-77 total employment fell by 280 thousand (8.7%), and the number of foreign workers in the labour force was reduced by 251 thousand. There was virtually no increase at all in unemployment as officially measured, which rose by a mere 12 thousand. Of course, Switzerland has not been the only country to behave

in such a fashion. Germany and Austria have also kept down their unemployment rates by excluding foreigners, but neither has done so on quite the scale practiced by Switzerland.

The large-scale exclusion of foreigners is no longer a viable option in Switzerland. The country's ability to maintain near-full employment more recently is due to trends in participation rates. Women's participation rate has remained virtually stationary since 1977. (In most other OECD countries it has risen strongly.) For men the participation rate has been falling in virtually all OECD countries, but in Switzerland the decline has been amongst the fastest (see Table 5).

A simple calculation will illustrate the combined importance of these two factors. Assume that both the number of foreign workers and the overall participation rate had remained constant since 1973. By 1983 there would have been an additional 504 thousand people in the Swiss labour force. Given the number of jobs actually available in 1983, this addition to the labour force would have meant a twenty-fold increase in unemployment (from 26 thousand to 530 thousand). Instead of an unemployment rate of 1 percent the figure would have been 15 percent, which is higher than in any OECD country in our sample with the exceptions of Ireland and Spain. This is, of course, only an illustrative calculation. Even so, it does indicate the orders of magnitude of the exported and hidden unemployment.

Despite its supposed commitment to free trade and "labour-market flexibility," Switzerland is really a good example of so-called "Eurosclerosis."[17] Indeed, the country has been strongly criticised by the

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[17]The term "Eurosclerosis" has been popularised by Giersch (1985) who criticises European countries for the supposed slowness in adapting their productive structures in line with new economic realities. On a purely

OECD for its failure to restructure its industry by developing new products or shifting into new activities with long-term market potential.[18] Switzerland has restructured by cutting back and rationalising old sectors, but has not yet developed sufficient new activites. This explains why total industrial output has stagnated since 1973.

Another striking feature of the Swiss economy is the relatively fast growth of labour costs, which have risen by around 25 percent in real terms since 1973 (diagram 6). Given the weak state of the Swiss economy and its lack of dynamism, this rise in labour costs may well have been a factor behind the stagnation of output and the collapse of employment. Those who have managed to keep their jobs in Switzerland have done quite well since 1973, but this may have been at the expense of others who have lost their actual or potential jobs during this period. The Swiss economy is sometimes praised because of its apparent ability to combine a commitment to free market economics with a decentralised system of consensual labour relations. In terms of output and employment, this combination has been a clear failure since 1973. Contrary to the common perception, the Swiss achievement has been to provide the core labour-force with a rising standard of living at the expense of marginal groups excluded from this charmed circle.

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descriptive level there is something in this criticism. However, for what seem to be largely ideological reasons, Giersch ascribes this slowness to market "imperfections," and his remedy is extensive deregulation and free reign for market forces. The experience of Switzerland suggests that the analysis of Giersch is, to say the least, simplistic. Indeed, some of the most successful economic restructuring in recent years has occurred in corporatist economies, such as Finland and Sweden, where state intervention and labour market "imperfections," in the sense of Giersch, are legion.

[18]See OECD (1984, p. 40).

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Japan

Both manufacturing output and industrial production as a whole have grown rapidly in Japan (Table 9). This growth is almost certainly of greater importance in explaining Japan's low unemployment than the "lifetime" employment policies of large industrial companies. Such policies have helped to keep unemployment down in the short run, but this has been against a background of continued growth. It is questionable how far these policies could withstand prolonged economic stagnation of the kind experienced in much of Europe. Besides, lifetime employment policies cover only a part of the industrial workforce and do not explain why industrial employment has held up so well in many smaller companies.

Labour-hoarding during recessions is a well-established feature of the Japanese economy.[19] However, the importance of this factor should not be exaggerated. During the industrial crisis following the 1973 oil shock, employment fell sharply--by 10% for males and 13% for females.[20] Some of this reduction occurred through layoffs, often by small firms not operating lifetime employment policies, and some through lower recruitment by firms of all kinds. In most countries, such a large reduction in manufacturing employment would soon be reflected in official unemployment statistics. However, in Japan many of those who became unemployed were officially classified as economically inactive, and thus excluded from the unemployment statistics. This is especially true for women in the age group 25-54 years, whose labour-force participation declined by about 4% between 1973 and 1975.

[19]See OECD (1986) and Hamouda and Kurosaka (1986). Aoki this volume.

[20]The timing of this fall was different for males and females; the figure for males refers to 1974-78, that for females to 1973-75.

With the exception of Switzerland no other country experienced anything like such a fall in female participation during these years.

Over the period 1973-85 employment growth in Japan has been about average for the OECD (Table 7). However, it has been much slower than in the preceding period 1960-73. The difference is most striking for non-agricultural employment (i.e. industry and services combined), where the growth rate has fallen from 3.0% p.a. in the first period to 1.3% p.a. in the second. Only Belgium and Switzerland have experienced a comparable decline in employme nt growth (Table 7). Why has this not led to mass unemployment in Japan? In purely statistical terms the answer is as follows. As employment growth has slowed in the non-agricultural sector, there has been a virtually identical slowdown in labour force growth in this sector of the economy. Prior to 1973, employment and labour force in the non-agricultural sector both grew extremely fast at about the same rate; since that year they have both grown far more slowly, though again at about the same rate. As a result, measured unemployment has not altered very much.[21] Of the 1.6% reduction in non-agricultural labour-force growth after 1973, about half is due to slower population growth and half to the reduced outflow of population from agriculture.

To illustrate the orders of magnitude, suppose that population growth had continued after 1973 at its previous rate. Then, _ceteris paribus_, given the actual growth in non-agricultural employment, the measured unemployment rate by 1985 would have been around 12%. Moreover, if in addition the outflow of population from agriculture had continued on the pre-1973 scale,

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[21]Note that we are ignoring hidden unemployment in the agricultural sector and elsewhere.

then by 1985 measured unemployment in Japan would have been around 20% of

the labour force. Of course, faster growth in the non-agricultural labour

force would probably have spontaneously induced some additional employment

in the non-agricultural sector, so the rise in unemployment would have been

less than the figures above suggest. However, one should not exaggerate the

ability of the Japanese economy to generate employment under the harsher

world economy conditions of the past fifteen years. The lifetime employment

system of large companies is reasonably good at preserving employment for

existing workers, but it is not designed for the creation of jobs for people

not already in employment.[22] To have achieved this objective would have

required a deliberate government policy, either to promote much faster

growth of output, or else to reduce the rate of productivity growth and

thereby encourage firms to employ additional labour.

Norway[23]

Like Japan, Norway has experienced a large increase in industrial

production since 1973. This is mainly due to the growth of oil production;

in the manufacturing sector output has remained virtually constant since

1973. In most countries, such a prolonged stagnation in manufacturing

output would have been accompanied by large-scale redundancies and

considerable unemployment (OECD 1985b). In Norway oil revenue has been used

to subsidise ailing firms and slow the fall in manufacturing employment. As

a result manufacturing employment fell by only 6 percent during the period

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[22]On this point see the paper by Aoki in the present volume.

[23]Our discussion of Norway draws heavily on the following works:
Flanagan et al (1983), Gustavsen and Hunnius (1981), OECD (1982), and Olsen
(1983).

1973-85.   Norway has also used oil revenues to finance government employment, which has risen by more than 40 percent since 1973.   The deliberate use of oil revenues to preserve and create employment stands in stark contrast to the use of oil revenues in the UK under the Thatcher government. The Thatcher government has encouraged private firms to lay-off workers, whilst at the same time reducing government employment.   As a result, total employment has fallen and there has been a spectacular rise in unemployment.   The cost of supporting the unemployed is considerable and absorbs much of the UK's oil revenues.

The difference between Norway and the UK is not an accident, nor is it the result of "mistakes" in UK policy. It is due to profound political differences between the two countries.   In Norway, there is a durable compromise between social classes, under which the maintenance of full employment is one of the main objectives of government policy. Such a compromise is feasible because both workers and employers are centrally organised, and each organisation can bargain on behalf of its members and ensure they largely abide by the terms of the agreement. On the union side, a condition for cooperation is that the government pursue a full employment policy. In return they contain their wage demands within limits consistent with this objective. Such behaviour is typical of what Mancur Olson (1982) calls "encompassing" organizations which represent a broad social interest rather than the sectional interest of some narrow subgroup. By their very nature, encompassing organisations take a comprehensive view of events and take into account the macroeconomic consequences of their action. When society is dominated by a few such organisations a durable compromise is feasible, indeed likely, because each side has a powerful material interest

in a compromise which helps to stabilise the economy, and will be willing to pay a considerable price to make such a compromise work.

This is, of course, a familiar theme in the literature on "corporatism" and we shall not explore it further.[24] Suffice it to say that the existence of strong, centralised organisations for capital and labour is a major element in Norway's success in preserving full employment. Of these, a strong, centralised trade union movement is the most important, for it allows the working class to act coherently as a class and impose full employment policies which might otherwise be rejected. The existence of a strong, centralised employers' organisation is a useful bonus but is probably not the vital ingredient in explaining why Norway has so resolutely pursued the goal of full employment.

Norway provides an extraordinary example of social solidarity. Between 1977, when oil and gas production began to build up, and 1985, total industrial production rose by 44 percent. Yet there was no increase at all in real wages for the bulk of employed workers. Instead, the revenues from oil and gas were used to achieve general social objectives--to repay the country's foreign debt; to raise farm incomes by around fifty percent so as to stem the outflow of population from the countryside; to expand employment in the public services, especially for women; and finally, to maintain employment in the geographically scattered manufacturing industry. With the

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[24]There is now an immense and confusing literature on corporatism. For a useful survey of the theoretical aspects of this topic see Williamson (1985). Amongst the writings on corporatism which have most influenced us are Bruno and Sachs (1985), Cameron (1984) and Stephens (1979). As this paper was being revised we came across an interesting article by Schmidt (1987), whose approach is very similar to our own. Therborn (1986) also has a similar approach, although for reasons which are not entirely clear he is dismissive of corporatism as a useful theory.

exception of Sweden, no other OECD country has displayed anything like this degree of solidarity. In recent times the Norwegian economy has suffered a severe blow from the fall in oil prices. As a result, the country is now facing a prolonged period of austerity and retrenchment. However, given the degree of internal solidarity in the country this burden should be widely shared amongst the population and, hopefully, there should be no major increase in unemployment.

Austria

Austria has had a larger than average increase in both manufacturing output and industrial production since 1973 (Table 9). Even so, its growth rate has not been all that impressive and the country has suffered from a marked acceleration in the growth rate of working-age population since 1973. We would therefore have expected to see a much larger rise in unemployment than has actually occurred. There are several reasons why unemployment has been kept in check. In the industrial sector, much of which is nationalised, deliberate efforts have been made to maintain employment (OECD 1985a). Moreover, many of the workers who have lost their jobs in this sector are foreigners who do not appear in Austria's unemployment statistics. Both the policy •of maintaining industrial employment and reducing the number of foreign workers are a concession to Austria's powerful labour movement (Katzenstein, 1984). In Austria, as in Norway, there is a social compromise between well-organised groups. The exact nature of this compromise and the character of the organised groups is somewhat different in the two countries. But in both cases, the labour movement is powerful and centrally organized. The protection of employment

for Austrians is one of the central goals of Austrian unions, and in large measure they have been able to impose this goal in return for cooperation in broader economic policy. Furthermore, because of increased production Austria has been able to combine a fairly high degree of employment protection with rising real wages. However, there are signs that the social compromise is beginning to fragment. The political balance has shifted against the traditional labour movement in recent years and employment protection is no longer such a central plank of government policy. The massive subsidies to nationalised industries are to be phased out and heavy redundancies are expected. The result will almost certainly be a significant rise in unemployment.[25]

Sweden

This brings us to Sweden. As can be seen from Table 9, Swedish manufacturing output and industrial production per capita were almost stationary over the period 1973-85. Yet during this period industrial employment declined slowly and a vast number of service jobs, many of them part-time, were created. Both of these developments were the result of government policy. In the industrial sector a massive programme of job protection was implemented following the 1973 oil shock. The idea was to preserve employment in the older sectors of the economy, such as shipbuilding and steel, whilst retraining workers and developing new industries. This policy was very effective, as even the previously skeptical OECD reports (1985c) now admit. The Swedish economy has now successfully restructured and has been growing quite fast in recent years.

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[25]The Guardian, 24 July 1987.

All this was achieved without the wholesale shake-out which occurred in many other European economies faced with similar difficulties, such as Belgium or the UK. As far as service employment is concerned, the crucial factor behind the expansion was government employment which rose by well over a third during the period 1973-85. One of the objectives of this expansion in government employment was to provide jobs for displaced industrial workers, together with new entries to the labour market such as young people and married women.

As in Norway, the conscious pursuit of full employment was the fruit of a social compromise in which a strongly organised and centralized labour movement could impose such an objective as the price of its cooperation in wider economic policies.[26] However, there is one crucial difference between the two countries. In Norway, the huge increase in the tax revenues from oil provided a ready means to finance the protection of old jobs in manufacturing the creation of new jobs in government services. In Sweden, there were no oil revenues. On the contrary, the country is a large importer of oil and its energy bill was greatly increased by higher oil prices. Moreover, total industrial production was virtually stagnant. The full employment programme was therefore financed through a combination of wage restraint and higher taxes. This meant a considerable fall in real take-home pay for the average worker (diagram 5). There were, of course, compensations. Public services were greatly improved and family pay was often boosted through the provision of additional work for married women. Even so, the policy required enormous restraint on the part of well-

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[26]For a discussion of the so-called Swedish model see Korpi (1978), Lundberg (1985) and Morgan (1986).

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organised workers in the more secure areas of the economy. Of all the OECD
countries, Sweden exhibits the highest degree of social solidarity in the
face of adversity over the past fifteen years. The basis of this solidarity
is a well-organised, disciplined and politically conscious working class.
The Swedish trade unions are not as centralised as in Austria or Norway,
being divided into two major confederations which are sometimes in dispute
with each other.[27]   Even so, Swedish workers have displayed an impressive
degree of unity in pursuing the objective of full employment.   Moreover,
until now at least, they have been willing to make the sacrifices required
to achieve this objective.

Concluding Remarks

The first conclusion of this paper is unsurprising. It is that there
is no single factor, either demographic or economic, which accounts for the
major differences in unemployment performance amongst the OECD countries.
There is a wide dispersion of patterns of population growth, labour force
growth and economic growth within which unemployment has been less
successfully or more successfully contained.   Fortuitous changes in
population growth have played an important and neglected role. Relatively
high growth rates of industrial production have clearly helped to keep down
unemployment. So too has the ability of economies to adapt their employment
policies to whatever industrial performance they have achieved and to avoid
wholesale industrial redundancies. However, these general findings do not

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[27]For a description of the stresses in this relationship see Lash
(1985) and Peterson (1987).

in themselves explain the mechanisms which lie behind success or failure. A closer look at the success stories is required.

Our list of "star performers" is short: Switzerland, Norway, Japan, Sweden and Austria. Of these, Switzerland is really a failure, and its low unemployment rate is extremely misleading. Although there are differences, especially between Japan and the European countries, all of the genuinely successful countries have had one thing in common. They have pursued highly interventionist economic policies, and their governments have played a vigorous role in guiding the economy and moulding its future. All of them have rejected the laissez-faire ideas of the New Right, with its emphasis on deregulation and market forces. Yet their performance, in general, has been impressive by international standards and their unemployment record good. Even Sweden, whose industrial growth rate was for a time very low, is now experiencing an industrial renaissance.

Our second point concerns the European countries. Three of the European star performers, Norway, Sweden, and Austria, are examples of what has been called "social corporatism." In all of them, the working class is powerful and possesses a high degree of organizational unity. This strength and unity allows the working class to develop coherent objectives and strike an advantageous bargain with other social groups. In particular, it allows this class to establish full employment as a major national priority. Not only is such a priority accepted by the other social groups, but the working class in return honours its own side of the bargain and accepts the sacrifices required to achieve its employment objectives. Norway, Sweden and Austria are not the only countries which might be classified under the heading "social corporatism." Both Denmark and Finland are often classified

under this heading: in each of them social compromise is a pervasive phenomenon, and in each of them the labour movement is quite strongly organised. However, in neither of them is the working class as powerful as in the three former countries, nor does it display the same internal coherence and unity of purpose (see diagram 7). This may help to explain, perhaps, why full employment has not been such a priority in Denmark and Finland, and why these countries have higher unemployment rates than do our star performers, Norway, Sweden and Austria.[28] This is only a hypothesis, but it seems plausible.

It seems that there are three routes to full employment under current conditions in Western capitalist economics. There is the Swiss model in which the unemployed are pushed out of the country or simply excluded from the official statistics. There is the Japanese model in which a powerful, centralised bourgeoisie formulates a coherent strategy for industrial development which it imposes on a weak and fragmented working class. This is sometimes called "concertation with labour excluded."[29] The third model is social corporatism, in which a powerful, unified working class strikes a bargain with the bourgeoisie and other social groups. Under the terms of this bargain, the working class cooperates in capitalist development in return for policies which ensure the maintenance of a high level of employment. Both routes to genuine full employment, it should be noted, involve a highly interventionist state. But in political terms, they are at opposite ends of the spectrum. Under the Japanese model the working class is politically marginalised and economically fragmented, whilst under social

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[28]For the case of Denmark see Flanagan et al (1983).

[29]See Lehmbruch (1984).

corporatism this class is a major political actor and uses its power to ensure a far more egalitarian distribution of welfare (wages, social services and employment conditions).

It is clear that the institutional conditions for maintaining full employment in the context of world economic stagnation cannot be simply transplanted from one country to another. Nevertheless it would be interesting to investigate more fully the nature of "social corporatism" and how it has developed in various countries, how this model has broken down in some countries (e.g. the Netherlands) and has been strengthened recently in others (e.g. Australia). It would also be useful to analyse the type of macroeconomic policies, both internal and external, which seem to facilitate full employment under social corporatism.

TABLE 1

Output, Productivity, and Employment in the OECD 1960-1983

average annual percentage growth rates

	1960-73	1973-85	Change
1. Output (real value-added)			
Agriculture	1.6	1.6	0.0
Industry	5.3	1.8	-3.5
Services	5.0	3.0	-2.0
T o t a l (GDP)	4.9	2.4	-2.5
2. Output per worker			
Agriculture	5.2	3.3	-1.9
Industry	3.9	2.3	-1.6
Services	2.6	0.8	-1.8
T o t a l	3.8	1.6	-2.2
3. Employment			
Agriculture	-3.4	-1.7	1.7
Industry	1.3	-0.5	-1.8
Services	2.5	2.2	-0.3
T o t a l	1.1	0.9	-0.2

SOURCES: OECD Historical Statistics 1960-85, OECD Labour Force Statistics.

TABLE 2

Employment and Labour Force: OECD Countries[1] 1960-1985

average annual percentage growth rates

	1960-73	1973-85	Change
Male and Female			
Population aged 15-64	1.2	1.0	-0.2
Participation rate[2]	-0.1	0.2	0.3
Labour force	1.1	1.3	0.2
Employment	1.1	0.8	-0.3
Employment/Labour Force[3]	0	-0.5	-0.5
Employment/population 15-64	-0.1	-0.2	-0.1
Male			
Population aged 15-64	1.3	1.1	-0.2
Participation rate[2]	-0.5	-0.4	0.1
Labour force	0.8	0.7	-0.1
Employment	0.8	0.3	-0.5
Employment/labour force[3]	0	-0.4	-0.4
Employment/population 15-64	-0.5	-0.8	-0.3
Industrial employment	1.3[4]	-0.5	-1.8
Services employment	2.1[4]	1.6	-0.5
Female			
Population aged 15-64	1.1	1.0	-0.1
Participation rate[2]	0.6	1.2	0.6
Labour force	1.7	2.2	0.5
Employment	1.7	1.8	0.1
Employment/labour force[3]	0	-0.4	-0.4
Employment/population 15-64	0.6	0.8	0.2
Industrial Employment	1.6[4]	0.1	-1.5
Services Employment	3.3[4]	3.0	-0.3

Source: OECD Labour Force Statistics.

(1)   For 19 countries, except for industrial and services employment for which data is available only for 9 countries

(2)   participation rate = $\dfrac{\text{labour force}}{\text{population aged 15-64 years}}$

(3)   Note that employment/labour force = 1 - unemployment rate.

(4)   1964-73

TABLE 3

Accounting for increased Unemployment in 19 OECD Countries
1973-83

millions

	Unemployment		Change in Unemployment 1973-85				
					due to change in growth rate (1) of :		
	1973	1985	Total	employment	participation	population	residual
Male	5.1	15.8	10.7	13.2	1.4	-3.9	0.0
Female	4.2	11.9	7.7	-1.8	10.2	-2.3	1.6
Total	9.3	7.7	18.4	11.4	11.6	-6.2	1.6

(1) as compared to the period 1960-73.

Source: OECD Labour Force Statistics

TABLE 4

Unemployment and Employment Indicators: 1985 Levels

	1985 UNEMPLOYMENT RATES				1985 EMPLOYMENT RATES		
% 's	TOTAL	FEMALE	MALE	%'s	TOTAL	FEMALE	MALE
Switz	0.9	1.1	0.8		70.7	52.7	88.6
Norway	2.5	3.0	2.1		75.4	66.3	84.2
Japan	2.6	2.7	2.6		70.6	55.7	85.5
Sweden	2.8	2.9	2.7		79.7	75.9	83.4
Austria	4.2	3.6	4.6		63.0	48.8	77.7
New Z	4.2	7.5	2.3		62.2	44.1	80.2
Finland	4.9	4.4	5.4		72.7	70.3	75.1
USA	7.2	7.4	7.0		67.5	58.9	76.3
Denmark	7.3	8.2	6.6		74.2	68.4	79.9
Austral	8.2	8.7	7.9		64.0	49.9	77.8
Germany	8.4	9.5	7.8		58.5	45.6	71.5
Italy	10.2	16.2	6.8		52.2	34.2	71.7
France	10.4	12.8	8.6		57.5	47.9	67.2
Canada	10.5	10.7	10.3		65.5	55.6	75.4
UK	11.7	8.8	13.6		64.8	54.7	74.9
Belgium	12.3	16.5	9.4		54.4	42.1	66.6
Nether	13.0	12.2	13.4		51.2	36.2	65.9
Ireland	17.6	13.5	19.7		49.9	31.7	67.5
Spain	22.1	25.6	20.5		42.5	25.0	60.1
EUROPE'	10.7	11.7	10.5		57.5	44.4	70.8
OECD'	8.0	8.5	7.9		63.3	51.5	75.4

	1985 PARTICIPATION RATES			1985 PART-TIME (% EMP)		
%'s	TOTAL	FEMALE	MALE	TOTAL	FEMALE	MALE
Switz	71.4	53.2	89.4	na		
Norway	77.3	68.3	86.1	30.0	54.8	11.7
Japan	72.5	57.2	87.8	10.5	21.1	4.8
Sweden	82.0	78.2	85.8	25.4	46.2	7.3
Austria	65.8	50.6	81.5	8.3	19.8	1.5
New Z	65.0	47.6	82.0	14.6	28.3	5.2
Finland	76.4	73.5	79.3	8.3	12.5	4.5
USA	72.7	63.6	82.0	14.4	23.3	7.6
Denmark	80.1	74.5	85.5	23.7	44.7	6.6
Austral	69.8	54.7	84.5	17.2	35.9	6.1
Germany	63.9	50.4	77.4	12.6	30.0	1.7
Italy	58.1	40.8	76.4	4.6	9.4	2.4
France	64.2	54.9	73.5	9.7	20.1	2.6
Canada	73.2	62.3	84.1	15.4	26.2	7.6
UK	73.4	60.0	86.7	19.1	42.4	3.3
Belgium	62.0	50.4	73.5	8.1	19.7	2.0
Nether	58.9	41.2	76.1	21.2	50.3	6.9
Ireland	60.6	36.6	84.1	6.7	15.7	2.7
Spain	54.6	33.6	75.7	'na		
EUROPE'	64.4	50.2	78.6			
OECD'	68.8	56.2	81.6			

Sources: OECD Labour Force Statistics, Employment Outlook.

TABLE 5

Unemployment and Employment Indicators: Changes 1973-85

% points	1973-85 UNEMPLOYMENT CHANGES			%	1973-85 EMP/POP CHANGES		
	TOTAL	FEMALE	MALE		TOTAL	FEMALE	MALE
Switz	0.9	1.1	0.8		-8.9	-2.7	-11.9
Norway	1.0	0.6	1.1		12.9	34.3	0.4
Japan	1.4	1.5	1.3		-0.4	4.2	-3.7
Sweden	0.4	0.2	0.5		8.2	24.7	-5.1
Austria	3.2	2.0	4.0		-6.8	-4.5	-9.0
New Z	3.9	7.2	2.0		-2.3	12.6	-8.6
Finland	2.7	2.2	3.1		-0.1	12.9	-10.2
USA	2.3	1.4	2.9		6.5	22.8	-3.8
Denmark	6.5	7.1	5.9		0.4	5.6	-3.7
Austral	5.9	5.4	6.1		-5.2	8.2	-11.8
Germany	7.4	8.3	6.9		-12.5	-6.8	-16.6
Italy	3.8	4.8	2.5		-2.4	14.1	-8.2
France	7.7	8.3	7.0		-10.4	0.5	-16.6
Canada	5.0	4.1	5.4		4.8	26.2	-6.7
UK	9.5	8.0	10.6		-7.8	4.1	-15.1
Belgium	9.9	13.2	7.5		-10.2	2.4	-16.8
Nether	10.7	10.4	11.0		-6.9	26.1	-18.6
Ireland	11.9	9.9	13.3		-16.0	-3.4	-20.8
Spain	19.5	23.1	17.9		-26.6	-20.9	-29.4
EUROPE'	8.1	8.3	8.2		-9.6	1.2	-15.5
OECD'	4.9	4.6	5.1		-2.3	9.9	-9.5

%	1973-85 PARTIC CHANGES			% points	1973-85 PART-TIME CHANGES		
	TOTAL	FEMALE	MALE		TOTAL	FEMALE	MALE
Switz	-8.1	-1.6	-11.2		na		
Norway	14.0	35.1	1.6		6.5	7.2	3.0
Japan	1.0	5.8	-2.5		2.6	6.4	0.2
Sweden	8.6	24.9	-2.7		7.4	7.2	3.0
Austria	-3.7	-2.5	-5.1		1.9	4.2	0.1
New Z	1.7	21.4	-6.7		3.8	6.3	0.5
Finland	2.8	15.6	-7.2		1.6	2.0	1.2
USA	9.1	24.7	-0.9		0.4	-0.5	0.4
Denmark	7.4	13.8	2.4		2.5	-0.4	0.9
Austral	0.9	14.7	-5.9		5.8	8.6	2.7
Germany	-5.4	1.7	-10.4		2.5	5.6	-0.1
Italy	1.8	20.7	-6.3		-1.8	-4.6	-1.3
France	-2.7	10.0	-10.2		2.5	5.4	0.0
Canada	10.7	32.0	-1.1		4.8	5.9	2.5
UK	2.0	13.2	-4.7		3.1	3.3	1.0
Belgium	-0.1	18.6	-10.0		4.3	9.5	1.0
Nether	4.6	41.1	-8.3		na		
Ireland	-3.8	7.6	-7.7		0	-1.1	0
Spain	-8.3	3.6	-13.5		na		
EUROPE'	-1.5	10.7	-8.4				
OECD'	2.8	15.3	-4.8				

Sources: OECD Labour Force Statistics, Employment Outlook.

TABLE 6

Decomposition of Unemployed Changes 1973-85

Average annual percentage
growth rates   WHOLE ECONOMY 1973-85

	UNEMP	LAB FORCE	EMP	resid	'POP	PARTICIP
Japan	0.11	0.95	0.83	0.00	0.86	0.08
Canada	0.41	2.61	2.15	-0.05	1.75	0.85
USA	0.19	2.15	1.94	-0.02	1.41	0.73
Austral	0.49	1.76	1.23	-0.04	1.68	0.08
New Z	0.33	1.61	1.27	-0.01	1.47	0.14
Austria	0.26	0.41	0.14	-0.01	0.73	-0.31
Belgium	0.83	0.60	-0.30	-0.07	0.60	0.00
Denmark	0.54	1.03	0.47	-0.03	0.44	0.59
Finland	0.23	0.76	0.53	-0.01	0.53	0.23
France	0.64	0.70	0.01	-0.05	0.93	-0.23
Germany	0.62	0.19	-0.45	-0.03	0.66	-0.46
Ireland	0.99	1.12	-0.01	-0.14	1.45	-0.32
Italy	0.31	0.98	0.64	-0.03	0.84	0.14
Nether	0.89	1.69	0.71	-0.09	1.31	0.37
Norway	0.08	1.73	1.65	0.00	0.62	1.10
Sweden	0.03	0.89	0.86	0.00	0.20	0.69
Switz	0.08	-0.20	-0.27	0.00	0.51	-0.70
UK	0.79	0.64	-0.21	-0.06	0.47	0.17
Spain	1.62	0.43	-1.42	-0.23	1.16	-0.72

% per annum growth rate   WHOLE ECONOMY 1973-85 less 1960-73

	UNEMP	LAB FORCE	EMP	resid	'POP	PARTICIP
Japan	0.14	-0.34	-0.49	0.00	-0.85	0.50
Canada	0.48	-0.21	-0.75	-0.05	-0.51	0.30
USA	0.24	0.21	-0.06	-0.02	-0.28	0.48
Austral	0.42	-0.96	-1.42	-0.03	-0.61	-0.34
New Z	0.32	-0.57	-0.90	-0.01	-0.51	-0.06
Austria	0.37	0.61	0.22	-0.01	0.66	-0.05
Belgium	0.90	-0.15	-1.12	-0.07	0.25	-0.41
Denmark	0.62	-0.22	-0.37	-0.03	-0.28	0.06
Finland	0.16	0.42	0.25	-0.01	-0.45	0.86
France	0.52	-0.31	-0.88	-0.04	-0.13	-0.17
Germany	0.61	0.06	-0.58	-0.03	0.30	-0.23
Ireland	0.99	1.04	-0.09	-0.14	0.92	0.13
Italy	0.26	1.41	1.13	-0.03	0.28	1.12
Nether	0.77	0.67	-0.18	-0.08	-0.17	0.83
Norway	0.05	0.38	0.33	0.00	-0.06	0.45
Sweden	-0.03	0.25	0.28	0.00	-0.32	0.57
Switz	0.08	-1.65	-1.73	0.00	-0.72	-0.92
UK	0.72	0.25	-0.54	-0.06	0.23	0.02
Spain	1.61	-0.39	-2.23	-0.23	0.33	-0.71

TABLE 7

Ranking of Employment Performance[1]

	Level in 1985		Growth rate 1973-85				Change in growth rate 1960-73 to 1973-85		
	$\frac{U}{L}$	$\frac{E}{P}$	$\frac{U}{L}^{(2)}$	$\frac{E}{P}$	E	E_n	$\frac{E}{P}$	E	E_n
Switzerland	1	5	3	16	16	16	17	18	18
Norway	2	2	2	1	3	2	4	2	2
Japan	3	6	4	7	7	7	5	9	17
Sweden	4	1	1	2	6	9	3	3	3
Austria	5	11	7	12	12	13	10	5	6
New Zealand	6	12	9	9	4	6	9	15	11
Finland	7	4	6	6	10	8	2	4	10
USA	8	7	5	3	2	3	6	6	4
Denmark	9	3	12	5	11	12	11	13	13
Australia	10	10	11	10	5	5	14	17	16
Germany	11	13	13	17	18	18	15	11	9
Italy	12	16	8	8	9	4	1	1	1
France	13	14	14	15	13	14	12	14	15
Canada	14	8	10	4	1	1	8	12	12
UK	15	9	15	13	15	15	13	10	7
Belgium	16	15	16	14	17	17	18	16	14
Netherlands	17	17	17	11	8	11	7	8	5
Ireland	18	18	18	18	14	10	16	7	8
Spain	19	19	19	19	19	19	19	19	19

[1] Rankings are based on fastest employment growth (higest level) and slowest employment growth (lowest level).

[2] Refers to absolute change in U/L; all other ratings refer to percentage growth rates.

Definitions: U/L = Unemployment as percentage of labour force (national definitions).
E = Civil employment.
E_n = non-agricultural employment (= industry & services).
P = Population aged 15-64 years.

SOURCE: Appendix tables

TABLE 8

The Star Performers: employment performance 1973-85 compared

Average annual percentage growth rates

	Norway	Sweden	Japan	Austria	Switzerland
Whole Economy					
Employment	1.7	0.9	0.8	0.1	-0.3
Labour force	1.7	0.9	1.0	0.4	-0.2
Population	0.6	0.2	0.9	0.7	0.5
Participation rate	1.1	0.7	0.1	-0.3	-0.7
Employment by Sector					
Industry	0.0	-0.9	0.3	-1.2	-1.7
Services	3.1	2.1	1.9	1.8	1.0
Participation Rates					
Male	0.1	-0.2	-0.2	-0.4	-1.0
Female	2.5	1.9	0.5	-0.2	-0.1
Share of Part-time					
Employment	0.5	0.6	0.2	0.2	n.a

Source: Tables 5, 6, A4, A5 and OECD Labour Force Statistics.

TABLE 9

The Star Performers: Output and Consumption Compared 1973-85[1]

Averge annual percentage growth rates

	73-79	79-85	73-85
GDP (per head)			
Switzerland	−0.4	0.9	0.3
Norway	4.3	2.5	3.4
Japan	2.8	3.1	3.0
Sweden	1.7	1.5	1.6
Austria	2.5	0.8	1.7
OECD	1.4	1.0	1.2
Industrial Production Per head (2)			
Switzerland	−0.7	0.4	−0.2
Norway	6.8	3.2	5.0
Japan	2.3	4.5	3.4
Sweden	0.7	1.5	1.1
Austria	2.0	0.4	1.2
OECD	0.5	0.6	0.6
Manufacturing Output Per head (2)			
Switzerland	−1.0	0.2	−0.4
Norway	−0.4	−0.6	−0.5
Japan	2.6	7.0	4.8
Sweden	0.4	1.3	0.9
Austria	2.3	1.2	1.8
OECD	0.9	1.2	1.1
Personal Consumption Per head			
Switzerland	0.7	0.2	0.5
Norway	3.3	2.2	2.8
Japan	3.3	1.7	2.4
Sweden	1.7	0.1	0.9
Austria	2.8	0.7	1.7
OECD	1.9	0.8	1.4

Source: OECD Historical Statistics, Main Economic Indicators, National Accounts.

(1) Per head of population aged 15-64
(2) real value added, except Switzerland where figures refer to gross product.

Table 10

Non-agricultural employment and labour force: Japan 1960-1985

percent per annum

	$\frac{73}{60}$	$\frac{85}{73}$	Change[1]
Contributions to labour force growth			
(1) Total population [2]	1.7	0.9	-0.9
(2) Shift from agriculture [3]	1.2	0.3	-0.9
(3) Non-ag population (= (1) + (2))	2.9	1.2	-1.8
(4) Non-ag participation rate	0.0	0.2	0.2
(5) Non-ag labour force (= (3) + (4))	2.9	1.4	-1.6
Employment Growth			
(6) Industrial employment	3.4	0.3	-3.1
(7) Service employment	2.7	1.9	-0.8
(8) Non-ag employment	3.0	1.3	-1.7

Source: OECD Labour Force Statistics

Notes: 1/ note rounding errors
          2/ aged 15-64 years
          3/ $= g_{P_n} - g_P$ where P_n and P are, respectively, non-agricultural
             and total population aged 15-64 years; for the definition of
             non-agricultural population see footnote 8.

Table A1

Decompositions of Unemployment Changes: non-agriculture 1973-85

% per annum growth rate   1973-85 NON-AGRICULTURAL SECTOR

	UNEMP	LAB FORCE	EMP	resid		'POP	PARTICIP
Japan	0.12	1.39	1.27	0.00		1.16	0.23
Canada	0.47	2.75	2.27	-0.05		1.81	0.92
USA	0.19	2.25	2.04	-0.02		1.46	0.78
Austral	0.32	1.89	1.55	-0.04		1.77	0.12
New Z	0.37	1.66	1.28	-0.01		1.48	0.17
Austria	0.28	0.77	0.48	-0.01		0.98	-0.21
Belgium	0.84	0.70	-0.22	-0.07		0.66	0.04
Denmark	0.57	1.33	0.72	-0.03		0.62	0.70
Finland	0.24	1.33	1.07	-0.01		0.91	0.41
France	0.68	1.08	0.35	-0.06		1.19	-0.10
Germany	0.65	0.38	-0.30	-0.03		0.80	-0.41
Ireland	1.08	2.11	0.84	-0.19		2.06	0.06
Italy	0.30	1.68	1.34	-0.04		1.20	0.47
Nether	0.93	1.82	0.79	-0.10		1.37	0.44
Norway	0.08	2.13	2.05	0.00		0.82	1.29
Sweden	0.03	1.09	1.06	0.00		0.32	0.77
Switz	0.08	-0.11	-0.19	0.00		0.61	-0.71
UK	0.81	0.69	-0.18	-0.06		0.51	0.18
Spain	1.85	1.47	-0.71	-0.33		1.79	-0.31

Notes: UNEMP = LABOUR FORCE - EMPLOYMENT + residual, where residual
       reflects rounding and approximation errors
       LABOUR FORCE = POPULATION + PARTICIPATION
       NON-AGRICULTURAL SECTOR is calculated by subtracting
       employment from total population, labour force and employment

1973-85 less 1960-73 NON-AGRICULTURAL SECTOR

	UNEMP	LAB FORCE	EMP	resid		'POP	PARTICIP
Japan	0.19	-1.55	-1.74	-0.01		-1.77	0.22
Canada	0.54	-0.61	-1.21	-0.06		-0.75	0.14
USA	0.27	-0.03	-0.32	-0.02		-0.44	0.40
Austral	0.45	-1.15	-1.64	-0.04		-0.71	-0.43
New Z	0.35	-0.83	-1.20	-0.01		-0.66	-0.17
Austria	0.43	0.00	-0.45	-0.01		0.25	-0.24
Belgium	0.93	-0.43	-1.44	-0.08		0.11	-0.54
Denmark	0.68	-0.09	-1.41	-0.04		-0.56	-0.13
Finland	0.20	-0.91	-1.12	-0.01		-1.60	0.68
France	0.56	-0.99	-1.60	-0.05		-0.54	-0.44
Germany	0.65	-0.32	-1.00	-0.03		0.04	-0.36
Ireland	1.18	0.67	-0.71	-0.20		0.65	0.03
Italy	0.33	0.72	0.35	-0.04		-0.29	0.99
Nether	0.80	0.46	-0.43	-0.09		-0.32	0.77
Norway	0.06	-0.16	-0.23	0.00		-0.35	0.20
Sweden	-0.02	-0.29	-0.26	0.00		-0.72	0.44
Switz	0.08	-2.17	-2.25	0.00		-1.05	-1.11
UK	0.74	0.15	-0.65	-0.06		0.17	-0.01
Spain	1.88	-0.94	-3.16	-0.34		0.16	-1.08

Notes: UNEMP = LABOUR FORCE - EMPLOYMENT + residual, where residual
       reflects rounding and approximation errors
       LABOUR FORCE = POPULATION + PARTICIPATION
       NON-AGRICULTURAL SECTOR is calculated by subtracting
       employment from total population, labour force and employment

Decomposition of Unemployment Changes 1973-85: Women

% per annum growth rate   WOMEN 1973-85

	UNEMP	LAB FORCE	EMP	resid	'POP	PARTICIP
Japan	0.12	1.22	1.09	0.00	0.74	0.47
Canada	0.34	4.15	3.77	−0.05	1.77	2.34
USA	0.12	3.24	3.11	−0.01	1.37	1.85
Austral	0.45	2.89	2.40	−0.04	1.73	1.15
New Z	0.60	3.15	2.51	−0.04	1.50	1.63
Austria	0.17	0.36	0.19	0.00	0.57	−0.21
Belgium	1.10	1.99	0.75	−0.14	0.56	1.43
Denmark	0.59	1.49	0.86	−0.04	0.41	1.08
Finland	0.19	1.59	1.39	−0.01	0.37	1.21
France	0.69	1.79	1.02	−0.08	0.99	0.80
Germany	0.69	0.60	−0.13	−0.04	0.46	0.14
Ireland	0.82	2.11	1.19	−0.09	1.49	0.61
Italy	0.40	2.38	1.90	−0.07	0.78	1.58
Nether	0.87	4.23	3.26	−0.10	1.28	2.91
Norway	0.05	3.14	3.08	0.00	0.58	2.54
Sweden	0.01	2.07	2.06	0.00	0.20	1.87
Switz	0.09	0.43	0.34	0.00	0.57	−0.13
UK	0.66	1.46	0.76	−0.04	0.42	1.04
Spain	1.92	1.35	−0.91	−0.33	1.05	0.30

% per annum growth rate   WOMEN 1973-85 less 1960-73

	UNEMP	LAB FORCE	EMP	resid	'POP	PARTICIP
Japan	0.16	0.39	0.22	0.00	−0.91	1.28
Canada	0.27	−1.18	−1.49	−0.04	−0.56	−0.59
USA	0.11	0.09	−0.03	−0.01	−0.36	0.44
Austral	0.45	−2.12	−2.60	−0.04	−0.61	−1.47
New Z	0.58	−0.51	−1.13	−0.04	−0.55	0.04
Austria	0.29	0.58	0.29	−0.01	0.74	−0.16
Belgium	1.03	0.51	−0.66	−0.14	0.26	0.25
Denmark	0.61	−2.32	−2.96	−0.04	−0.18	−2.12
Finland	0.10	1.43	1.31	−0.01	−0.45	1.87
France	0.49	0.26	−0.30	−0.07	0.02	0.23
Germany	0.66	0.49	−0.21	−0.04	0.39	0.10
Ireland	0.81	1.79	0.89	−0.09	0.97	0.81
Italy	0.09	3.11	2.97	−0.05	0.28	2.81
Nether	0.77	2.02	1.15	−0.10	−0.06	2.06
Norway	−0.10	−0.16	−0.05	0.00	−0.04	−0.11
Sweden	0.00	−0.11	−0.10	0.00	−0.25	0.14
Switz	0.09	−0.96	−1.05	0.00	−0.37	−0.58
UK	0.68	0.25	−0.48	−0.04	0.27	−0.03
Spain	1.84	−0.88	−3.05	−0.33	0.33	−1.20

Notes: UNEMP = LABOUR FORCE − EMPLOYMENT + residual, where residual
         reflects rounding and approximation errors
       LABOUR FORCE = POPULATION + PARTICIPATION

Decomposition of Unemployment Changes: Men 1973-85

% per annum growth rate   MEN 1973-85

	UNEMP	LAB FORCE	EMP	resid	'POP	PARTICIP
Japan	0.11	0.77	0.66	0.00	0.98	-0.21
Canada	0.45	1.64	1.14	-0.04	1.73	-0.09
USA	0.24	1.38	1.13	-0.02	1.46	-0.07
Austral	0.51	1.12	0.58	-0.03	1.63	-0.51
New Z	0.17	0.85	0.68	0.00	1.44	-0.58
Austria	0.33	0.44	0.10	-0.01	0.89	-0.44
Belgium	0.62	-0.23	-0.89	-0.03	0.64	-0.87
Denmark	0.50	0.66	0.15	-0.02	0.47	0.20
Finland	0.26	0.07	-0.20	-0.01	0.70	-0.62
France	0.58	-0.03	-0.63	-0.02	0.88	-0.90
Germany	0.57	-0.06	-0.65	-0.02	0.86	-0.91
Ireland	1.11	0.74	-0.54	-0.17	1.42	-0.67
Italy	0.22	0.30	0.13	0.04	0.85	-0.54
Nether	0.91	0.62	-0.38	-0.08	1.35	-0.72
Norway	0.09	0.80	0.70	0.00	0.67	0.13
Sweden	0.04	-0.02	-0.07	0.00	0.20	-0.23
Switz	0.07	-0.54	-0.61	0.00	0.44	-0.98
UK	0.88	0.12	-0.84	-0.08	0.53	-0.40
Spain	1.49	0.06	-1.62	-0.19	1.28	-1.20

% per annum growth rate   MEN 1973-85 less 1960-73

	UNEMP	LAB FORCE	EMP	resid	'POP	PARTICIP
Japan	0.13	-0.81	-0.95	0.00	-0.79	-0.02
Canada	0.59	-0.10	-0.74	-0.06	-0.47	0.36
USA	0.33	0.12	-0.23	-0.02	-0.21	0.32
Austral	0.43	-0.66	-1.12	-0.03	-0.62	-0.04
New Z	0.16	-0.77	-0.93	0.00	-0.48	-0.29
Austria	0.43	0.62	0.18	-0.01	0.56	0.07
Belgium	0.77	-0.62	-1.43	-0.04	0.25	-0.87
Denmark	0.61	0.91	0.27	-0.02	-0.41	1.30
Finland	0.22	-0.41	-0.64	-0.01	-0.45	0.04
France	0.52	-0.74	-1.28	-0.02	-0.29	-0.44
Germany	0.58	-0.21	-0.80	-0.02	0.18	-0.38
Ireland	1.11	0.74	-0.54	-0.17	0.87	-0.12
Italy	0.26	0.60	0.38	0.04	0.25	0.35
Nether	0.78	-0.02	-0.88	-0.08	-0.27	0.24
Norway	0.13	0.39	0.26	0.00	-0.08	0.47
Sweden	-0.03	0.24	0.27	0.00	-0.39	0.62
Switz	0.07	-2.03	-2.10	0.00	-1.08	-0.94
UK	0.77	0.17	-0.67	-0.08	0.19	-0.02
Spain	1.50	-0.29	-1.98	-0.19	0.32	-0.61

Notes: UNEMP = LABOUR FORCE - EMPLOYMENT + residual, where resi
reflects rounding and approximation errors
LABOUR FORCE = POPULATION + PARTICIPATION

UNEMPLOYMENT REGRESSIONS

dependent variable is change in unemployment rate for 19 countries (absolute change in the rate per year)

% pa means average annual percentage growth rate
D % pa means change in annual growth rate as compared to 1960-73

	period	indep variable	const	coeff	T value	$\bar{R}$ squared
1.	73-85	% pa POP	0.280	0.235	1.2	0.020
2.	73-85	D % pa POP	0.556	0.432	2.9	0.297
3.	73-85	D % pa NON-AG POP	0.719	0.433	3.0	0.316
4.	73-85	% pa PARTIC RATE	0.419	-0.583	2.1	0.162
5.		FEM U on "	0.634	-0.094	0.7	-0.027
6.		MALE U on "	0.246	-0.472	2.2	0.182
7.	73-85	D % pa LAB FORCE	0.49	0.030	0.2	-0.056
8.	73-85	% pa CIVIL	0.639	-0.233	3.3	0.352
9.	73-79	EMPLOYMENT	0.497	-0.146	2.3	0.192
10.	79-85		0.767	-0.491	4.9	0.564
11.	73-85	D % pa CIV EMP	0.396	-0.247	2.7	0.263
12.	73-79		0.339	-0.172	2.6	0.248
13.	79-85		0.330	-0.398	2.8	0.268
14.	73-85	% pa INDUSTRIAL	0.254	-0.244	3.5	0.382
15.	73-79	EMPLOYMENT	0.353	-0.077	1.3	0.036
16.	79-85		0.094	-0.354	5.9	0.648
17.	73-85	D % pa IND EMP	-0.080	-0.274	4.2	0.472
18.	73-79		0.259	-0.082	1.3	0.036
19.	79-85		-0.361	-0.378	7.3	0.740

20.	73-85	(exc SWITZ)	-0.101	-0.301	5.2	0.602
21.	73-79		0.187	-0.151	2.5	0.241
22.	79-85		-0.345	-0.374	6.8	0.727
23.	73-85	SERVICES EMP % pa	1.068	-0.295	2.4	0.214
24.	73-79		0.837	-0.204	2.8	0.267
25.	79-85	·	1.227	-0.369	2.2	0.174
26.	73-85	D % pa SERV EMP	0.478	-0.034	0.3	-0.052
27.	73-85	MALE UNEMP on	0.275	-0.200	3.0	0.300
28.	73-79	INDUST EMP % pa	0.296	-0.047	1.0	0.002
29.	79-85		0.130	-0.347	6.0	0.656
30.	73-85	FEMALE UNEMP on	0.227	-0.297	3.8	0.425
31.	73-79	INDUST EMP % pa	0.436	-0.127	1.5	0.071
32.	79-85		0.061	-0.336	4.8	0.552
33.	73-85	FEM U on SERV % pa	1.240	-0.373	2.8	0.268
34.		MALE U "	0.985	-0.260	2.2	0.166
35.	73-85	FEM PART on EMP/POP	0.787	0.688	7.8	0.749
36.		MALE U "	-0.067	0.447	5.8	0.645
37.	79-85	GDP % pa	0.682	-0.083	0.8	-0.023
38.	73-85	D % pa GDP	0.285	-0.077	1.1	0.010
39.	73-79		0.301	-0.039	0.8	-0.022
40.	79-85		0.078	-0.171	1.9	0.121
41.	73-85	INVESTMENT % pa	0.597	-0.147	1.9	0.133
42.	73-85	D % pa INVESTMENT	0.130	-0.065	2.0	0.152
43.	79-85		0.089	-0.095	3.0	0.308
44.	73-85	PRODUCTIVITY % pa	0.166	0.195	2.1	0.154
45.	73-85	D % pa PRODUCTIVITY	0.536	0.017	0.2	-0.056

46.	73-85	CONSUMPT/head % pa	0.695	-0.176	1.7	0.099
47.	73-79		0.412	-0.009	0.1	-0.058
48.	79-85		0.767	-0.376	4.3	0.490
49.	73-85	D % pa CONS/head	0.077	-0.158	2.6	0.243
50.	79-85		-0.119	-0.216	3.5	0.394
51.	73-85	INDUST OUTPUT % pa	0.691	-0.098	1.4	0.058
52.	73-85	D % pa IND OUT	0.192	-0.077	1.8	0.124
53.	79-85		-0.180	-0.175	3.0	0.316
54	73-85	PRODUCT WAGES % pa	0.295	0.129	1.3	0.041
55.	73-79		0.084	0.139	2.6	0.233
56.	79-85		0.610	-0.012	0.1	-0.058
57.	73-85	D % pa PROD WAGES	0.436	-0.024	0.3	-0.054
58.	73-79		0.681	0.152	2.1	0.162

TABLE A5

UNEMPLOYMENT AND STRUCTURAL CHANGE

	IND VAR	Const	DPOP	DIND EMP	DSERV EMP	R2
[A1] 73-85	UNEMP	0.018	0.428 (2.9)	-0.23 (3.8)	-0.112 (1.3)	0.725
[A2]	MALE U	0.039	0.412 (2.6)	-0.221 (3.6)	-0.076 (0.8)	0.674
[A3]	FEMALE U	-0.033	0.477 (2.6)	-0.249 (3.4)	-0.190 (1.9)	0.689
[A4] 73-79	UNEMP	0.298	0.420 (5.3)	-0.05 (1.5)	-0.301 (7.0)	0.822
[A5] 79-85	UNEMP	-0.241	0.258 (1.6)	-0.349 (6.3)	0.032 (0.3)	0.762

Note: All regressions exclude Switzerland (see text)

UNEMP is total unemployment
MALE U is male unemployment
FEMALE U is female unemployment
POP is Population of working age
IND EMP is industrial employment
SERV EMP is services employment
bracket figures () are t values

TABLE A6

UNEMPLOYMENT AND ECONOMIC PERFORMANCE

		DPOP	DGDP	DPW	
[B1] 73-85	0.305	0.541 (3.3)	-0.157 (2.2)	0.074 (1.0)	0.353
[B2] 73-79	0.468.	0.286 (2.1)	-0.137 (2.8)	0.198 (3.0)	0.390
[B3] 79-85	0.199	0.483 (2.0)	-0.165 (1.4)	0.022 (0.2)	0.356

DPOP is change in growth rate of population (compared to 1960-73)
DGDP   GDP
DPW   Product wages

Diagram 1

UNEMPLOYMENT & INDUST EMP

changes 1979-85 % pa

Diagram 2

UNEMPLOYMENT & GDP

1973-85

rise in UNEMPLOYMENT % pa

1.7
1.6 Sp □
1.5
1.4
1.3
1.2
1.1
1   Ir □
0.9   Ne□
0.8   Be□   UK□
0.7   Fr□
0.6   Ge□
0.5   De□
         Aust□
0.4   Ca□
0.3   It□   NZ □
         Aust□
0.2   Aust□ Fi□ USA□
0.1 Jp□   No □
0   Swi□   Swe□

CHANGE in growth GDP (cf 1960-73)

-6   -4   -2   0

Diagram 3

UNEMPLOYMENT & CONSUMPTION per hd
1979−85
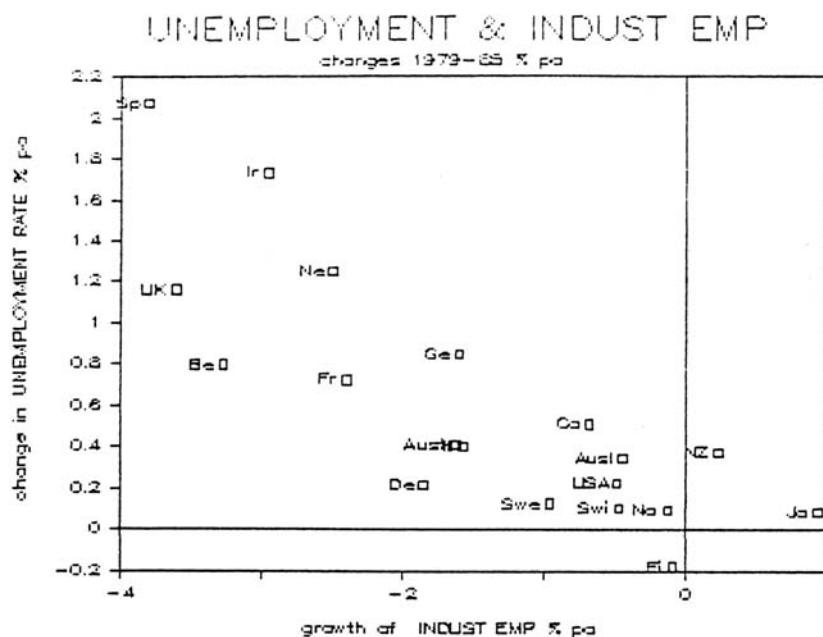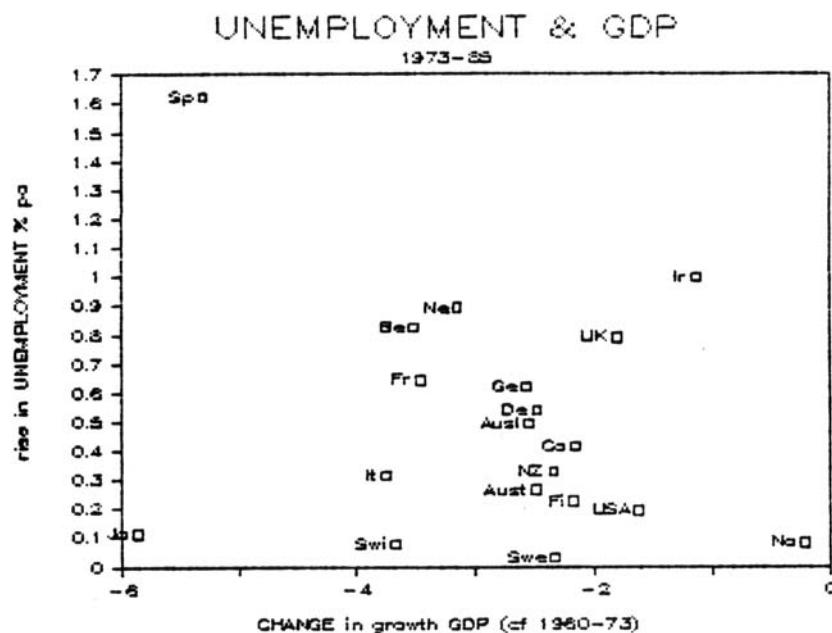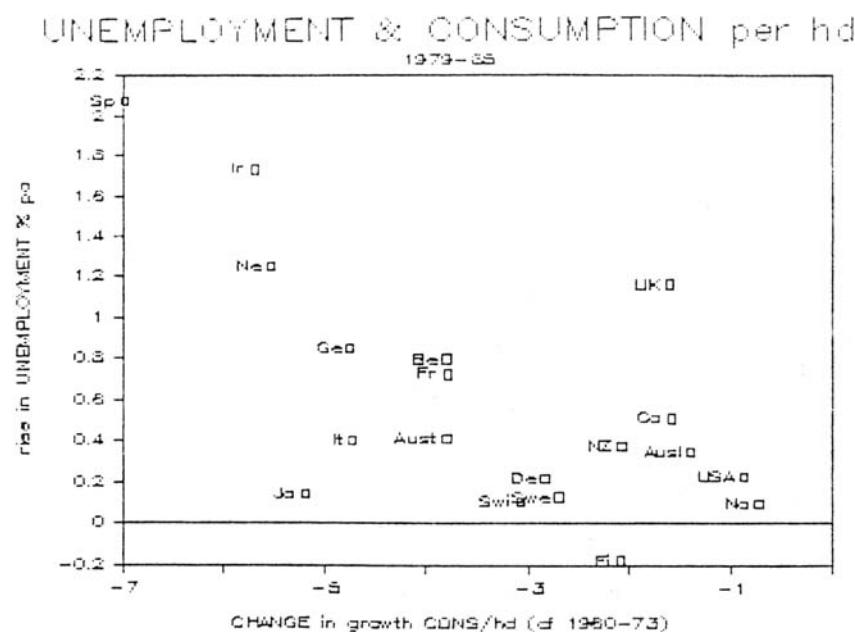
Percentage Unemployment in OECD Countries
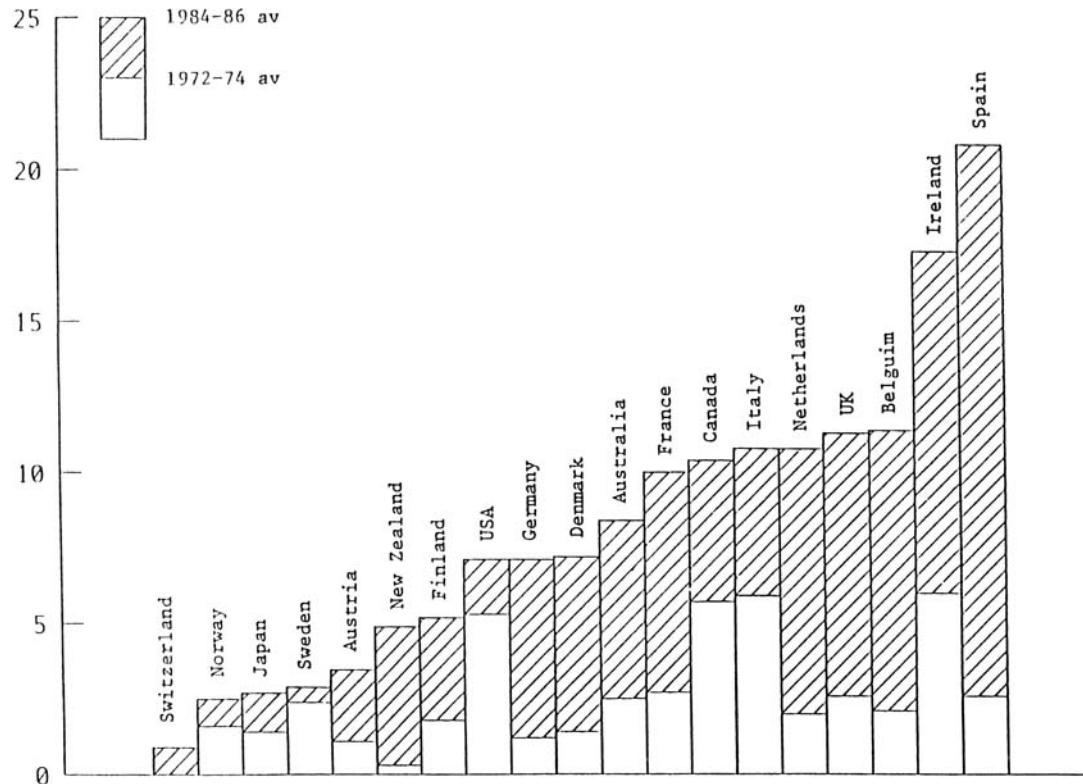
1/OECD Standardised Unemployment rate.   SOURCE: OECD Labour Statistics, plus authors' estimates.

Diagram 5   Real wages in Sweden

INDEX, 1970 = 100
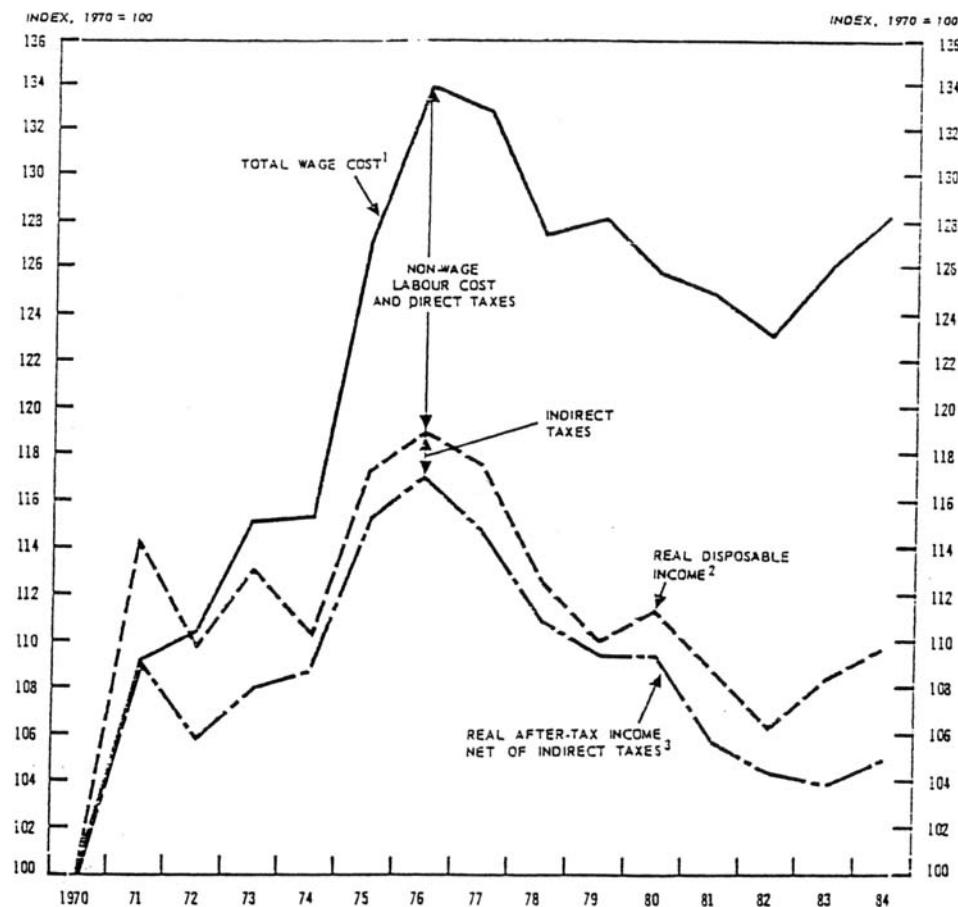
Note: Calculations are based on yearly income for a single industrial worker, engineering.
1. Total labour cost deflated by net price index.
2. Compensation after tax deflated by net price index.
3. Compensation after tax deflated by consumer price index.

Source: OECD Economic Survey of Sweden, May 1984

Diagram 6   Real Labour Costs and Productivity

Indices 1973 = 100

———— Productivity[(1)]   ------- Real Labour Costs[(2)]
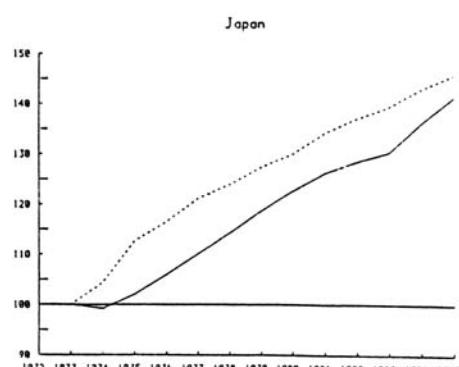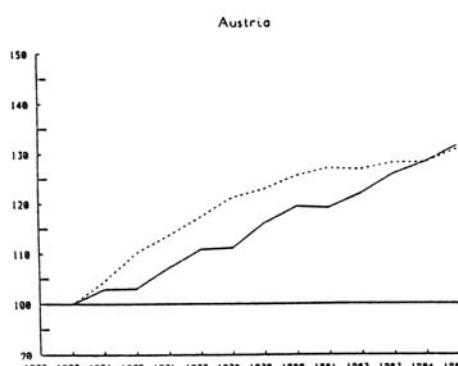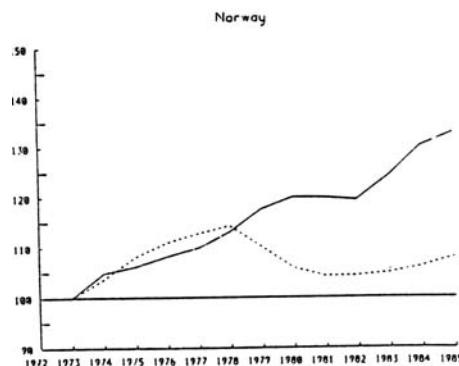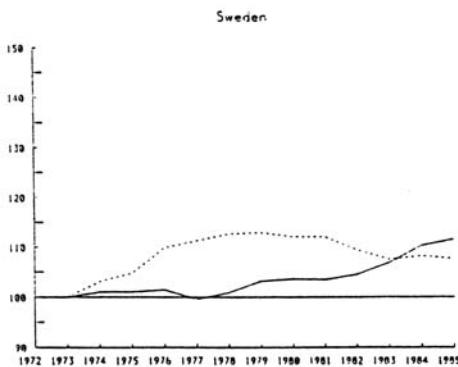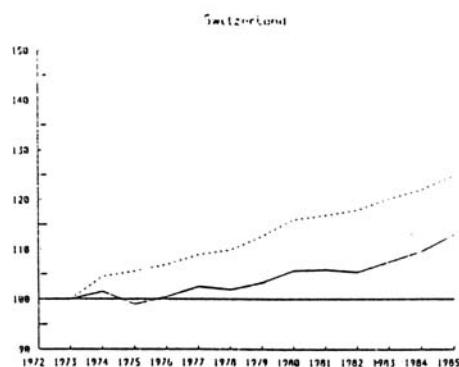
SOURCE: OCED National Accounts and Labour Force Statistics

(1)   Productivity = GDP per person in civil employment at 1980 prices.

(2)   Real Labour Costs = compensation per employee (including employers
       contributions to social security and the like), deflated by
       GDP deflator.

Diagram 7

Labour Movement Strength in Various Countries

Scatter plot. Y-axis: Leftist Party control of government, 1965–82 (0 to 100). X-axis: Organizational power of labour (0 to 100).

Data points:
- Austria (≈95, 76)
- Sweden (≈100, 66)
- Britain (≈28, 63)
- Germany (≈30, 54)
- Denmark (≈62, 52)
- Norway (≈95, 52)
- Finland (≈62, 38)
- Australia (≈30, 18)
- Belgium (≈65, 18)
- Switzerland (≈27, 15)
- Netherlands (≈33, 14)
- France (≈4, 11)
- Italy (≈13, 9)
- Spain (≈2, 4)
- Japan (≈7, 2)
- U.S. (≈9, 1)
- Ireland (≈25, 2)
- Canada (≈12, 0)
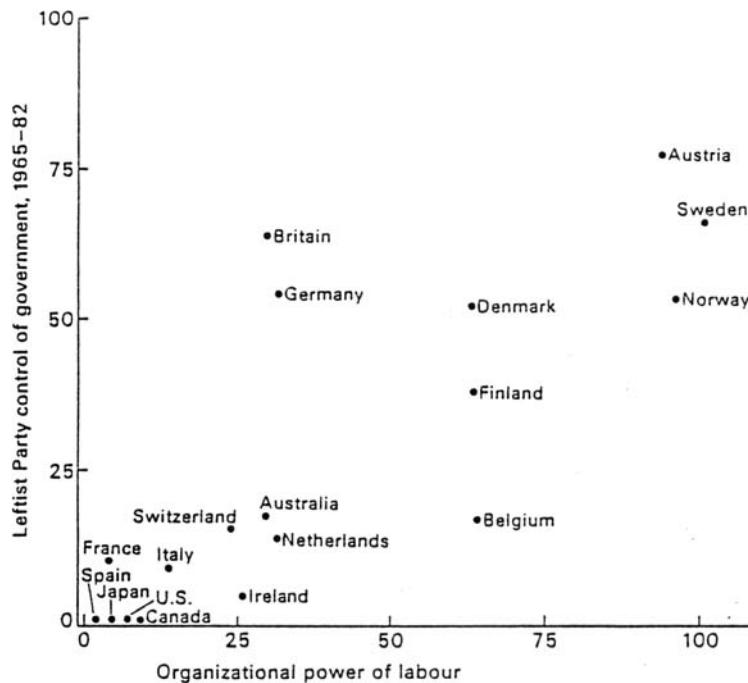
SOURCE: Cameron (1984)

This appendix explains the formulae linking the variables shown in Table 2.

As officially measured, unemployment satisfies the following equation:

$$U = L - E \tag{1}$$

where L is the labour force and E is employment. Dividing by L, we obtain the unemployment rate:

$$\frac{U}{L} = 1 - \frac{E}{L} \tag{2}$$

Differentiating:

$$\frac{d}{dt}\left[\frac{U}{L}\right] = -\frac{d}{dt}\left[\frac{E}{L}\right]$$

$$= \frac{E}{L}\left[\frac{1}{L}\cdot\frac{dL}{dt} - \frac{1}{E}\frac{dL}{dt}\right]$$

$$= \frac{E}{L}\left[g_L - g_E\right] \tag{3}$$

where the g's are logarithmic growth rates. Thus, the unemployment rate increases when the labour force grows more rapidly than employment, and falls when the opposite is the case.

The participation rate is defined as follows:

$$P = \frac{L}{N} \tag{4}$$

where N is the underlying population, which following the OECD convention, we shall take as all persons aged 15-64. Thus:

$$L = PN \tag{5}$$

and

$$g_L = g_P + g_N \tag{6}$$

Substituting in (3), we obtain the following approximate expression for changes

in the unemployment rate:

$$\frac{d}{dt} \left[\frac{U}{L} \right] = \frac{E}{L} \left[g_N + g_p - g_E \right] \tag{7}$$

This equation shows how the measured unemployment rate is affected by variations in population, labour-force participation and employment.

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