Germany and the UK and the European Employment Strategy:
Polar extremes and polar outcomes?

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Abstract

It takes a considerable time for employment policy to affect employment performance and even longer to verify it. Thus the European Employment Strategy (EES) is still too young for a definitive assessment of its impact on employment performance. This paper adopts an alternative approach, the polar employment policy cases of Germany and the UK are analysed, with the UK's flexible labour market performance being compare to Germany's corporatist and largely unreformed labour market. This will permit some assessment of the benefits of flexibility and of the EES policies directed towards flexibility. At first blush the success of the UK as compared to Germany, in reducing unemployment and creating employment, provides strong support for the EES which largely moves policy in the UK direction. Deeper analysis, however, reveals a much more complex comparison, which is not wholly favourable to the UK. For example, in Germany, the new Länder have very intractable unemployment, but the performance of West Germany has remained surprisingly good. In the UK there are problems of male inactivity and hidden unemployment. The conclusion is that the UK's employment performance is not as good and Germany's not as bad as simple comparisons suggest. The employment benefits of increased flexibility and of similar EES measures remain unproven in this simple comparison.

1. Introduction

The UK and Germany are good countries in which to assess the impact of the European Employment Strategy because their employment policies are so different. The UK is generally acknowledge to be the European country that has gone furthest down the route to a US style flexible labour market. In assessments of labour market regulations and institutions the UK is found to have the lowest level of employment protection, the most decentralised bargaining, one of the least generous social security systems and the lowest taxation of labour (OECD, 2000b). Germany by contrast has a relatively unreformed labour market with high levels of employment protection, coordinated wage bargaining, generous social security and high levels of labour taxation. This provides the possibility of evaluating the effects on employment performance of flexibility in labour markets and of the policies contained in the EES where these are related to flexibility or to differences in the employment systems between the UK and Germany.

The approach adopted in this paper is as follows: First, the economic theory of employment/unemployment is surveyed to identify the institutional factors that significantly affect labour market performance. Second, the objectives and policies of the EES are analysed to explore their degree of fit with the economic factors identified as significant. This survey of EES policies includes a comparison of German and UK employment policies assessing the extent of their congruence with the Strategy. Third, the employment performance of Germany and the UK is analysed in relation to the EES objectives and policies. Finally, the overall efficiency of the labour market is assessed on three dimensions: the employment intensity of growth, the Beveridge curve and the NAIRU.

2. Economic theory: employment and unemployment

The rising long-term trend in European unemployment[1] and its associated low level of employment have been subject to extensive economic research. Of particular interest has been the disparity in measured performance between the USA and the EU, and the very substantial differences between European countries. Economic theory suggests that unemployment can be viewed in two extreme ways. First, frictionless equilibrium: in this case labour markets would adjust rapidly to shocks (productivity, oil prices, or interest rates) and the market is generally near to its long-term equilibrium with regard to unemployment. Thus the actual

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[1] Employment and unemployment are course related but their fit is far from perfect.

employment rate approximates to the long-term equilibrium rate, the rate at which trade unions, employers and workers have no tendency to change their behaviour, provided the exogenous variables which they face do not change. Second, prolonged adjustment: in this case the response of the labour market to external shocks is sluggish because of the costs and difficulty of adjustment. In such a labour market unemployment can differ substantially from the long-term equilibrium rate for prolonged periods. With these as the polar cases, most economists believe that actual labour market behaviour contains elements of these two extremes. The positioning on the spectrum between these extremes will have a strong effect on the explanations of unemployment and the policy prescriptions for its reduction.

The advocates of persistence stress the importance of lags in the labour market's process of adjustment to shocks. One of the more developed examples is the chain reaction theory of unemployment views unemployment as part of prolonged adjustment process (Henry et al, 2000, Karanassou et al, 2002). Rising European unemployment is the result of the interplay between labour market shocks and the slow process of adjustment to these shocks. Each shock has a chain reaction impact upon unemployment, which extends over a considerable period of time. Unemployment in this model is the result of the interaction between the adjustment process and shocks. The long run equilibrium is the NAIRU, but actual unemployment can differ substantially from this rate, because of its long adjustment.

The conventional view is based on the theory of the natural rate of unemployment (NRU) or the non-accelerating inflation rate of unemployment (NAIRU), tends towards the frictionless equilibrium view, with the economy tending to establish this level of employment in the medium term. Here the labour market and in particular, the real wage, will respond to shocks to re-establish the NRU. The actual unemployment rate lies close to the long-term equilibrium and the upward trend in European unemployment is therefore the result of exogenous changes that affect the efficiency of the market in reducing unemployment (Layard et al, 1991; Cassino and Thornton, 2002; Morgan, J. and Mourougane, A., 2001). The dynamics of the process are seen to have little effect on the NRU, with some researchers using five-year averages in empirical work (Nickell, 1997; Blanchard and Wolfers, 2000; Daveri and Tabellini, 2000). Rising unemployment is in this view the result of changes in structural factors affecting the NRU. The principal institutional features singled out by economists as affecting unemployment are:
1. Social Security Benefits.
2. Taxation particularly of labour.
3. Employment protection
4. Wage bargaining/trade union strength
5. Mobility: occupational and geographical
6. Labour force education, training and skills/active labour market policies
7. Job matching

The willingness of workers to accept jobs will depend upon the extent and availability of benefits compared with the real wage on offer. There are four aspects of the benefit system that could influence equilibrium unemployment: the level of benefits, the duration of benefits, the coverage of the system and the strictness of its operation. These factors will affect the workers reservation wage, the wage required to entice an unemployed worker into employment. Labour supply does not seem to be very sensitive to the level of benefits but the length of benefits does seem to be important (Millard and Mortensen, 1997, Buti et al, 1997). The interaction of replacement rates and duration may also be significant (Nickell and Layard, 1997). The tightness of the criteria covering the receipt of benefits seems to be particularly important (Grubb, 1999; Danish Ministry of Finance, 1999; Ch.2).

The real product wage to the employer of workers, is different to the real consumption wage to the employee, with taxation, social security contributions and indirect taxes driving a

3

wedge between the two. The effect of this wedge on the supply and the demand for labour depends upon employers and employees sensitivity to wage changes. The effect on labour supply is ambiguous because the income effect of taxation encourages work effort and the substitution effect discourages it. The effect seems to be greatest on entry to/exit from the market, rather than the number of hours, and to affect partners in couples with only one worker and lone parents (Carone and Samonäki, 2001). OECD countries exhibit a large increase in the size of the wedge from the 1960s to the 1990s, so this is an obvious candidate to explain the secular rise in unemployment. The effect on unemployment, however, depends crucially upon the extent to which employees can pass part of this increase onto employers (Pissarides, 1998; Nickell and Layard, 1999). The empirical evidence is ambiguous some studies suggest that labour taxes have no impact on long run unemployment (e.g. OECD, 1990 Annex 6) and others that they account for a substantial proportion of the rise in unemployment (e.g. Daveri and Tabellini, 2000).

The number of vacancies available could also be affected by employment protection legislation (EPL). The legal protection of workers will tend to make employers more reluctant to hire workers because it is more difficult to reduce employment. EPL, however, also discourages employers from making workers redundant during a recession. So its effects on unemployment are ambiguous at least in the short term. The evidence on the effects of employment protection legislation on unemployment is inconclusive (Lazear, 1990; Addison and Grosso, 1996; Bentolila and Bertola, 1990; Elmeskov et al 1998; Nickel and Layard, 1999; Nickell et al, 2002). Part of the problem here may lie in the difficulty of accurately measuring changes in the severity of EPL, because the devil is in the detail of the legislation and its implementation (Bover et al, 2000).

Wages levels will also be affected by trade union strength, their ability to bargain for higher wages. This strength cannot be measured directly so proxies have to be used. Density measures the proportion of workers in trade unions. Coverage is the proportion of workers whose wages are determined as a result of collective bargaining agreements between trade unions and employers. There is evidence that trade union power in wage determination is associated with higher unemployment but that this effect can be offset by co-ordination[2] of wage bargaining (Nickell and Layard, 1999; Booth et al, 2000).

Active labour market policies (ALMP) seek to increase the likelihood of the unemployed obtaining a job and represent a wide-range of policies from training, work experience, employment subsidies and help with job applications etc. Evidence supports the effectiveness of ALMP in reducing unemployment, this is shown by multi-country cross section analysis (Scarpetta, 1997, Nickell, 1997; Elmeskov et al, 1998). More micro studies show that the efficiency of different types of measures varies with job search assistance generally effective but employment subsidies and training needing careful design (Katz, 1998, Martin, 2000, Robinson, 2000).

3. The European Employment Strategy

3.1. EES Objectives

The Treaty of Amsterdam established a new objective for the EC of: "a high level of employment and of social protection" (EC Treaty, 1997; Article 2). This was to be achieved, at least in part, by "the promotion of coordination between employment policies of the Member States with a view to enhancing their effectiveness by developing a coordinated strategy for employment" (Article 3.1.i). The Luxembourg Summit of 1997 developed the European Employment Strategy on this Treaty basis.

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[2] Coordination can be achieved by centralised bargaining or by institutional features as in Germany.

Greater precision was given to the goal of "a high level of employment" by subsequent European Councils notably Lisbon 2000 and Stockholm 2001. The overarching goals established at the Lisbon European Council (European Council, 2000), are the achievement of an overall employment rate of 70% and a female employment rate of 60% by 2010. Intermediate targets for January 2005, of employment rates of 67% in total and 57% for women, were decided at Stockholm in 2001. In addition a new 2010 target of 50% employment rate for men and women aged 55-64 was added (European Council 2001). In addition to these general targets more specific objectives have been promoted by the employment guidelines. For the purposes of this analysis therefore the objectives of the European Employment Strategy can be distilled into the following six measurable objectives:

1. An increase in the overall employment rate to 70% or more.
2. An increase in the female employment rate to 60% or more.
3. An increase in the overall employment rate for older workers to 50% or more.
4. A reduction in the rate of youth unemployment.
5. A reduction in the level of long term unemployment
6. An improvement in the relationship between unemployment and vacancies

3.2. EES Policies

In order to achieve these objectives the EES encourages Member States to develop a range of policies. The Employment Guidelines outline the policies but the details of the policies and their implementation are left to the discretion of the Member States. The policies of course correspond to the objectives of the EES, but it is more illuminating to consider them in relation to the institutional factors identified above as significant influences on employment and unemployment.

The EES has put increasing emphasis on making benefit and tax systems more employment friendly. The complexity of social security systems makes comparison difficult but the OECD provides regular comprehensive comparative data (OECD, 2002b). The UK's system, with not very generous fixed benefits, encourages the unemployed to seek work. Recent reforms have reinforced this tendency by seeking to eliminate poverty and unemployment traps, as well as making the receipt of benefits dependent upon job search. Germany's social security system, with unemployment benefits related to previous earnings, is much more generous than the UK's, but not especially generous by EU standards. Where Germany is unusual is having open ended earnings related unemployment assistance. The UK social security system has seen substantial reforms but in German reform has been marginal (European Commission, 2002f, p.11-12).

The employment guidelines have consistently argued for a reduction of the tax burden on labour, despite ambiguous theoretical and empirical assessment of its affects. The UK has made significant recent reductions to its already low level of taxation. Germany's taxation of labour, particularly via social security contributions, remains high. Levels of taxation have been reduced in Germany but less on average than in the UK and other EU countries (European Commission, 2002c).

With regard to Employment Protection Legislation (EPL), the EES guidelines reflect the ambiguous attitudes of Member States on this issue, advocating more flexible contracts, but with adequate security (European Council, 2002). This to a degree reflects the evidence on this issue where EPL's effects on employment are not clear-cut. Germany's traditionally high level of employment protection has remained largely intact, flexibility has been introduced within rather than between jobs, and adjustment occurs by varying the hours of the work, rather than the size of the workforce. The UK has maintained its low level of employment protection, the lowest in the EU (IMF, 2002, p.44).

5

The employment guidelines do not consider wage bargaining co-ordination or trade union strength. Germany and the UK lie close to the EU average in terms of union membership, but the number of workers covered by collective agreements is much higher in Germany, because of agreement extension EIRO (2002c). In Germany there is also a high level of co-ordination as a result of pattern bargaining,[3] and tripartite discussions between trade unions, employers' associations and the Federal Government[4]. In the UK, with bargaining predominantly at the company level, extension does not take place. While both these systems have achieved wage moderation, there does seem to be some compression in German wage structure, particularly at the lower end of the scale (European Commission, 2002b, p.86-87).

Occupational and geographical mobility mobility of labour are promoted by the EES both within and between Member States. Geographical migration has been falling within Europe in general (Braunerhjem et al, 2000; p.47) and in Germany in particular e.g. migration from the new Länder to West Germany has been very small, at only 0.35% of the population in 2000 (European Commission, 2002b; p. 21). Thus the potential for migration as an adjustment mechanism in Germany is extremely limited. The UK's gross migration level seems on a par with the USA and levels of commuting are very high (OECD, 2000a). Net migration is however much lower, so that for the UK migration provides only limited adjustment potential.

Education, training and skills are stressed in the guidelines, with statements to the effect that the population should be provided with basic skills required for employment and lifelong learning. The unemployed should also have access to training and other help in their job search. Public expenditure on education in 1999 was 4.7% of GDP in Germany and 4.6% in the UK, expenditure has been stable as a % of GDP[5] a little below the EU 15 average of 5.1%. Participation rates and educational attainment are rising, with 76.7% of German and 70.7% UK students completing upper secondary education in 2000, comfortably above the EU average 60.3% (European Commission, 2002d). The UK, however, has a high level of early school leavers (DFES, 2002). According to the OECD educational attainment of 15 year olds in the UK is much higher than in Germany, which performs comparatively poorly (OECD, 2002c). On other measures however the German education system performs well compared with the UK, with high staying on rates and low levels of youth unemployment. German education policy is far more successful in terms of the objectives of the EES than that of the UK.

Efficient job matching where job seekers are paired with vacancies as rapidly as possible is essential for the efficient operation of the labour market. The guidelines call for the modernisation of public employment services, to develop the job matching capacities of employment services and the use of databases/information technology. Problems with the German Federal Employment Service indicate that the efficiency of this service has been low (EIRO, 2002a), and the German government is now rather belatedly reforming the system (EIRO, 2002b). In the UK, reform of the employment service has been ongoing and has been combined with measures to link the receipt of benefits to job search.

From the above it can be seen that in the policies, identified by economists as affecting economic performance, and targeted by the EES, the UK is arguably more compliant with the Strategy than Germany. These areas include: social security benefits, employment protection, taxation, employment protection and job matching. Thus the UK would be expected to have a more successful record of employment creation and unemployment reduction than Germany. This would provide at least indirect evidence that the policies of the European Employment Strategy would be helpful in improving EU employment performance.

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[3] Where particular influential wage settlements set the norm for subsequent agreements.
[4] Currently suspended.
[5] UK expenditure on education is planned to rise.

6

4. Assessment of German and UK employment performance

UK employment performance appears to be superior to German performance on most of these targets. The UK's overall, female and older workers' employment rates are higher than those of Germany and exceed EES target levels. The long term unemployment rate in the UK is below that of Germany and was falling over the 1997-2001 period, although it still exceeds the EU benchmark[6]. There has been an improvement in the matching efficiency of the UK labour market, demonstrated by a shift in the Beveridge curve (see below). The one area of relatively poorer UK performance is youth unemployment. The UK's youth unemployment ratio has fallen less rapidly than in the EU in general so in 2001 it is still above the EU average, way above the target. Germany's youth unemployment is well below the EU average and close to the best performers in the EU, despite the employment problems of the German economy.

Table 1. EES targets, German and UK employment performance.

Objective	Target		Germany 1997	2001	UK 1997	2001
Overall employment rate	70		63.7	65.8	70.0	71.7
Female employment rate	60		55.3	58.8	63.2	65.1
55-64 year olds employment rate	50		38.1	37.7	48.3	52.3
Youth unemployment ratio	4.1[a]	3.1[a]	5.4	4.8	9.1	7.7
Long term unemployment rate	1.5[b]	0.8[b]	4.9	3.9	2.6	1.3
Labour market matching	Improvement		NO		YES	

a. average of three best performers EU 15, 1997 and 2001
b. average of four best performers EU 15, 1997 and 2001
Source: European Commission, 2002a; 2002e; Eurostat, 2002.

This simple comparison of employment performance in Germany and the UK is, however, flawed for three reasons. First, unification with the inclusion of the former East Germany has depressed the employment performance of Germany. Second, employment change is relatively slow and thus historical differences can be important explanations of the current situation. Thus part of the explanation of the UK's relatively high total and female employment rates is associated with traditionally high levels of female employment. Third, concentration on total and female employment rates can conceal important developments in the employment situation of men.

The direct effect[7] of East Germany on German employment rates is surprisingly limited, it only contributed 0.9%[8] to the difference in employment rates between Germany and the UK. This is due to the small size of the East German working age population (17.2% of the German total 2001) and the relatively high East German female employment rate (Table 2). The East German male employment rate was 9.0% below West Germany's in 2001 but the female employment rate was only 1.4% lower. The most important contributor to the difference in employment rates related to men and women aged 55-64, which accounted for more than half of the difference in employment rates. This difference seems to be long-standing[9] but has widened in recessions as Germany has responded to rising unemployment by encouraging early retirement. The two other factors contributing to lower employment

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[6] The Commission provides a benchmark (European Commission, 2002I) but there is not a target adopted by the Council.
[7] The considerable net cost to the German Government of East Germany is a drag on the overall economy, which potentially affects the level of employment in West Germany.
[8] i.e. 15.5% of the 5.8% difference between German and UK employment rates
[9] Unfortunately comparable Labour Force Survey (LFS) statistics are only available for the 60-64 age group.

rates are lower youth employment and the lower employment of women aged 25-54. Lower youth employment seems to be a combination of students staying longer in school, the greater length of post-school education and the higher proportion of UK students working. The lower employment rate of women aged 25-54 is a long-standing difference, which is diminishing.

Table 2 Contributors to differences between German and UK employment rates

%

	Contribution to difference in employment rate	Employment rate 15-64 Germany	UK
East Germany	-0.9	65.8	71.6
	West Germany	West Germany	UK
Population	-0.5		
Total 15-24 years	-1.4	46.9	55.6
Male 25-54 years	0.2	88.2	87.9
Female 25-54 years	-0.7	61.6	67.6
Of which: Full time	-0.4		
Part time	-0.4		
Male 55-64 years	-1.3	48.1	61.6
Female 55-64 years	-1.3	30.5	43.2
Of which: Full time	-0.1		
Part time	-1.2		
Total	**-4.9**	**66.7**	**71.6**

Source: Eurostat, 2002a, own calculations

The differences between German and UK employment rates are long term and have fluctuated over time, but UK rates have been consistently higher than West Germany's, there was a 5% gap in 1978 (OECD, 2002a) and 4.9% in 2001 (Figure 1). Both the German and the UK employment rates are above the EU average of 63.9% in 2001. These overall employment rates are the outcome of divergent male and female employment trends (Figure 2). Male employment rates have remained around their 1983 level in West Germany[10] and risen slightly above those levels in the UK[11], female employment rates have risen substantially[12] (Figure 2). In the UK the fluctuations in economic activity and in employment rates have led to fluctuations in male unemployment, but the predominant trend has been rising male inactivity (figure 3). In Germany the fluctuations in male unemployment are smaller but the trend rise is clear, inactivity rose in the early 1980s but since then it has been stable (Figure 4).
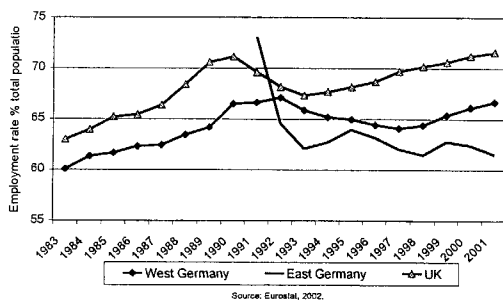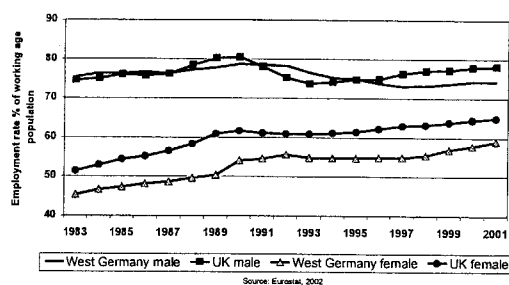

Figure 1
Total employment rates 1983-2001

Figure 2
Male and female employment rates 1983-2001

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[10] UK employment rates are less stable than those in West Germany.

[11] The UK male employment rate fell from 83.9% in 1978 to 77.0% in 2001.

[12] The UK female employment rate rose from 54.7% in 1978 to 64.7% in 2001.

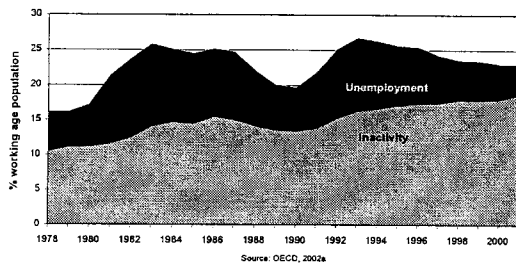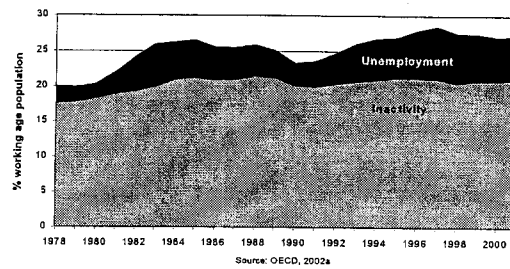**Figure 3**
UK: male unemployment and employment 1998-2001

Source: OECD, 2002a

Figure 4
Germany: male unemployment and inactivity 1978-2001

Source: OECD, 2002a

This simple analysis confirms the view that the overall UK labour market performance relative to Germany is not as good as the simple statistics suggest. With men the growth in inactivity seems to be masking the actual extent of the unemployment problem. There is good evidence that for both the UK and Germany, official unemployment figures underestimate the real extent of unemployment. There is considerable hidden unemployment in both countries. In the UK this is primarily the result of the unemployed claiming sickness/invalidity benefit even when it is still possible for them to work (Beatty et al, 2002). In Germany hidden unemployment is the result of government measures to manage the unemployment problem such as short-time working, government education/employment programmes and early retirement (Sachverständigenrat, 2002, p.99). These problems with unemployment statistics support the choice of employment rates as targets in the EES.

As can be seen from Figure 5, 'hidden' unemployment in the UK became particularly large in the 1990s and has fallen much less rapidly than ILO unemployment. So ILO plus hidden unemployment (ILOH) unemployment has been reduced much less than ILO unemployment. In Germany by contrast there was huge leap in hidden unemployment with unification (Figure 6), which combined with a large increase in ILO unemployment, meant a large rise in 'ILOH' unemployment[13]. Hidden unemployment then fell steeply but 'real' unemployment fell by very much less. In West Germany by contrast (Figure 7) hidden unemployment is stable throughout the period, but ILO unemployment fluctuates with the unification boom and subsequent recession. In East Germany it is developments in hidden unemployment that are driving 'ILOH' unemployment (Figure 8). Thus initially unification problems were dealt with by special measures but as these were phased out unemployment and inactivity in East Germany rose.

Figure 5
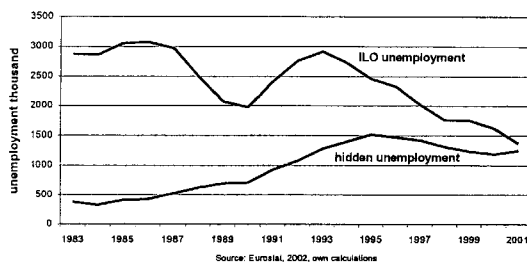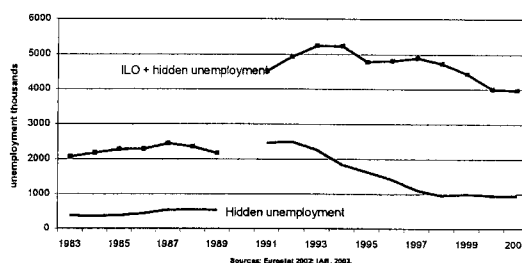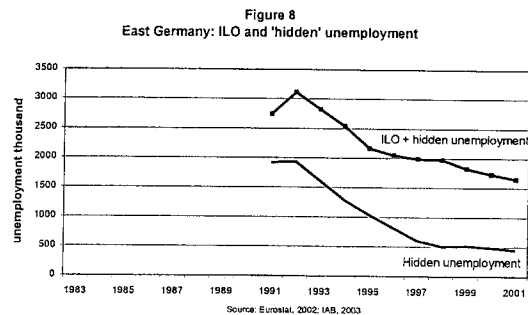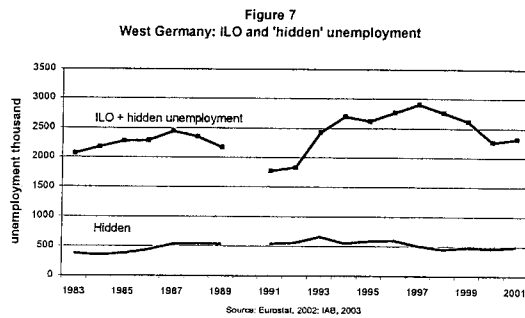UK: ILO unemployment and hidden unemployment

Source: Eurostat, 2002, own calculations

Figure 6
Germany: ILO and 'hidden' unemployment

Source: Eurostat 2002; IAB, 2001

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[13] Figures for German hidden unemployment are not available for 1990.

Figure 7
West Germany: ILO and 'hidden' unemployment

Figure 8
East Germany: ILO and 'hidden' unemployment

5. European Employment Strategy Targets and German/UK Performance

The major factors accounting for the lower overall German employment rate are the lower employment rates of older workers, of younger workers, of women aged 25-54 and of East German men. The West German male employment rate in the 55-64 age group is 90.8% in 2001 higher than in the UK 87.6% 2001, so significant improvement in the overall employment rate will have to come from female, older and younger workers considered below and increased male employment in East Germany.

The gap between West German and UK employment rates for women aged 25-60[14] has narrowed from 6.1% in 1983 to 3.2% in 2001. Full-time equivalent employment increased less in West Germany because the new jobs taken by women were predominantly part time (60.1%), whereas in the UK they were predominantly full-time (67.8%). To a large extent, this was unwinding the previously limited part-time female employment in West Germany, in 2001 the balance between part-time and full-time employment was very similar with the UK. So female employment is a successful aspects of West German employment performance.

Figure 9
Employment rates 60-64 years

The differences between the employment rates of older workers in West Germany and the UK are large and widening (Figure 8). The male employment rate of 60-64 year olds of both countries drifted lower over the 1980s and 1990s, but the difference has remained stable. The UK female employment rate of 60-64 year olds rose much faster than the West German rate, so the gap in female employment rates widened. This is despite the later female retirement age of 65 in Germany compared with 60 in the UK.[15] Lower employment rates reflect earlier retirement of men, lower employment rates of women, the use of early retirement for labour market adjustment, and the generosity of state benefits.

Germany has a low youth employment rate 46.9% in 2001 but a low youth unemployment ratio 4.8%[16], while the UK has a high youth employment rate 55.6% but a high youth unemployment ratio 7.7%. The Germany situation indicates success in encouraging young people remain in education/training and of achieving a successful transition from education to employment. This appears to be largely the result of the German system of vocational training (Gross, 1998; Isengard 2001, 2002). The UK is successful in the academic education of the young, with short degree courses and high completion rates contributing to the high

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[14] Eurostat LFS time series data is not available for the 25-54 age group.

[15] The UK female retirement age is to rise to 65 in 2020.

[16] The youth unemployment ratio measures unemployment as % of the total population in the relevant age group, this is more appropriate for youth unemployment because of the very large amount of inactivity associated with students.

10

employment rate. It is vocational education where the UK has problems with a significant proportion of young people leaving school at the earliest opportunity, without qualifications and drifting into unskilled employment, unemployment and inactivity.

Table 3 Long term unemployment in Germany and the UK

%

	LFS estimate	LFS + official early retirement	LFS + Sachverständigenrat early retirement
West Germany	3.9	4.6	6.1

	LFS estimate	LFS + hidden unemployment
UK	1.3	5.6

Sources: Eurostat, 2002, Sachverständigenrat, 2002, IAB, 2003.

The long term unemployment rates in West Germany 3.9% in 2001 and the UK 1.3% are underestimates of the true extent of the problem, because of hidden unemployment. Table 3 shows the effect of allowing for these adjustments. In West Germany's case there are two estimates: First, the official figure of workers on state benefits who have retired early; Second, the higher estimate provided by the Sachverständigenrat. In the UK estimated hidden unemployment is added to the official long term unemployed to provide an upper limit to long term unemployment in the UK. As can be seen the inclusion of the hidden unemployed indicates that the long term unemployment is considerably more of a problem than ILO unemployment rates suggest, and the gap between West Germany and the UK is much less than the official figures suggest.

6. Labour market efficiency

There are various ways in which labour market efficiency could be assessed, this study employs three common measures, the relationship between employment and economic growth, the non-accelerating inflation rate of unemployment (NAIRU) and the Beveridge curve. Given the problem of unemployment in Europe it is important that economic growth is translated into increased employment. Implicitly the EES has as an objective the improvement of the Beveridge relationship because this is an important measure of the matching efficiency of the labour market (ECB, 2002). The NAIRU the lowest level of unemployment compatible with stable inflation, provides a measure of the sustainable level of unemployment.

6.1. Employment and economic growth

In the theoretical framework described above long-term trends in employment and unemployment are determined by structural characteristics of the labour market and persistence effects. Variations in economic growth will cause fluctuations around these long-term trends, an efficient labour market would adjust to economic growth shocks so as to maintain employment.[17]

Okun's law governs the relationship between employment and unemployment performance and output growth. This predicts a negative relationship between unemployment and output over the business cycle, and a positive relationship between employment and output. Modelling this relationship makes it possible to separate the long-term changes, from short-term cyclical elements of employment and unemployment performance. This is particularly important in examining employment growth in Germany and the UK in the 1990s because of the differences in their growth rates. There are two approaches to modelling Okun's law. The first is to relate changes in employment/unemployment directly to changes in GDP. The

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[17] Cycles can have long-term persistence effects, which are difficult to disentangle from the trend.

11

second concentrates on deviations from long term trends for employment and for GDP (the output gap)[18].

An example of the first approach is provided by IMF (2001a) with the following equation estimated:

$$dn_t = \beta_0 + \beta_1 dy_t + \beta_2 dy_{t-1} + \beta_3 D_{90} dy_t + \beta_4 D_{90} dy_{t-1} + \beta_5 dn_{t-1} + \beta_6 dn_{t-2} + \varepsilon_t$$

where d is the difference operator. The variables n and y are the natural logarithms of total employment and GDP respectively. The dependent variable dn_t is employment measured in full-time equivalents to allow for variations in the volume of part time work. Changes in full time equivalent employment (FTE)[19] are explained by changes in the demand for labour caused by changes in output (GDP) in this year dy_t and the previous year dy_{t-1}. This allows for some lagged effect of the change in GDP on employment. D_{90} is a dummy with a value of 1 for 1990-2000 and a value of zero for 1973-1989. A significant estimate for β_3 suggests that the effect of output on employment in the 1990s was different from that of 1973-1989. 1990 is used as the break in order to give sufficient observations to capture a change in the relationships. For the UK the break in the relationship in 1990 could possibly be the result of changes in the labour market introduced over the previous decade. For Germany the break in 1990 can be used to see if re-unification had an impact on the functioning of the labour market. The use of first differences means the equation captures the short run relationship between output and employment.

The European Commission (2002a; pp.57-58) use a different approach, this results in a different equation to estimate:

$$e_{it} = \alpha_i + \beta_1 e^P_{it-1} + \beta_2 e^N_{it-1} + \beta_3 e^P_{it-2} + \beta_4 e^N_{it-2} + \beta_5 ogap^P_{it} + \beta_6 ogap^N_{it} + \beta_7 ogap^P_{it-1} + \beta_8 ogap^N_{it-1} + \beta_9 DU90ogap^P_{it} + \beta_{10} DU90ogap^N_{it} + \beta_{11} DU90ogap^P_{it-1} + \beta_{12} DU90ogap^N_{it-1}$$

In this equation e_{it} is the deviation of employment in country i at time t from the long-term trend[20]. With this equation estimated for the period 1970-2000 on a panel consisting of the EU 15 member states, α_i is a fixed effect varying by Member State. The superscripts P and N denote positive and negative output gaps, and $ogap$ is the cyclical component of real GDP, i.e. the output gap. This model, like that of the IMF, was used to identify whether the elasticity of employment to output was different in the 1990s. $DU90$ is a dummy variable with a value of from 1979 to 1989 and a value of 1 from 1990-2000.

This specification assumes that the response to changes in output is asymmetric, that output above trend leads to an increase in employment that differs in size, from the decrease in employment associated with output below trend. The estimated relationship suggests this is the case with the size of the employment expansion when the economy is above potential being less than the size of the employment contraction when the economy is below potential.[21] When output is above trend the economy is already utilising most of its "usable" productive resources, when the economy is below trend resources to expand production are more readily available (European Commission, 2002a, p.55). Output gaps are problematic difficult to estimate accurately, either they are a statistical artifact the residual from a

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[18] The deviation of output from potential output.

[19] FTE employment counts each part-time worker as a proportion of the average hours worked by full-time workers, which varies between countries.

[20] Estimated as the deviations from the trend 1970-2000 estimated by a Hodrick-Prescott filter with the smoothing parameter set at 100.

[21] Similarly the size of the unemployment contraction when the output gap is positive is smaller than the size of the unemployment expansion when the output gap is positive.

Hodrick-Prescott filter, or are derived from a macroeconometric model in which case they are model dependent. This study will, therefore, use GDP changes directly rather than output gaps to estimate cyclically corrected employment and unemployment rates.

The IMF and European Commission results suggest that employment has become more sensitive to GDP growth in the 1990s. The European Commission estimates are for the EU 15 but the IMF provides estimates for all the large EU economies. Table 2.1. shows that the relationship achieves a reasonably good fit as shown by the test statistics. All the estimates of β_1 are significant at the 5% level, a 1% increase in real GDP is associated with a contemporaneous increase in employment of between 0.35% (UK)[22] and 0.63% (Spain), and with a 0.52% increase in Germany. The estimates of β_3 imply that during the 1990s this employment intensity of GDP growth significantly increased in the 1990s in Spain, Italy and France but not in the UK[23]and western Germany[24].

Table 4 Regression of Employment on Real GDP Growth

	β_1	β_2	β_3	β_4	β_5	β_6	R^2	DW
France	0.57*	0.14	0.15**	0.12	0.07	-0.12	0.93	2.33
	(0.08)	(0.16)	(0.08)	(0.09)	(0.25)	(0.11)		
Italy	0.39*	0.06	0.39*	-0.04	0.47*	0.13	0.73	1.75
	(0.06)	(0.10)	(0.15)	(0.19)	(0.21)	(0.19)		
Spain	0.63*	0.01	0.49*	-0.06	0.31	-0.08	0.78	2.23
	(0.19)	(0.20)	(0.25)	(0.26)	(0.21)	(0.16)		
Germany, western	0.52*	-0.07	-0.01	0.01	0.8*	-0.23**	0.91	2.38
	(0.06)	(0.11)	(0.08)	(0.08)	(0.19)	(0.13)		
UK	0.35*	0.38*	0.32**	-0.26	0.31**	0.07	0.78	2.50
	(0.10)	(0.12)	(0.22)	(0.23)	(0.17)	(0.15)		

Source: IMF, 2001a, p.40; UK own calculations on data from: European Commission, 2002a.
Employment measured in full time equivalents.
Standard errors in parenthesis, * indicates significance at the 5% level, ** at 10% level.

Up until 1990 the employment intensity of growth was similar in West Germany to that in the other large EU economies. After 1990 the sum of the β_1 and β_3 coefficients[25] indicates that the effect of GDP growth on employment was much lower in West Germany. The failure to improve the employment intensity of growth in West Germany's could be associated with limited labour market reform year (European Commission, 2002b, p. 2), but West German performance must be affected by unification.

6.2. Beveridge curves

The Beveridge curve shows the relationship between unemployment and vacancies and measures the labour markets ability to match the unemployed with the available vacancies. The less vacancies associated with a given level of unemployment, the more effective the labour market is in filling the available jobs. So a downward shift of the Beveridge curve indicates an improvement in labour market matching efficiency.

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[22] The UK's employment response to increases in income is larger than that in the other countries but it is more lagged with a significant β_2 almost as large as β_1.
[23] The fact that negative β_4 is almost as large as the positive β_3 means that the overall improvement in the UK's employment intensity of growth in the 1990s was insignificant. This is perhaps not surprising when it already had the highest employment intensity of growth.
[24] When estimated using data on the numbers employed rather than FTEs β_3 is significant, indicating that the amount of hours generated by a 1% increase in GDP increased in the 1990s, but it created part-time rather than full-time jobs.
[25] Plus in the UK's case the significant β_2 coefficient.

Figure 10
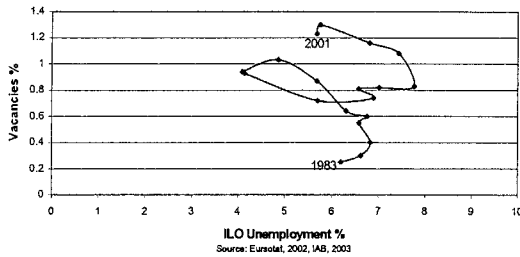West Germany: Beveridge Curve 1983-2001
(ILO unemployment)

Figure 11
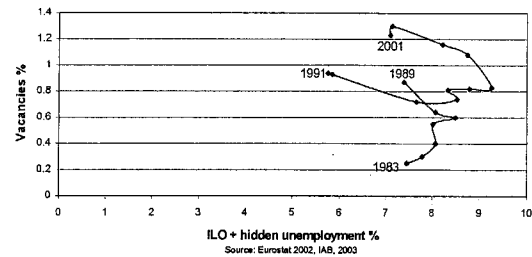West Germany Beveridge curve
(ILO + hidden unemployment)

Figure 12
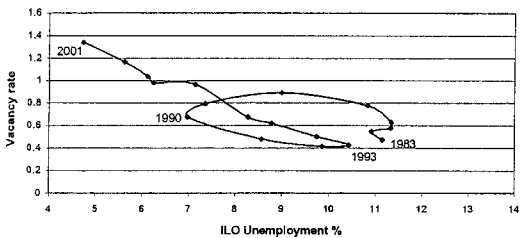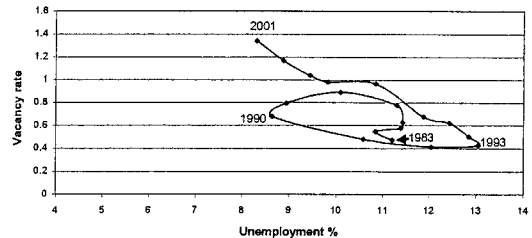UK Beveridge Curve
(ILO unemployment)

Figure 13
UK Beveridge
(ILO and Hidden Unemployment)

Germany's Beveridge curve appears to move outward in the 1990s indicating a reduction in labour market matching efficiency (Figure 11). Using ILOH unemployment leaves the shape of the Beveridge curve unchanged, although its position has moved (Figure 12). In the UK when vacancies are plotted against ILO unemployment there is a clear improvement in the relationship with points after 1989 being below those before 1989 (Figure 12), indicating an improvement in the labour market's matching efficiency. Using ILO plus hidden unemployment the situation is reversed, with the observations after 1993 lying above those before (Figure 13), indicating a worsening of the labour market's efficiency. Not all the hidden unemployed will be searching for jobs but certainly some will be (Beatty et al, 2002), because these hidden unemployed are individuals who in earlier times would have been working.

6.3. Non-accelerating inflation rate of unemployment

Observations of the relationship between unemployment and consumer price inflation do not suggest any general improvement in the Phillips relationship for the EU (Figure 14). Estimates of the NAIRU do, however, suggest an improvement in the performance of the labour market in the second half of the 1990s in the EU 15. For the EU the NAIRU seems to follow the trend in unemployment (Figure 15). This improvement is apparent for all EU countries except Germany, Greece, Luxembourg and Austria.

There is a clear improvement in the Phillips curve relationship for the UK, with increasingly low levels of unemployment being associated with low consumer price inflation (Figure 18). The UK's NAIRU shows one of the largest improvements in the EU having fallen continuously since 1984, from over 10% in 1985 to just over 5% in 2002 (Figure 19). The Phillips curve estimated on the CPI, however, probably paints a flattering picture for two reasons. First since the rise of Sterling in the 1990s has been an important constraining factor on consumer prices. The lack of growth in UK manufacturing output and the growing current account deficit suggests the poor competitiveness of UK tradeable output. Second the official unemployment figures as argued above understate the true extent of the problem.
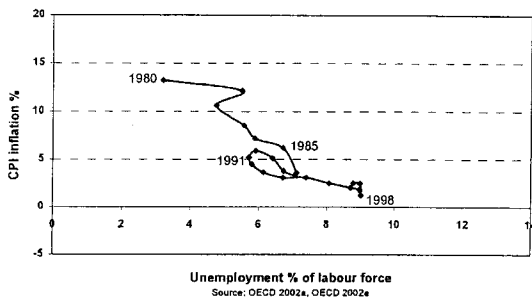
14

Figure 14
EU 15 unemployment and CPI Inflation

CPI Inflation %

1980

1985
1991
1998

Unemployment % of labour force
Source: OECD 2002a, OECD 2002e

Figure 15
EU 15 NAIRU and unemployment

Unemployment %

—— NAIRU —— Unemployment
Source: European Commission, 2002a: OECD, 2002a
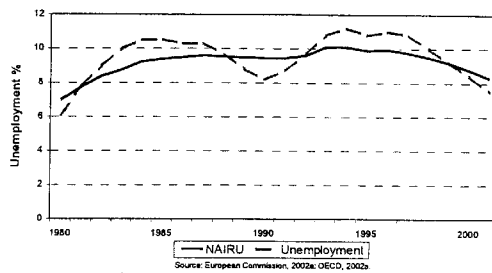
Figure 16
Germany Unemployment and CPI Inflation

CPI Inflation %

1980
1990
2001
1997
1986

Unemployment % of the labour force
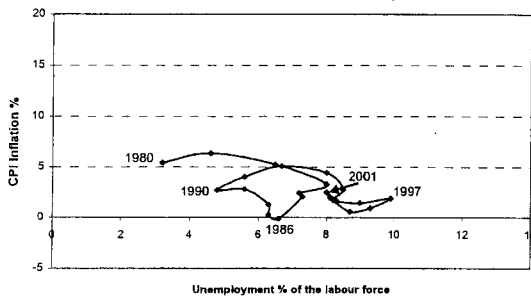
Figure 17
Germany NAIRU and unemployment

Unemployment %

—— NAIRU — —Unemployment
Source: European Commission, 2002a: OECD, 2002a.
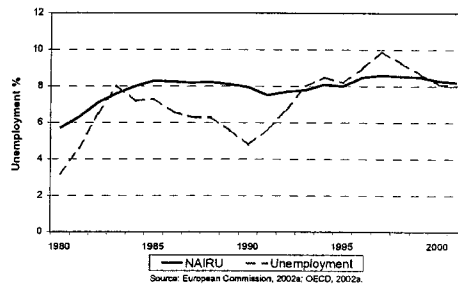
Figure 18
UK unemployment and CPI inflation

CPI inflation %

1980
1990
1984
2001
1993

Unemployment % labour force
Source: OECD 2002a, OECD 2002e
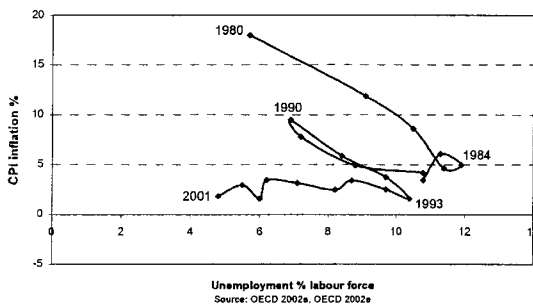
Figure 19
UK NAIRU and Unemployment

Unemployment %

—— NAIRU —— Unemployment
Source: European Commission, 2002a, OECD, 2002a

Figure 20
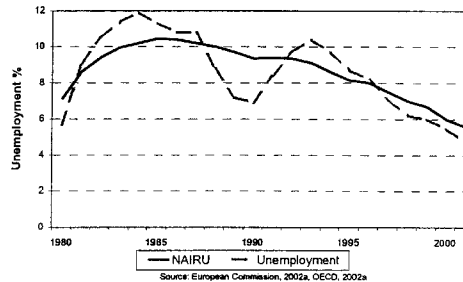**UK Phillips curve**
(ILO + hidden unemployment)

CPI inflation %

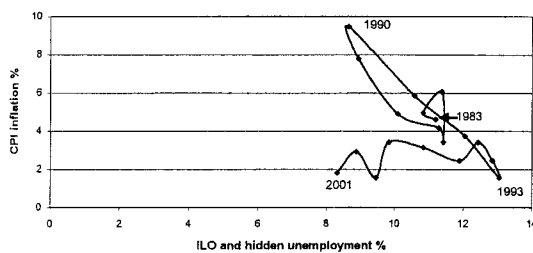1990
1983
2001
1993

ILO and hidden unemployment %

Figure 20 takes the latter criticism into account by plotting UK CPI inflation against hidden (ILOH) unemployment. The Phillips curve still improves when ILOH unemployment ILO and is used, but the movement of the Phillips curve is less and more recent. The improvement coincides with the high value of Sterling, so more observations are needed to confirm its permanence.

In Germany it is the employment situation in West Germany that determines wages and salaries, so only the West German Phillips curve is considered here. There no discernible improvement in Germany's Phillips curve (Figure 16) and the NAIRU is estimated to have been stable (Figure 17). Since West German hidden unemployment is fairly stable, using ILOH unemployment results in a similar Phillips curve, although it is further to the right as unemployment is higher (Figure 21). Thus there has been no recent improvement in West German labour market performance on this measure.

15

Figure 21
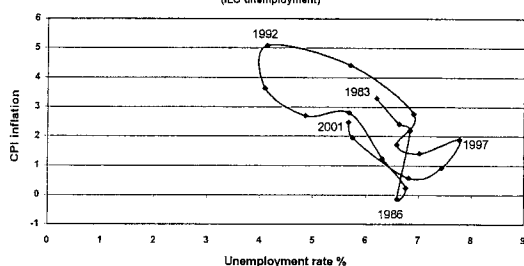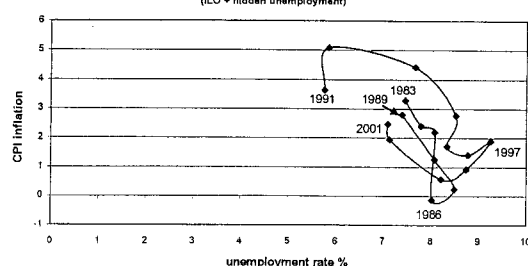**West Germany Phillips Curve**
(ILO unemployment)

Figure 22
West Germany: Phillips Curve
(ILO + hidden unemployment)

7. Conclusion

The UK has embraced the policies advocated by the European Employment Strategy more enthusiastically than Germany. In relation to the factors identified by economists as affecting employment performance, the UK was already operating more compliant policies than Germany in 1997. The UK's policies have also changed in the direction advocated by the Strategy more than those of Germany. The UK would be expected, therefore, to have superior labour market performance to Germany. On most conventional measures this seems to be the case. Between 1991 and 2001 the UK created 1.8 million jobs, German employment contracted by 0.6 million. The UK unemployment rate in 2001 was 5%, Germany's was 7.9%. This conventional picture supports the view that the policies advocated by the EES should be effective in improving the employment performance of EU Member States.

This study suggests that the outcome is much less clear-cut. Although employment, particularly female employment, has expanded in the UK, a larger number of people of working age have become hidden unemployed. When account is taken of this hidden unemployment, the superiority labour market performance is questionable. West Germany's labour market performance has been surprisingly good, despite the enormous strains caused by unification and its aftermath. This comparison of UK and German labour market performance, therefore, provides only limited support for the view that pursuing the flexible labour market policies, partially advocated by the EES, is necessarily going to lead to significantly improved labour market performance.

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