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Unemployment in Germany: Reasons and Remedies

CESifo Working Paper, No. 871

Provided in Cooperation with:
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Suggested Citation: Berthold, Norbert; Fehn, Rainer (2003) : Unemployment in Germany: Reasons and Remedies, CESifo Working Paper, No. 871, Center for Economic Studies and ifo Institute (CESifo), Munich

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UNEMPLOYMENT IN GERMANY: REASONS AND REMEDIES

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CESIFO WORKING PAPER NO. 871
CATEGORY 4: LABOUR MARKETS
FEBRUARY 2003

PRESENTED AT CESIFO CONFERENCE ON UNEMPLOYMENT IN EUROPE,
DECEMBER 2002

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CESifo *Working Paper No. 871*

UNEMPLOYMENT IN GERMANY: REASONS AND REMEDIES

Abstract

This paper discusses the reasons for the dismal labor market performance of Germany over the last three decades along with potential remedies. It argues that labor market rigidities along with a generous welfare state in conjunction with certain changes in the economic environment are important in explaining this development but cannot solely account for it. Barriers to entrepreneurship, to setting up new firms and to innovations which are prevalent on goods and capital markets also play an important role in explaining the lackluster German economic performance of which rising unemployment is only one part. Comprehensive institutional reforms are therefore called for.

JEL Code: E24, E44, J00.

Keywords: unemployment, Germany, labor market reforms, venture capital, innovations.

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I. Introduction[#]

Germany has voted this fall and the old government happens to stay in office albeit only by a very small margin. This outcome was certainly surprising for political economists who believe that voters are strongly influenced by economics in their voting decision considering the poor economic record of the red-green government concerning economic growth in general and labor market performance in particular. In contrast to a number of other European countries and especially in contrast to the US, Germany appears to be unable to make almost any progress in reforming labor market institutions and the welfare state in order to reduce its stubbornly high unemployment rates. It forms in this respect an unholy triple alliance of reform laggards with France and Italy (Minford and Naraidoo, 2002). However, topics outside of the realm of economics seem to have swayed swing voters in favor of Schröder. Furthermore, the conservative opposition only kept reminding Schröder of the fact that he had not been able to fulfill his promise in 1998 of cutting official unemployment down to 3.5 million. In contrast to the rather small liberal party, the conservatives did not offer a radically different agenda for economic policy so that it did not become clear why they should be much more successful in improving labor market performance. This doubt was reinforced by the fact that the conservatives spent sixteen consecutive years in government from 1982 to 1998 without putting labor market institutions and the welfare state on the right track.

Realizing that something must be done with respect to the labor market chancellor Schröder initiated the so-called ”Hartz-Kommission” just about half a year before the election and promised that its proposals would be put into action during the next term. This was certainly a very shrewd political move since the public at large could not really judge in time for the election whether its proposals made economic sense, but it got the impression that something serious would be done about unemployment after the election. However, German labor market experts are almost unanimous in their judgment that the “Hartz-Kommission” just made useful proposals with respect to improving the matching process between the unemployed and vacancies, which is only a very minor part of the German unemployment problem, though. This can already be recognized by the fact that the number of unemployed persons outnumbers vacancies by a factor of almost three to one when taking into account official unemployment and by a factor of four to one when hidden unemployment is also

[#] Excellent research assistance by Stefan Lachenmaier is gratefully acknowledged. We thank participants of the

taken into account. The economic problems of Germany are much more fundamental than just a lack of efficiency in the matching process on the labor market and there appears to be a serious shortage of political determination among both big parties in actually addressing these problems via fundamental structural reforms which are likely to hurt influential special interest groups.

Persistently high unemployment rates are just one side of the coin of an overall economic performance which is far from satisfactory. The other side of the coin is the lackluster performance with respect to growth rates, where Germany was in the course of the nineties not only outperformed by the US, but again also by a number of other European countries. This has been the case even though the "Neue Länder" should according to standard growth theory command over particularly high growth rates based on catch-up just like the "Alte Länder" did in the fifties and sixties. The German economy lacks the robustness and vitality of the Erhard era. It still relies very much on its competitive edge in medium-high technology trade, but it is weak in areas of high technology, such as computers, communication technology and biotechnology. It should therefore not be surprising that with respect to economics Germany, which used to be the economic powerhouse in the EU, is increasingly called the "sick man of Europe" suggesting that something is rotten in its institutional setting.

Yet, the German concept of "Soziale Marktwirtschaft" used to be very successful with respect to both, labor market performance and growth rates, at least until the seventies if not even until the eighties, reconciling the interests of organized labor and capital. Some thirty years ago German institutions along with its low unemployment rates and social cohesion were the envy of the world. Its unemployment rate was about one fifth of that in the US which was then about the same as it is today. Germany today features an unemployment rate which is about twice as high as the rate in the US, but also other European countries such as the UK, Switzerland, the Netherlands or Denmark have been much more successful in fighting unemployment or in keeping unemployment at acceptable levels. This fact is a hint that capitalism is not single peaked with one institutional setting being superior under all circumstances and at all times (Freeman, 2001). Furthermore, since German labor market institutions have by and large been kept unchanged over the last thirty years, only their

CESifo Conference on Unemployment in Europe and especially Bertil Holmlund for helpful comments.

interaction with changes in the economic environment is a plausible candidate for explaining rising unemployment. This is in fact the gist of a number of recent papers.[1]

Considering that well-designed institutions are a key factor for a good economic performance in the longer run, there are two types of explanations for this discrepancy between the past and the present economic performance of Germany relative to other OECD countries. First, German institutions might have worsened over time relative to other countries or even in absolute terms, reflecting the negative influence of special interest groups on political decision making in this country. The German economy is by now infamous among international policy observers for its excessive level of regulation, taxation and bureaucratization which not only distorts but also greatly reduces incentives to work in general, but especially to take riks such as investing in skills, in new firms or in venture capital. Second, the economic environment might have changed so that a formerly appropriate German institutional setup fostering GDP and employment growth is no longer conducive to achieving these goals. There is widespread evidence that the new economy of the twenty-first century, which has globalization and great technological advancement as its hallmarks, is characterized by greater variability and heterogeneity as well as more rapid change so that more institutional flexibility is called for (Heckman, 2002).

We experience an era of creative destruction with greater risk but also greater return in countries which get their act together. This creates great economic opportunities for countries with an appropriately flexible institutional environment which do not artificially try to preserve obsolete economic activities and foster in all respects the creation of new modes of production, such as via featuring sufficiently large incentives to invest in skills in response to skill-biased technological change or in new firms in response to structural change. However, the whole institutional setting in Germany is geared to preserving the status quo and to fostering stability, long-term relationships and an egalitarian income distribution thus impeding Germany from responding flexibly and quickly to these challenges and from making full use of the opportunities created by the new economic environment. There appears to be too much "social insurance" and too little reward for entrepreneurial risk taking in Germany thus stifling economic creativity and opportunities for growth.

[1] See Blanchard and Wolfers (1999), Ljungqvist and Sargent (2002) and Chen, Snower and Zoega (2002).

This paper will discuss the repercussions of the German institutional setting on labor market performance. It will argue that German labor market institutions alone and their relative evolution over time cannot explain the dramatic reversals in labor market performance relative to other OECD countries but especially relative to the US. This is only possible if, first, the interaction of particular labor market institutions with relevant shocks, which have occurred over the last three decades, is taken into account, and if, second, institutions beyond the labor market such as those on the goods and the capital market and their interaction with the changing economic environment are also considered. It is too simple to argue that persistently high unemployment in Germany is due to the fact that labor costs are too high, real wages too rigid and the wage structure too compressed. Although all three factors are of course crucial, these are transmission mechanisms rather than the actual causes of the ongoing economic malaise of Germany. The actual causes must be found in the complex web of institutions which have made the German economy sclerotic and which are not appropriate for creating employment opportunities for less qualified workers and for coping with the challenges created by the new economic environment thus giving rise to the lackluster economic performance of Germany.

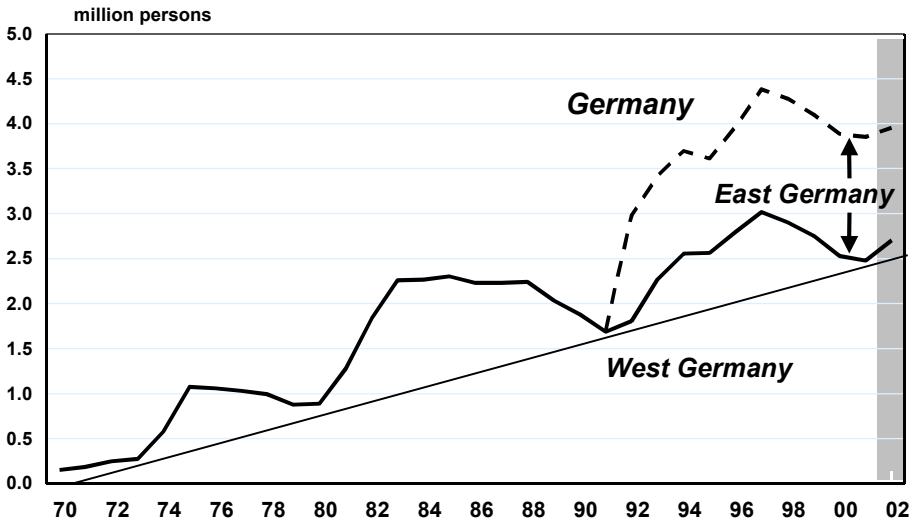
To this end the paper proceeds as follows. The second chapter highlights some stylized facts about German unemployment. The third chapter points out which major shocks have occurred and how they interact with German labor market institutions to produce rising unemployment. The fourth chapter shows why institutions beyond the labor market are also relevant in this context. The last chapter provides conclusions.

II. Some Stylized Facts on German Unemployment

Unemployment has ratcheted upwards over the last three decades in Germany (figure 1). At the beginning of the 1970s Germany enjoyed a situation of full employment with negligible officially recorded unemployment rates. This was in marked contrast to the US which already back then had a "natural rate of unemployment" or Non-Accelerating Inflation Rate of Unemployment (NAIRU) in the order of five percent. Like in other countries, unemployment jumped upwards with each negative shock like the two oil price shocks or changes in monetary policy towards a more restrictive, antiinflationary course. Unlike in a number of

other countries, though, Germany has over the last thirty years been almost completely unable to reduce its unemployment rate back to pre-shock levels when economic conditions improved again. The total official number of unemployed is currently slightly above the four million mark with a bit less than two million people participating in active labor market programs. Around six million jobs are therefore missing. According to latest OECD figures, the standardized unemployment rate in Germany in 2002 is 8.3%.

Figure 1: Development of unemployment in Germany



*) 2002 ifo estimation

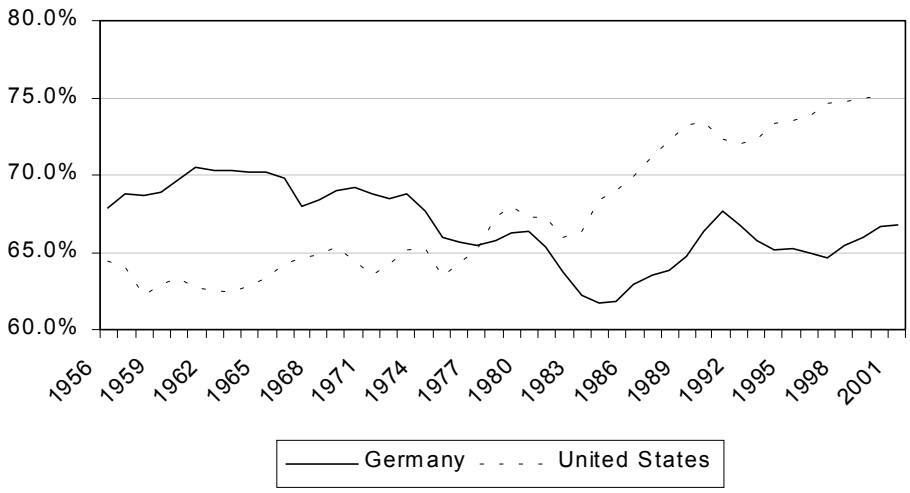
Source: Sinn (2002)

Structural unemployment in Germany displays a strongly rising trend over the last thirty years which can be seen by the straight line in figure 1 which connects troughs of unemployment in booms. Thus, unemployment displayed a high degree of asymmetric persistence if not even hysteresis in Germany. It is furthermore striking to note that Germany's unemployment rate almost continuously increased over the 1990s and into the 21st century whereas other countries such as the US, the UK or the Netherlands were much more successful over this time period in producing employment growth and in reducing their unemployment rates which is often associated with their more favorable institutional environment compared to Germany not only for producing low-wage jobs but also for moving towards the so-called "new economy".

It is important to note that this negative development on the German labor market cannot be attributed to differences in the size of the working age population or the participation rates among working age people (Solow, 2000). Hence, it would be wrong to argue that labor

supply has risen so much in Germany, no wonder that labor demand could not expand by an equivalent amount. An extreme version of this thinking is reflected in the folly notion of a lump sum of labor which argues that unemployment can only be solved by dividing more equally among workers a given pie of labor demand. A view across the border or even across the Atlantic helps to sort out things. Population growth as well as growth in the employment-to-population ratio have been considerably larger, e.g., in the US compared to Germany (figure 2). The difference is especially striking among women. Although the participation rate of women in the regular labor market has of course also increased in Germany over the last three decades, but it is still much less than in countries such as the US, the UK or the Netherlands. Since international comparisons suggest that rising labor supply cannot be an actual cause of growing German labor market problems, deficient labor demand and/or rising problems for labor supply and labor demand to match must be at the heart of the German unemployment problem.

Figure 2: Employment-to-population ratio



Employment-to-population ratio: Employment divided by working age population (age 15-64)

Source: OECD Labour market statistics - DATA, own calculations

There is widespread consensus that the bulk of the rise in unemployment in Germany is due to structural causes (table 1), i.e., that it is related to excessive real wage costs to firms, lack of wage differentiation, rising mismatch problems etc. and that it cannot be successfully fought by simply expanding goods demand even if that were possible. Estimates for the NAIRU in Germany indicate that eighty to ninety percent of total unemployment is due to structural causes. Hence, the emphasis in fighting unemployment cannot lie in a discussion about how goods demand can be expanded, but must rather be put on the question which institutions are

to blame for this assessment and in which way these institutions should be reformed to obtain better results on the labor market. Institutions directly related to the labor market such as labor market and welfare state regulations should naturally be put under particularly close scrutiny (Siebert, 1997), but they are not the only ones which might be relevant. There is sometimes the naïve belief that unemployment must be due to a defect in the labor market, as if the hole in a flat tire must always be at the bottom, because that is where the tire is flat (Solow, 2000). Already A. Marshall emphasized that also the institutional structures on goods and capital markets affect labor market performance (Heckman, 2002).

Table 1: Development of structural unemployment

	1980	1985	1990	1995	1999
France	5.8	6.5	9.3	10.3	9.5
Finland	4.3	3.9	5.6	10.6	9.0
Germany	3.3	4.4	5.3	6.7	6.9
Japan	1.9	2.7	2.2	2.9	4.0
Netherlands	4.7	7.5	7.5	6.1	4.7
Great Britain	4.4	8.1	8.6	6.9	7.0
US	6.1	5.6	5.4	5.3	5.2

Remark: Structural Unemployment is measured by the concept of NAIRU (OECD 2000)

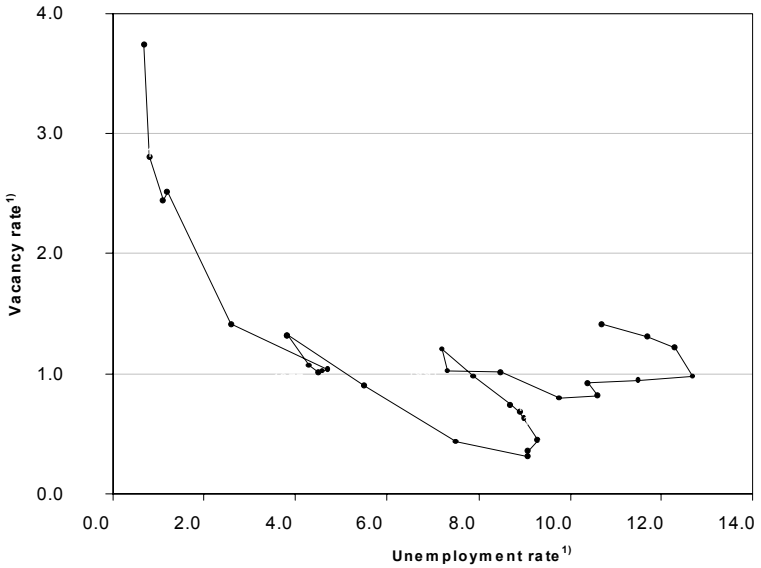
Source: Eichhorst, Profit and Thode (2001)

A look at the development of the Beveridge curve for Germany reveals that there has first of all been a massive movement downwards, i.e., the officially recorded unemployment rate has increased much more than the officially recorded vacancy rate (figure 3).[2] Such a movement downwards along a given Beveridge curve can be due to two reasons. First, lack of goods demand can simultaneously depress vacancies and increase unemployment. Given the brief discussion in the preceding paragraph, this is unlikely to be the major cause of this marked downward movement over the last about thirty years. To be more precise, even if the original push towards higher aggregate unemployment came from the demand side, the well-known hysteresis mechanisms convert an originally cyclical rise into structural unemployment after a few years if the cyclical downturn cannot be reverted quickly enough. Second, rising real

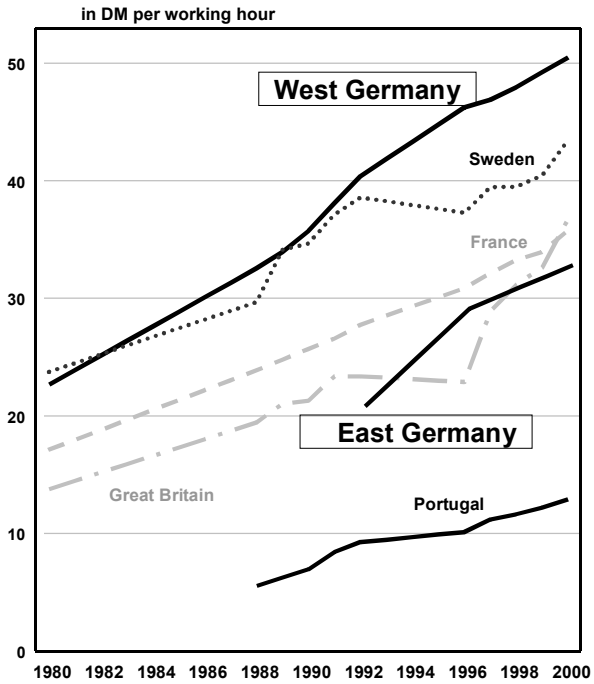
[2] There has of course been a structural break in 1990 due to reunification which complicates a comparison of the pre 1990 data to the post 1990 data.

wage costs to firms exceeding trend productivity growth reduce vacancies and raise unemployment which is then typically called classical unemployment. Given the rapid rise in wage costs in Germany relative to other countries (figure 4) and the marked tendency in Germany to substitute labor by capital (Berthold, Fehn and Thode, 2002) this seems more likely to be the ultimate cause for the observed downward movement in the u-v-plane.

Figure 3: Beveridge Curve in Germany



1) Until 1990 Former West Germany; since 1991 Germany.



Source: Sinn (2002)

Figure 4: Wage costs in manufacturing

(female and male employees)

There has in addition been an outward shift of the Beveridge curve, i.e., the same vacancy rate corresponds with a considerably higher unemployment rate today than ten or even twenty years ago. Such an outward shift of the Beveridge curve is usually caused by rising mismatch problems, i.e. the characteristics of the unemployed fit less well with the available vacancies than in the past. All three standard types of mismatch unemployment seem to play a major role in Germany, mismatch according to region, sector and qualification. Reunification led to a substantial regional mismatch problem in Germany as unemployment shot up in the "Neue Länder" due to a number of reasons, some important ones of which are related to clear policy mistakes such as the conversion of the Ostmark into the DM at a highly overvalued rate and a policy of rapid wage equalization between the "Neue" and the "Alte Länder". However, Germany already had a non-negligible rise in regional mismatch problems even before reunification because unemployment had already back then tended to increase more in the North than in the South of the "Alte Länder" (table 2).

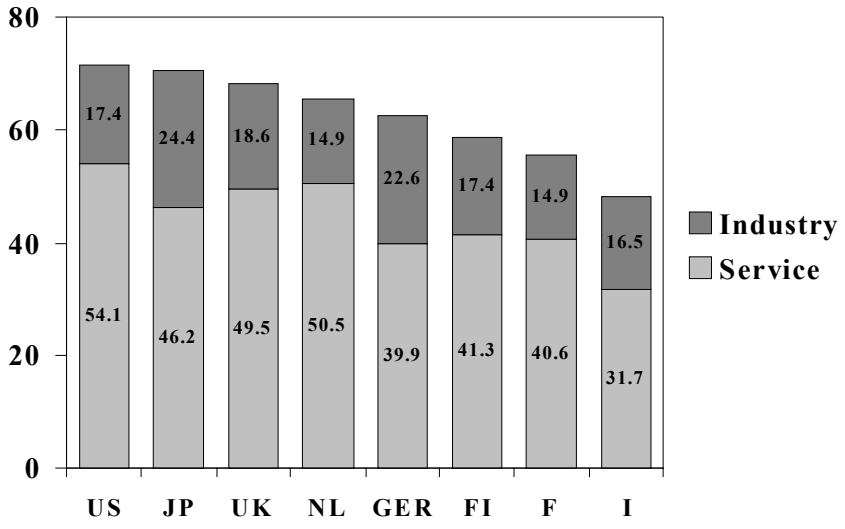
Table 2: Unemployment rates according to states in Germany (October 2002)

	Unemployment rate
Baden-Württemberg	5.5
Bayern	5.8
Berlin	16.9
Brandenburg	16.7
Bremen	12.3
Hamburg	8.9
Hessen	6.8
Mecklenburg-Vorpommern	17.3
Niedersachsen	8.8
Nordrhein-Westfalen	9.1
Rheinland-Pfalz	6.9
Saarland	8.7
Sachsen	16.4
Sachsen-Anhalt	18.5
Schleswig-Holstein	8.4
Thüringen	14.6
Germany	9.4

Source: Arbeitsamt (2002)

Rising mismatch unemployment must also be attributed to increasing sectoral mismatch. Employment in the industrial sector has been shrinking more in Germany than in most other OECD countries without an equivalently strong rise of employment in the service sector (figure 5). There is a strong unsatisfied demand in particular for household related services while it is very difficult for unemployed industrial workers to find a job in their original field of employment again. It is nonetheless still much more attractive for people to work in the strongly unionized, high productivity industrial sector because a typical industrial worker can earn a much higher wage in the industrial sector compared to the service sector. This assessment hinges of course on the realistic assumption that jobs in the service sector with a high qualification profile such as auditing or consulting are not available for the concerned industrial workers. Unemployed industrial workers are very reluctant to work in the service sector and especially young males still prefer to enter into an apprenticeship in the industrial sector. The peak of absurdity in this respect takes place in coal mining where miners earn higher wages than even their counterparts in most of the industrial sector and of course much higher wages than anybody else of similar qualification in the service sector. All this must be seen against the background that coal mining is not at all profitable in Germany and that the whole sector can only exist due to heavy hidden and explicit government subsidies which have, by the way, been declared off limits for any cuts in the current new term by the red-green government despite of its serious budgetary problems. Based on such folly policy, young people are still trained to become miners thus continuing to burn other people's money.

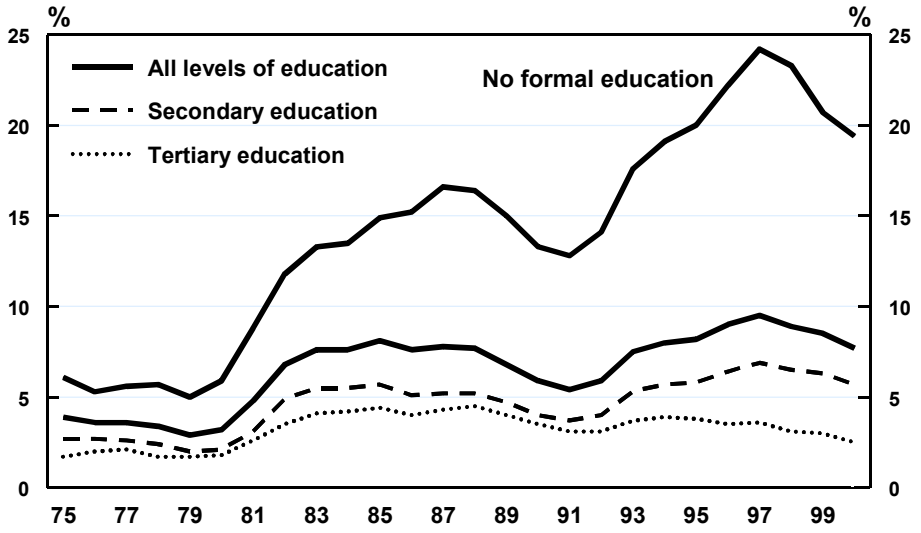
Figure 5: Employment rate in service and industrial sectors ø 1995-1999, in % of labor force



Source: Eichhorst, Profit and Thode (2001)

Like in many other countries, unemployment in Germany is also very much and increasingly concentrated among people with little or no formal qualification for the labor market pointing to rising qualificational mismatch (figure 6). The fact that this concentration has even increased over time reflects a shift of labor demand towards more skilled labor possibly due to globalization and/or labor saving technical progress since the relative supply of skilled labor has risen in the course of the last decades. The main dividing line in Germany still appears to be the apprenticeship system meaning that the probability of being unemployed or of ending up in long-term unemployment is much lower if someone has successfully finished a formal apprenticeship. Roughly fifty percent of the long-term unemployed have no such formal qualification via the apprenticeship system. However, even people who do have such a qualification are getting into greater trouble concerning their employment prospects. Unemployment rates among the group with medium type qualification have also increased quite a bit more than among those with university education with no equivalent rise in vacancies for this type of medium qualification.

Figure 6: Total Unemployment rate by qualification[a)]



Legend: a) West Germany
Source: Sinn (2002)

Long-term unemployment, i.e. individual unemployment spells which exceed one year, is an especially severe problem in Germany. The percentage of the unemployed, who have been jobless for more than one year, has been hovering around fifty percent for a number of years by now according to OECD classification, which is exceptionally high by international comparison (table 3). Up to now there is little indication that Germany might in the near future be able to significantly reduce its record rates of long-term unemployment. Hence, the labor market is very much segmented in Germany in insiders, i.e., those who have a regular and well-protected and well-endowed job, and outsiders, i.e., those who have been unemployed for more than a year and whose chances of ever getting back into the regular labor market are not only slim but also diminishing by each additional day spent in unemployment. In between are the short-term unemployed whose interests might still play some role in wage setting and who might still have a reasonably high probability of getting a regular job again.

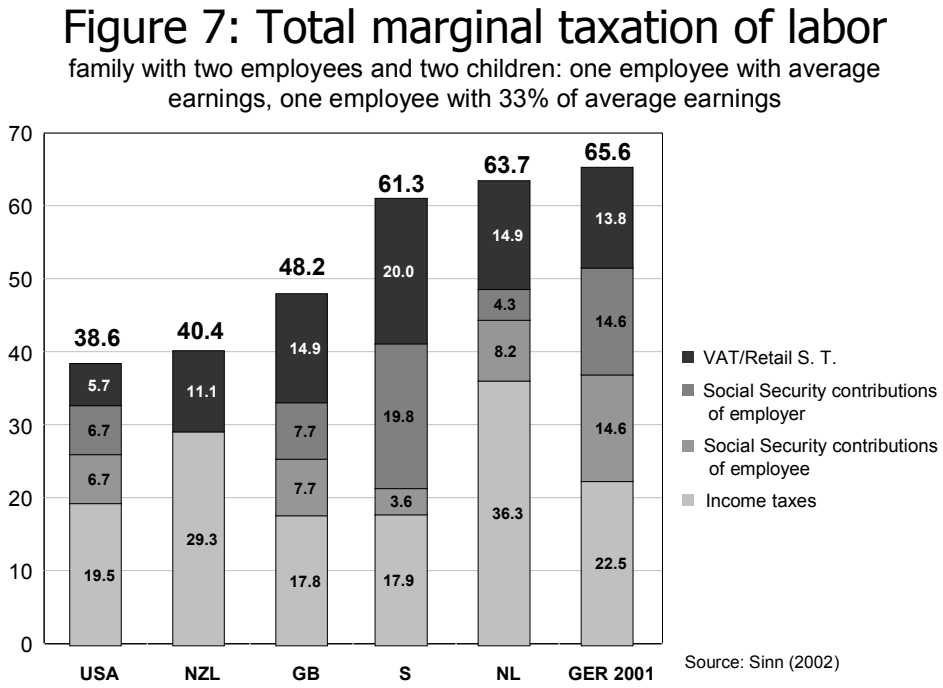
Table 3: Long-term unemployment

	1983	1990	2000	2001
Finland	19.2	9.2	29.0	26.2
France	42.2	38.0	42.6	37.6
Germany	41.6	46.8	51.5	n.a.
Italy	57.0	69.8	61.3	63.4
Netherlands	47.8	49.3	n.a.	n.a.
Spain	52.4	54.0	47.6	44.0
UK	45.2	34.4	28.0	27.7
EU	n.a.	48.6	46.9	43.7
Japan	13.3	19.1	25.5	26.6
US	13.3	5.5	6.0	6.1

Source: OECD Employment Outlook 2002

High rates of long-term unemployment such as in Germany but also, e.g., in the otherwise much more successful Netherlands, are of course a severe economic and social problem. Long-term unemployment is not only draining the resources of the welfare state, but it also constitutes a huge economic waste. It can in contrast to frictional short-term unemployment not be justified by matching arguments, i.e., that this kind of unemployment would be necessary to allow for an optimal search time for a new job. The people concerned are as a

rule forced to stay idle against their will. They do not only contribute nothing to producing output but financing them via taxes and social security contributions actually reduces output due to the resulting distortions of work incentives. It is noteworthy in this respect that the total marginal rate of taxation of labor is extremely high in Germany in international comparison (figure 7). Last but not least, high rates of long-term unemployment are socially divisive and tend to undermine political stability.



Germany has a very peculiar age profile among the unemployed (table 4). Unemployment among teenagers is lower compared to most other OECD countries. This can probably attributed at least partly to the apprenticeship system in which young people only receive very low wages but are still most of the time available for firms for a wide range of jobs including menial work. Unemployment rates increase markedly among tweenies when the apprenticeship ends and when as a rule collectively agreed upon regular union wages have to be paid by firms. Firms therefore naturally restrict offers for continuing employment under the regular terms to those apprentices who have made sufficient progress concerning their productivity for increasing the net value of the firm later on even when they receive union wages. German unemployment or non-employment rates are also rather striking at the other end of the age spectrum. Unemployment or non-employment is very high among people of the age group 55 and above which is a result of the extremely generous rules of the welfare

state concerning unemployment benefits and early pension regulations for elderly people. This very low participation rate among elderly workers appears to be unsustainable when considering the combination of low fertility rates and increasing life expectancy.

Table 4: Unemployment in Germany by age

	1993	1995	1997	1999
15-19	7.4	9.2	11.8	10.2
20-24	10.4	10.9	14.2	12.1
25-29	9.9	9.2	11.0	9.7
30-34	10.3	9.5	11.1	9.6
35-39	9.9	9.5	11.7	10.4
40-44	9.4	9.5	11.9	10.8
45-49	9.6	10.1	12.6	11.9
50-54	11.5	11.7	14.6	14.3
55-59	18.2	21.6	25.8	25.6
60-64	17.4	18.2	18.8	21.5
total	10.8	11.1	13.6	12.6

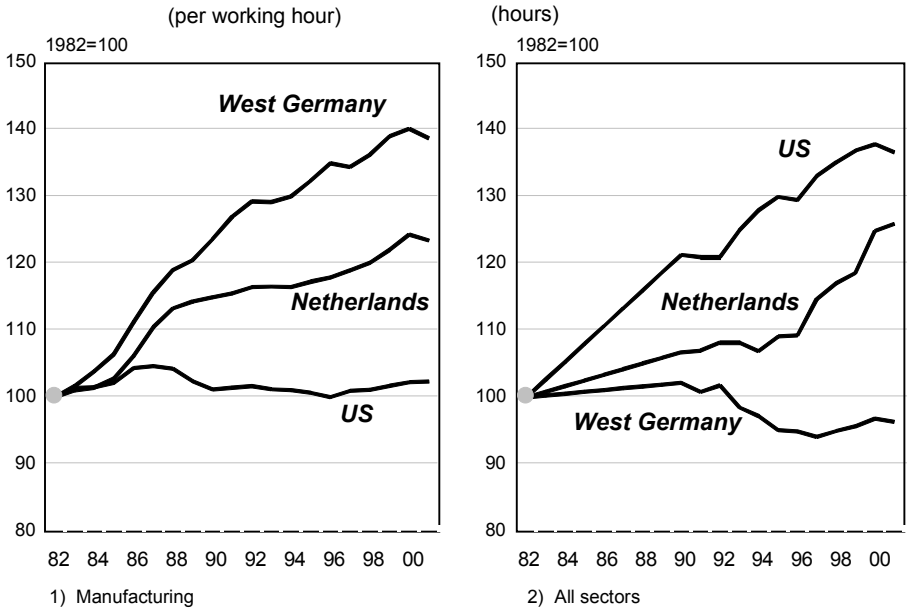
Remark: unemployment rate calculated with persons unemployed at 30th September relative to all employees subject to social insurance contribution at 30 June

Source: Institut für Arbeitsmarkt- und Berufsforschung (2002)

All these stylized facts concerning unemployment in Germany must be seen against the background of how real wage costs of firms and wage differentiation developed. Real wage costs to firms rose much more over the last three decades in Germany than in almost all other OECD countries especially compared to countries like the US or the Netherlands which have been much more successful concerning labor market performance (figure 8). This hardly reflects an equivalently higher trend growth rate of labor productivity in Germany considering that technological knowledge spreads quickly at least among OECD countries and also considering that recent international comparisons of education tests as PISA revealed that Germany is not in the top group in preparing well its young people for working life. This development must rather be attributed to higher wage cost pressure be it due to union wage demands or due to rising costs for financing an overly generous welfare state. Firms react of course to such high wage cost pressure among other things via increasing the capital intensity of production. This raises labor productivity on the firm level ex post but should not be construed to indicate that wage cost pressure was economically justified ex ante because

unemployment rises as well and aggregate labor productivity might even fall when, as would be appropriate, the unemployed are also taken into account in the denominator.

Figure 8: Real wage costs[1)] and volume of work[2)]



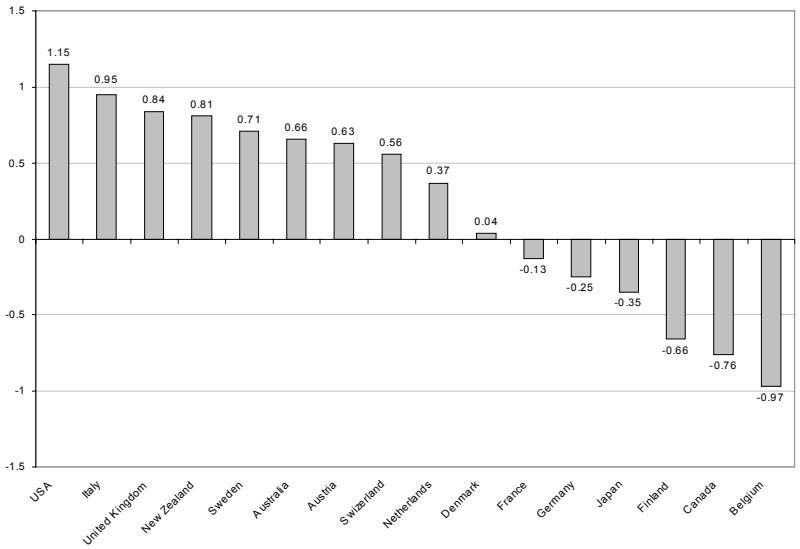
1) Manufacturing

2) All sectors

Source: Sinn (2002)

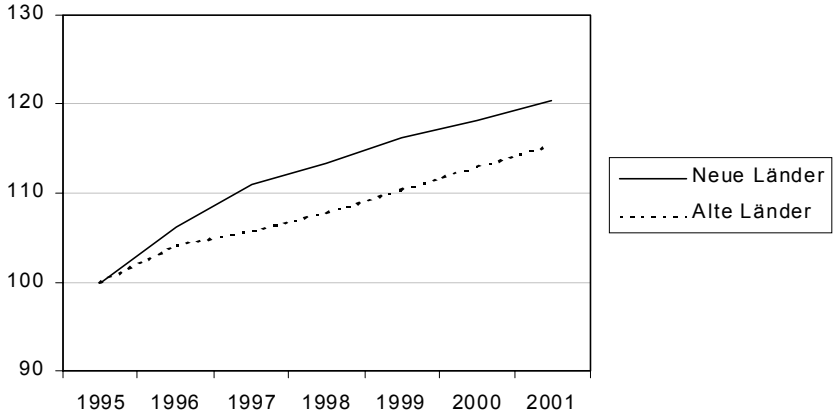
Germany is furthermore among the few OECD countries where wage differentiation according to qualification did not increase over the 1990s but actually decreased (figure 9). There has also been no noticeable increase in sectoral wage differentiation probably due to pattern bargaining of the different sectors of the economy making wage bargaining more centralized than strictly sectoral wage bargaining. Regional wage differentiation among the "Alte Länder" is negligible in firms which pay union wages. There is still some regional wage differentiation between the "Alte" and the "Neue Länder" usually in the order of ten percentage points. Unions are fighting hard to get rid of even this little regional wage differentiation which can be seen by wages growing faster in the "Neue Länder" (figure 10) even though employment in the "Neue Länder" is exhibiting a strong downward trend (figure 11). Especially public sector workers, who are completely sheltered from market forces, are pushing for rapid equalization of wages between the two regions as can be seen by the recent catalog of demands by the union Verdi which includes public sector workers in its constituency. If Verdi is successful it must be expected that this will then have repercussions on other sectors with the predictable result that unemployment will rise even further in the "Neue Länder" considering the vast gulf in labor productivity.

Figure 9: Change in wage differentiation (9th decile to 1st decile), 1985-1995



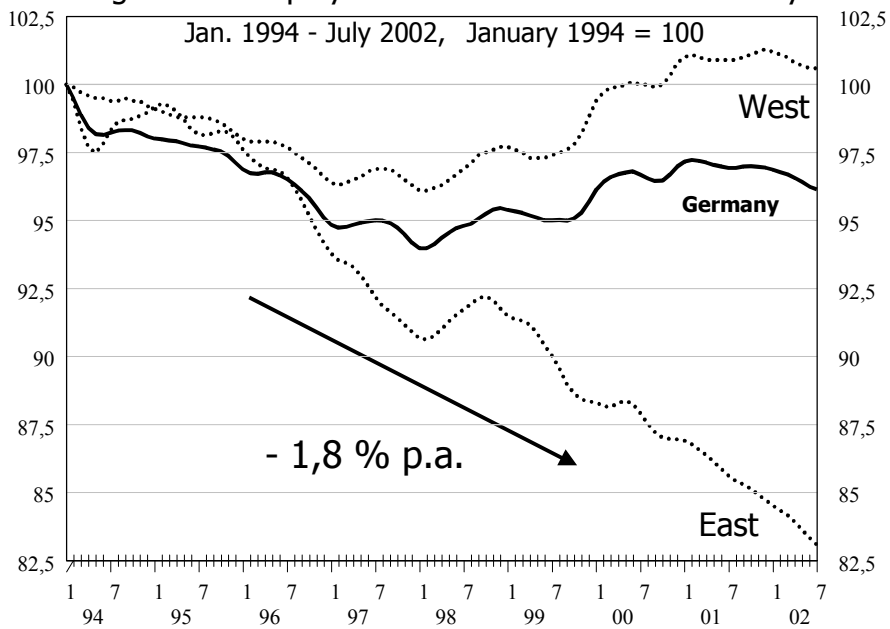
Source: Eichhorst, Profit and Thode (2001)

Figure 10: Wages in "Neue Länder" vs. Wages in "Alte Länder"



Source: Statistisches Bundesamt (2002), Index der tariflichen Stundenlöhne, 1995=100

Figure 11: Employment in West and East Germany



Legend: employees subject to social insurance contribution; seasonally adjusted; „West“ incl. West Berlin, „East“ incl. East Berlin. Source: Sinn (2002)

III. The Interaction of German Labor Market Institutions with Shocks

1. Which Shocks?

Wages, which are inappropriate from the perspective of attaining full employment, in all its different facets - excessive real wage cost pressure on firms, wage rigidities of all kinds, lack of wage differentiation, excessive reservation wages etc. – lead to rising structural unemployment. However, it is from a policy point of view crucial to find out which labor market institutions give rise to such inappropriate wages. Furthermore, a large number of investigations, e.g., by the OECD, concerning the evolution of labor market institutions in continental European countries and especially Germany show that there has in fact been very little change in labor market institions in the course of the last decades. There has been above all institutional continuity. The UK with its substantial labor market reforms in the Thatcher era is the exception rather than the rule. Hence, there must have been major economic shocks in this time period which conflict with, e.g., the German instititional setting on the labor market, thus causing inappropriate wages and in the end rising unemployment. There are at least five major candidates for such shocks.

First, there are the well-known and much cited oil price shocks of 1973 and 1979 which constituted negative aggregate supply shocks for a country like Germany. Total factor along with labor productivity growth slowed down in the wake of these oil price shocks thus reducing the scope for real wage increases without employment losses or even required real wage cuts. Countries with labor market institutions which give rise to sticky real wage aspirations and real wage rigidities were bound to experience lasting increases in unemployment rates as a result.

Second, the Fed in the US under Paul Volcker, the German Bundesbank as well as monetary authorities in a number of other OECD countries shifted course in their monetary policy stance in the early eighties making the fight against inflation their top priority. As inflation only decreased gradually over time, though, it was not possible to reverse this negative demand shock quickly enough to prevent hysteresis mechanisms from setting in. Hence, the scope for employment neutral real wage increases was further reduced. Subsequently, there occurred in fact a lasting rise in real interest rates in the eighties which made it in addition necessary that unions accepted a falling labor share. Unemployment increased if labor market institutions were such that workers resisted this change in relative factor rewards.

Third, substantial shifts in the structure of labor demand took place over the eighties and nineties which increased the importance of flexible wage structures. Labor market institutions which tend to make wage structures rigid and tend to compress wage differentials have thus become more costly in terms of unemployment. Labor demand has been shifting not only from the industrial to the service sector but firms have also been increasing their qualificational requirements when hiring employees. Both movements are closely linked to the ongoing process of globalization and to labor saving technical progress. Germany was furthermore hit by a particularly severe shock concerning the regional structure of labor demand, i.e., by reunification. Due to the disastrous economic policies during the socialist era in the GDR, labor demand by firms relative to working age population was and actually continues to be much lower in the "Neue Länder" relative to the "Alte Länder". Labor market institutions such as centralized wage negotiations which tend to compress regional wage differentials have therefore become particularly problematic for Germany.

Fourth, the economic environment appears to have become more volatile over the eighties and nineties with an increasing likelihood of firm-specific shocks. This is also reflected in the

well-documented fact of a rising instability of workers' earnings and a falling ability of firms to offer their employees lifetime employment (Gottschalk and Moffitt, 1994). There has in particular been a large increase in both the permanent and transitory components of earning variation leading to a rise in cross-section earnings inequality in the US with its relatively unregulated labor market. In addition, the earnings losses of workers who have involuntarily separated from their jobs have also increased documenting a reduced transferability of human capital across firms. Labor market institutions which conflict with this greater microeconomic turbulence give rise to increasing unemployment.[3]

Fifth, the nineties witnessed the arrival of the so-called new economy which many observers classify as a new "Kondratieff Cycle" based on the IT revolution, the internet and the rising importance of such sectors as biotechnology, telecommunication and knowledged-based industries in general. The new economy not only reinforced the trend toward greater economic turbulence but it also further raised the importance of human capital in a broad sense including especially verbal, cognitive and communication skills, proficiency in working with computers as well as versatility in performing different tasks and in working in teams. Interestingly, soft skills which are harder to prove via certificates gained in weight relative to hard skills thus producing a potential conflict with labor market institutions which enforce wage equality across individuals belonging to certain categories based on certificates and tenure. In a nutshell, this is an era of creative destruction with greater risks but also potentially larger returns, destroying the old ways of producing and trading but also creating vast new opportunities for entrepreneurial success. Hallmark features of this new economy are heterogeneity, diversity, variability and the importance of risk taking. This new economy raises the costs in terms of output and employment losses of excessive systems of social insurance and of clinging to the status quo. Hence, the whole institutional setting, including labor market institutions, must promote entrepreneurial risk taking and economic change in order to not clash with the challenges created by the new economy.

[3] See Bertola and Ichino (1995), Ljungqvist and Sargent (2002) and Wasmer (2002).

2. Which Labor Market Institutions?

German labor market institutions are heavily criticized these days for being outdated and for being far too rigid. In fact, in its ranking of both OECD countries and emerging countries concerning labor market flexibility the Fraser Institute puts Germany in the last place thus stating that Germany has the dubious honor of having the most rigid labor market among all the 58 countries looked at (Gwartney and Lawson 2001). Although it is of course debatable whether this particular position in the ranking is in fact justified, the general message is clear enough and beyond doubt: Germany's rigid labor market institutions are stifling GDP and employment growth. In the following, three key labor market institutions are put under closer scrutiny, insurance and transfer payments to the unemployed, centralization of wage bargaining and employment protection legislation.

a. Insurance and transfer payments to the unemployed

In international comparative studies it is shown again and again that the generosity of insurance and transfer payments to the unemployed is a key determinant for the extent and duration of unemployment in a country.[4] The longer benefits are paid, the higher these benefits are and the less restrictive the criteria are that govern what is expected of an unemployed person in order to be granted these benefits, the higher is the level of unemployment and in particular of long-term unemployment. The economic mechanisms behind this result are so evident that they need not be spelled out here in detail once again. It is essentially the case that if you reward people for doing nothing, you will obtain a lot of people doing nothing so they "qualify" for the reward.

First of all it simply leads to a reduction in the search intensity of the unemployed and subsequently to a drop in their probability of being hired. In addition to that the wedge of taxes and insurance contributions that lies between the gross wage costs for firms and the net wage which workers receive broadens with the subsequent higher costs of the welfare state. The incentives shift towards non-employment and irregular employment. The inevitable consequence is a more aggressive wage bargaining behavior on the part of trade unions, which of course focus on the net wage that their members actually receive, with

[4] See,e.g., Hunt (1995), Nickell (1997) and Bertola, Blau and Kahn (2001).

corresponding employment losses. Another reason for this result is, however, that trade unions and firms know that excessive wage increases and rash dismissals entail less serious consequences for those workers who are made redundant as a result. After all they fall into a generously structured welfare-state net that guarantees them a considerable part of the net income they last earned. Due to unemployment assistance, this is actually the case in Germany for an unlimited time. Unions and employer associations can externalize substantial parts of their inappropriate wage setting behavior on society at large and on future generations in such an institutional environment. The generosity of the German welfare-state net thus induces a number of changes in behavior which are detrimental to employment, it causes so-called "moral hazard" problems (table 5).

Table 5: Summary of unemployment insurance and unemployment assistance in Germany

	Field of application	Employment conditions	Rate of benefit	Duration
Unemployment insurance	all employees	12 months insurance during the last 3 years	with children: 67%, without children 60% (of average weekly wage for the last 52 weeks)	6-32 months, proportional to periods of compulsory insurance coverage and age a)
Unemployment assistance	all employees	person received unemployment insurance benefit during the last year or must be in need	with children 57%, without children 53% of net earnings	unlimited

a) Benefit duration (BD) in months (PIPC=Periods of complusory insurance coverage)

PIPC	12	16	20	24	28	32	36	40	44	48	52	56	60	64
AGE	-	-	-	-	45	45	45	47	47	52	52	57	57	57
BD	6	8	10	12	14	16	18	20	22	24	26	28	30	32

Source: CESifo DICE (2002)

However, especially in Germany there have only been relatively minor changes in the generosity of the unemployment benefit system over time (Fehn, 1997). The system was already relatively generous in the heydays of the "Soziale Marktwirtschaft". Most important is the substantial extension of the maximum benefit duration for older workers which took place in the mid 1980s. Workers aged 57 and older are now allowed to draw unemployment benefits for up to 32 months. This measure along with the introduction of relatively lax rules for early retirement were supposed to smooth the process of structural change and to facilitate the substitution of older by workers by young ones. The predictable result is a very low participation rate of workers aged between 55 and 65 which is a heavy burden for the social

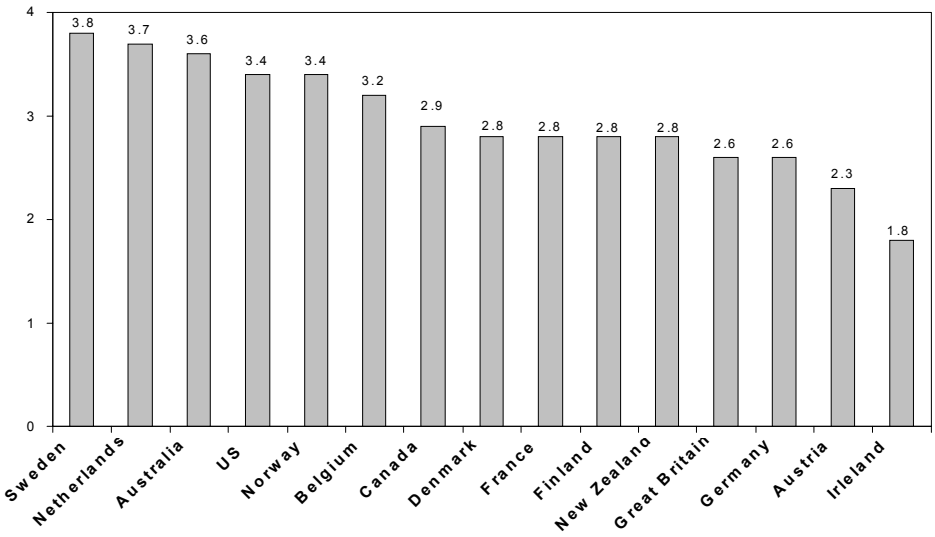
security system and which is unsustainable in view of the low fertility rate and of the shrinking population in Germany.

Furthermore, it is not difficult to recognize why an overall relatively stable but generous system has become more damaging over the last thirty years. All of the above-described shocks cause people to be laid off against their will. Since a generous welfare-state net for the unemployed induces real wage rigidities to increase, more workers will be fired for a given size of any of these shocks. Furthermore, the resulting rise in unemployment will be longer lasting or possibly part of the rise will even be indefinite in such an institutional environment due to the reduced job finding rate of the unemployed. The outsider effect, which is the stronger the more generous is the welfare-state net for the unemployed, leads to persistence or even hysteresis of the unemployment rate and raises the particularly problematic long-term unemployment rate. An especially striking case are industrial workers who are laid off due to this secular structural change described above and who have as a rule earned relatively high real wages due to high union strength and high capital intensity of production in the industrial sector. It becomes very unattractive for them to accept a job in the expanding, but in their qualification range low paying service sector if benefit and transfer payments are forever linked to their previous net wage. Yet, this is exactly the case in Germany because not only unemployment benefits but also unemployment assistance, which is paid without time limit, guarantees them more than fifty percent of the last previous net wage.

From an employment perspective, Germany does badly in international comparisons with regard to the institutional setup of insurance and transfer payments to the unemployed. Above all, there is no individual choice whatsoever concerning the size and structure of the insurance package so that individual preferences and possible ability for self insurance are completely neglected thus ensuring that the system is inefficient. This inefficiency is reinforced by an almost 100% marginal tax rate in transition from receiving benefits to working on the regular labor market. Apart from some minor allowances every Euro earned on the regular labor market leads to an equivalent reduction in insurance or transfer payments to this person so that work incentives for low to medium qualified people are systematically destroyed. This is especially the case in view of the fact that jobs in this qualification range usually involve a substantial disutility of work in possible contrast to high qualified jobs and when considering

that recipients of insurance and transfer payments have de facto no obligation to work.[5] The benefits are not only relatively high, but they are above all paid for a very long time, basically for an unlimited period, and the criteria which type of jobs an unemployed person is expected to accept are rather lax, with the result that the incentives to work are again weakened (figure 12). These criteria were made slightly stricter during the last phase of the Kohl government, e.g., the maximum commuting time that can be expected from an unemployed, who is drawing benefits, for a working day of more than six hours was extended from 150 to 180 minutes. The Schröder government, however, immediately cancelled this slight tightening of the criteria again and even abolished entirely the obligation to report regularly to the employment office.

Figure 12: Strictness of eligibility criteria for unemployment insurance



Source: Eichhorst, Profit and Thode (2001)

Even workers who are seeking full-time employment are still not expected to move to a different region of Germany regardless of how long they have been searching unsuccessfully for a new job in their region. It can therefore not come as a surprise that the mobility of German workers can only be described as low compared for example with that of their American colleagues which is especially problematic due to the high regional concentration

[5] This is de iure not the case for recipients of unemployment assistance or of social assistance whom the local communities are legally allowed to ask to do community work or to participate in qualification programs. In case of rejection or of simply not showing up, the community is allowed to cut payments or even to stop payments altogether in case of repeated non-compliance. However, up to now local communities appear to be relatively reluctant to use this instrument for controlling the actual willingness to work of recipients of transfer payments.

of unemployment in Germany (Decressin and Fatas, 1994). What has also not yet been touched upon despite recent discussions is the duration of benefits for the unemployed. The payment of unemployment benefits, lasting for up to 32 months for older workers, is already very long by international comparison. But in Germany this is followed by the unlimited payment of unemployment assistance, which is also linked to the previous net wage even though unemployment assistance is entirely tax financed so that it is not part of the insurance package. It is therefore more than evident that the German system of insurance and transfer payments to the unemployed urgently needs to be reformed.

1) Individual unemployment insurance accounts: There are two key elements for reducing the serious "moral hazard" problems associated with unemployment insurance. They are a far stronger emphasis on the actuarial principle of equivalence and on property rights in unemployment insurance. The radical measure - privatising unemployment insurance in order to achieve these aims - is, however, not implementable so easily. As long as the government guarantees a socio-cultural subsistence level, workers will not voluntarily insure themselves adequately against the risk of becoming unemployed. Since especially a country that is bound to the concept of the "social market economy" does not allow the individual to fall into a bottomless abyss, there is not enough personal interest in making voluntarily sufficient insurance provisions. Furthermore, it is also doubtful whether private unemployment insurances would have the necessary stability at all during macroeconomic disturbances. Unemployment constitutes a risk that is not insurable or only insurable with difficulty because the risks are highly correlated in the case of macroeconomic shocks. Private unemployment insurances are in danger of collapsing as long as they do not manage to pool the risk of unemployment with other risks which are statistically independent. It is not sufficient for private unemployment insurances to act internationally because macro-shocks such as oil price shocks or turbulences on financial markets often affect numerous countries simultaneously and cyclical swings these days seem to be passed on between the highly developed industrial countries rather more markedly than they used to be. Finally, private insurers would also try to pursue a strategy of only insuring good risks, with the result that bad risks would have to pay prohibitively high contribution rates.

Setting up of individual unemployment insurance accounts within the framework of the government-run unemployment insurance however constitutes a feasible step into the right direction. Employed workers could then stop paying contributions to the government-run

unemployment insurance on a voluntary basis as soon as they have paid into this account at least the amount which is equal to the worker's socio-cultural subsistence level multiplied by the duration of the unemployment benefits that he would be entitled to when becoming unemployed. After losing a job the worker should therefore not become a burden on social assistance during an otherwise existing entitlement to unemployment benefit. Whenever the balance on the unemployment insurance account were below this amount workers would have to pay contributions to the unemployment insurance. Workers would only have access to the account in the event of unemployment. If the balance of the account were positive at the time of retirement, the respective workers would be entitled to receiving this amount from the government plus interest. The interest rate could be based on, e.g., ten-year government bonds. The current state pseudo-insurance would therefore become an insurance with considerably reinforced property rights and a savings function.

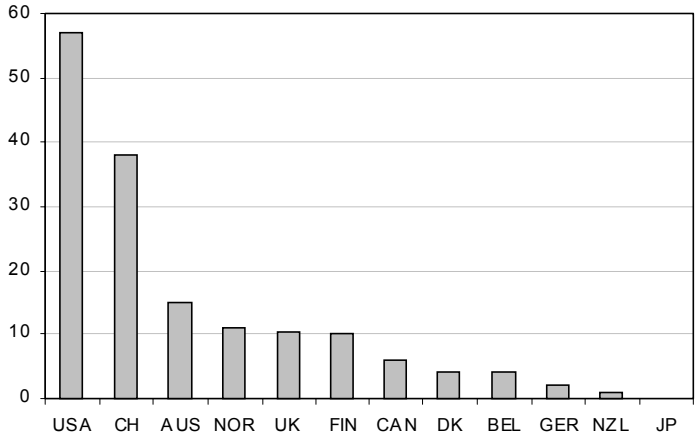
Such a construction would have the advantage that workers would fall back on their own money in the event of becoming unemployed, so that the aforementioned "moral hazard" problems would be reduced. The unemployed would look more intensively for a job because every additional day spent in unemployment would have to be paid out of their own pocket. Moreover, for the same reason trade unions with excessive wage demands and firms making rash redundancies would have to expect substantially more resistance from workers. Finally, administrative costs in labor offices would be saved because the voluntary search intensity of the unemployed would be raised by the improved incentive structures The supervision and spoon-feeding of all unemployed people which is necessary in today's system could be stopped or at least substantially reduced for most of the unemployed.

2) Structural reforms of the current unemployment insurance system: In addition to setting up individual unemployment insurance accounts, the maximum duration of receipt of unemployment benefits should be substantially reduced, for instance to one year, so that entitlement to unemployment benefit ceases with the transition into long-term unemployment. Not only long benefit duration but also high replacement rates aggravate "moral hazard" problems. Here, too, the incentives should be set in such a way that unemployment and dismissals are avoided as far as possible without losing sight of the insurance aspect. A general waiting period of, e.g., two months after dismissal of workers by firms before unemployment benefits can be received would help in this respect. There is already a similar waiting period when workers quit voluntarily but do not immediately find a new job. In order

to increase pressure to seriously look for a new job, unemployment benefits should, e.g., after six months of unemployment be gradually reduced to the level of social assistance, which should be reached after one year spent in unemployment.

Furthermore, the criteria which kind of job offers an unemployed person can reject without losing benefits should be made more restrictive. It seems especially necessary given the high regional concentration of unemployment in Germany that unemployed persons looking for a full time job should become more mobile and should be prepared to move home after a certain duration of unemployment, for example after six months. The maximum commuting time should be increased again to 180 minutes. Furthermore, an unemployed person looking for a full time job should lose his entitlement to unemployment benefits after drawing it for, e.g., six months if he only turns down jobs offers because of the need to commute more than 180 minutes per day to reach the place of work. Finally, German labor offices are still relatively lax in controlling whether the unemployed are actually searching intensively for a new job. This is reflected in the by international comparison low rate of labor offices in Germany interrupting the payment of benefits to the unemployed because they are not trying hard enough to obtain a new job (figure 13). Given that exit rates from unemployment are not higher in Germany than elsewhere it must be doubted that this low penalty rate in Germany is due to the German unemployed searching more intensively for a new job than their foreign counterparts.

Figure 13: Suspension of unemployment insurance payments



Remark: anually imposed suspensions in % of average amount of payment recipients

Possible reasons: lack of search, refusal to participate in active labor market policies, refusal of job offer, non-compliance with administrative rules

Source: Eichhorst, Profit and Thode (2001)

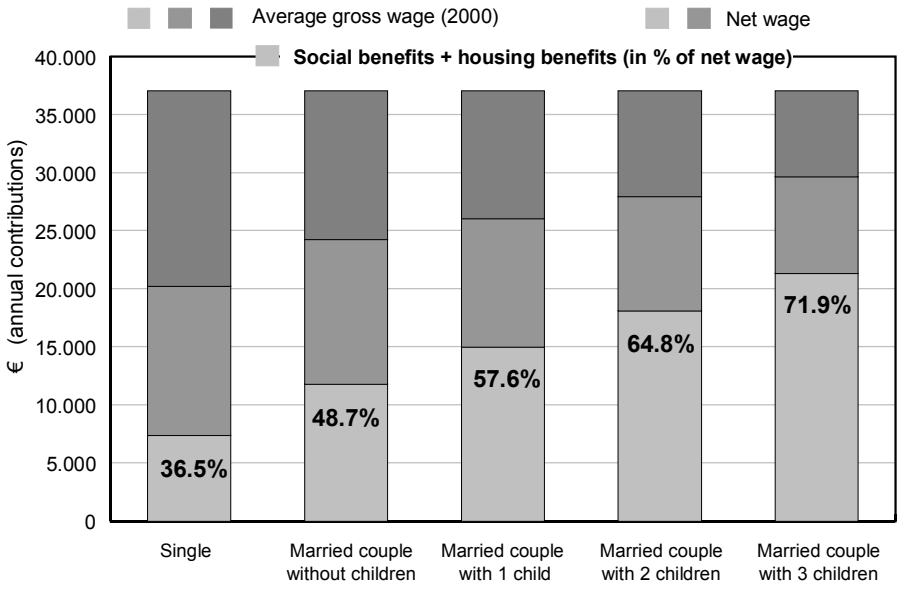
3) Abolition of unemployment assistance: The peculiarly German system of unemployment assistance is deeply flawed from the perspective of reintegrating the unemployed as quickly as possible into the regular labor market. It is not financed from insurance contributions, but it is rather completely financed by the federal government. People are led to believe, however, that they have an entitlement to insurance since benefits are nonetheless linked to the last earned net income and since benefits are only being seven to ten percentage points below unemployment insurance depending on family status. In spite of a means test, it is therefore often the case that unemployment assistance substantially exceeds social assistance which should not be the case, though, because unemployment assistance is not part of the insurance package. Even more problematic is the additional factor that unemployment assistance is paid for an unlimited time thus promoting long-term unemployment. Considerung that local authorities should share with labor offices the responsibility for reintegrating the long-term unemployed into the regular labor market, it is in addition extremely problematic that unemployment assistance is financed out of the national tax coffers. The funding of the benefits and the responsibility for reintegration should be in the same hands in order to avoid distorted incentives. A high rate of success in the reintegration efforts must also be reflected in an immediate financial advantage for the relevant institution. To sum up, unemployment assistance should be abolished altogether. Anyone who has still not found a job when unemployment benefits expire after, e.g., one year of unemployment, is not an insurance case anymore but rather a social hardship case. Those affected should be made aware of this fact thus urging them to increase their job-search efforts. Of course, if they are needy, the people concerned should also receive social assistance like anyone else.

4) Stronger work incentives for recipients of social assistance: If unemployment assistance is abolished and the maximum duration of unemployment benefits is reduced at the same time, then the question arises as to what should happen to the unemployed people who still have not found a new job even after their unemployment benefit entitlement has expired. First of all it is clear that in a "social market economy" needy people who are either unable to work or clearly willing to work but cannot find a job are then entitled to social assistance. But this results once again in "moral hazard" problems. Above all, unemployed people have the advantage over people in regular employment of having far more free time at their disposal creating in particular the opportunity to earn money in addition to social assistance on the black market. For some time now, the wage-gap principle for families in the lower income bracket is no longer fulfilled. Families in which only one parent is working in the lower

income segment are only slightly better off financially than similar families which are financed by social assistance and in which nobody is working on a regular job. This is especially the case in the "Neue Länder" (figures 14 & 15).

Figure 14: Social assistance relative to avg. wage in West Germany

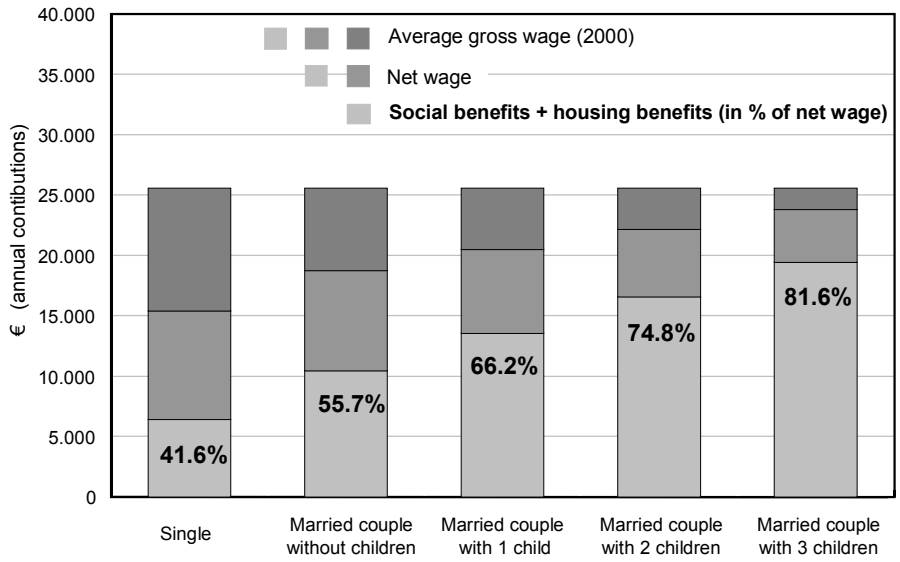
Employees in manufacturing, trade, banking and insurance sector



Source: Sinn (2002)

Figure 15: Social assistance relative to avg. wage in East Germany

Employees in manufacturing, trade, banking and insurance sector



Source: Sinn (2002)

It is therefore necessary to distinguish between two groups of people, those who are in principle able to work and those who are not, e.g., because they are handicapped or because they have to care for household members such as small children or elderly people. This latter group of people should continue to receive the current level of social assistance. In contrast, the standard rate of social assistance for long-term unemployed who are in principle able to work should be substantially cut to increase the incentive to work on the regular labor market, e.g., to 75% of the current level. In addition, an earned income tax credit system along the lines of the system in the US should then be put on top of this reduced social assistance level to even further strengthen work incentives and the incentive for unions to install a low wage sector.[6] The reduction of the standard rate of social assistance makes it possible to finance the earned income tax credit system. At current levels of social assistance, this would be infeasible. Hence, if a recipient of social assistance enters into a regular job, he would get a supplement from the government which first increases with his own earnings (phase in area) and is then, after a politically defined maximum of supplementary government money is reached, gradually reduced (phase out area). This would be a radically different approach from the current folly system in which apart from a minor allowance all money earned in addition to social assistance triggers a one to one reduction in social assistance payments. The current system completely destroys work incentives especially of the less qualified long-term unemployed people due to the hundred percent effective marginal tax rate in transition from receiving social assistance to working as a low qualified worker on the regular labor market.

However, even under such a system with much strengthened work incentives not all recipients of social assistance who are able and willing to work will be able to find jobs on the regular labor market. To pay them only a substantially reduced social assistance level is bound to be considered unconstitutional in a "social market economy", assuming that the current level of social assistance is indeed equivalent to the so-called "socio cultural subsistence level" at which recipients are just able to participate "adequately" in the life of society. Such recipients of social assistance should be offered job-creation and/or qualification measures by the particular local authorities in which they would earn the equivalent of the current level of social assistance for a full-time activity. This can by all means also be menial work such as cleaning streets and playgrounds or removing snow in wintertime from sidewalks since the

[6] For a detailed description of a proposal along those lines, see Sinn et al. (2002).

disutility of work should not be smaller compared to a regular job. People participating in such measures organized by the local authorities should not be entitled to receiving unemployment benefits afterwards in order to avoid carousel effects. Hence, there would be a very strong incentive to accept a job in the regular labor market which would always lead to much higher effective earnings per hour worked compared to the programs offered by the local authorities due to the earned income tax credit system which is put on top of the reformed social assistance for regular work.

Such a rigorous policy of give and take in the system of transfer payments to the long-term unemployed would have the advantage that it would substantially reduce the opportunity to exploit the welfare state and to work on the black market as a recipient of transfer payments thus increasing once again the general acceptance of supporting the needy in the public at large. Furthermore, this reform in the direction of workfare would reduce the problem that the way social assistance is currently arranged it constitutes an absolute lower limit for the net wage at which unemployed recipients of social assistance are prepared to accept a regular job and for collective wage agreements between unions and employer associations. This highly problematic threshold is a first-degree job killer on the regular labor market especially in the "Neue Länder" and with respect to families with several children and only one potential bread winner with below average qualification.

b. Centralization of wage bargaining

The new economy and also more competitive and globalized capital markets induce firms to specialize more on their core competencies. This greater specialization across firms stands in marked contrast to the shrinking degree of specialization of workers within firms. Hence, while it was still common two decades ago that firms diversified and workers specialized, almost the reverse is true nowadays. Multi-tasking and the breakdown of occupational barriers brought about by the new economy along with the accompanying organizational revolution amount to a reversal of a trend in which productivity improvements are achieved via an increased specialization of workers within firms. The beginning of this trend toward greater specialization within firms dates back as far as to the first industrial revolution and was already described extensively by A. Smith in his seminal writings. However, this fundamental change in the organizational structure of firms has far-reaching consequences for the

appropriateness of different wage-bargaining systems. In a nutshell, centralized systems of wage bargaining, which cede relatively little room to firms for maneuvering with respect to wages in order to mitigate incentive and efficiency wage problems, are becoming more and more inefficient. They prevent firms from offering their employees adequate incentives to perform the appropriate mix of tasks, thus reducing their profit opportunities and investment incentives. Allowing much greater wage drift is not a solution as this undermines the system and is therefore not acceptable to central wage setters (Lindbeck and Snower, 1997).

Centralized wage bargaining has for a long time been praised by many economists as a system which allows the internalization of various externalities, in particular with respect to inflationary pressures and with respect to unemployment insurance.[7] It is the core principle of any system of centralized wage bargaining that the same wage should be paid for the same job irrespective of the individual economic situation of the firm in which the job is performed. This hallmark of centralized wage bargaining, "equal pay for equal work", crucially depends on workers with similar educational background, experience and profiles having similar productivities even if they perform different tasks. There even exist two efficiency arguments in its favor. It supposedly helps profitable firms to grow faster and destroys more quickly firms whose efficiency is below average thus possibly promoting structural change in case workers are highly mobile. Furthermore, the possibilities for inefficient rent sharing on the firm level due to insiders holding up firms are reduced by centralized wage bargaining systems.

However, workers especially in Germany are not so mobile. In addition, the more heterogeneous a country is, the more problematic is this principle of "equal pay for equal work" because seemingly similar workers are then more likely to make very different contributions to the output of their respective firms, e.g., due to different production methods, capital intensities or level of infrastructure in their respective regions. This is especially the case in Germany since reunification, which made Germany much more heterogeneous and no longer comparable at all to countries like the Netherlands or Sweden. Germany has become a little bit more like the US, i.e., a large country with very different levels of regional economic development. Yet hardly anybody would ever suggest that a system of centralized wage bargaining would be beneficial for a country as heterogeneous as the US. The folly policy of

[7] See Calmfors and Driffill (1988) and Calmfors (1993).

rapid wage equalization, which by far outpaced the catch up of labor productivity in the "Neue Länder", necessarily had disastrous consequences for labor market performance first of all in the "Neue Länder, but via higher social security contributions and taxes to finance the rising pool of unemployed in the "Neue Länder" eventually also in the "Alte Länder".

Several countries decentralized their systems of wage bargaining during the 1980s and 1990s.[8] The new economy with its organizational revolution and the accompanying move from Fordism to post-Fordism provides a powerful economic rationale for this international pattern of institutional change. Central wage setters have little choice but to set wages schematically and to fix one wage or a narrow range of wages for every broadly defined group of tasks. However, the new economy and multi-tasking make this practice inherently inefficient, since the productivity of a particular worker depends even less than in former times only on his formal qualification for this one task but also on the other tasks which he is performing and, in addition, to a great extent on his soft skills. Workers, even if they have similar formal profiles, are unlikely to perform the same set of complementary tasks at different holistic firms. Overall productivity of such seemingly similar workers along with their incentive problems must be expected to differ across firms in a post-Fordist environment.[9] Since people within any particular education, occupation and job tenure group are likely to vary considerably in terms of their social competence, cognitive skills, judgment and ability to perform multiple tasks, wage dispersion even among people with similar formal qualifications needs to increase with the new economy and the accompanying IT and organizational revolution.

To give a simple example, if wages are set on the central level according to the productivity of versatile workers who can make great use of task complementarities, workers who are not able to do so are likely to end up being unemployed. Hence, centralized wage bargaining systems impose a growing efficiency cost on OECD countries by artificially compressing the wage distribution (Davis and Henrekson, 2000). Allowing greater wage drift is not a sustainable solution because this would slowly undermine the operability of the central wage-bargaining system. The new economy along with skill-biased technological progress improve the outside option of workers with the skills demanded by firms, thus reducing their incentive to stay within a union or to join a union in the first place. The result is the observable decline

[8] See Freeman and Gibbons (1993) and Berthold and Fehn (1996).
[9] See Ramaswamy and Rowthorn (1993) and Lindbeck and Snower (1997).

of union membership across OECD countries, which is the basis for any centralized wage bargaining system, and in the end a greater wage differentiation (Acemoglu, Aghion and Violante, 2001).

Labor is becoming more heterogeneous with the new economy and the ongoing process of rapid structural change. It is even less than in the past a single-purpose unit which is easily comparable across firms according to formal qualification, profile and seniority. The organizational revolution is furthermore likely to trigger a sharp increase in the number of occupational clusters relative to the traditional number of occupational categories. This makes it even more difficult than in the past for centralized wage bargaining parties to establish broad occupational categories within which wage uniformity could be imposed without great efficiency losses. In addition, the dissolution of functional departments in favor of small customer-oriented teams and in favor of profit centers, which produce highly differentiated products, is also increasing the heterogeneity of task clusters across firms, thus further complicating life for central wage bargaining parties.

It is hardly conceivable that the principle of "equal pay for equal work", which is the hallmark of any centralized wage bargaining system, could be amended by redefining work along holistic lines. The dramatic rise in the heterogeneity of workers' skills which matter, of tasks and of task complementarities even within a particular industry would require that central wage bargaining parties dispose over vast amounts of information which is furthermore very quickly obsolete. This up to date information conglomerate is just as unlikely to be available to central wage bargaining parties as full information about production technologies, customer demands etc. was to traditional communist central planners. Labor markets are becoming more like product markets with respect to heterogeneity. In short, asymmetric information problems between firms and workers on the one hand and centralized wage bargaining parties on the other hand have risen thus reducing the optimal degree of centralization of wage bargaining.

It seems reasonable to conjecture that the international trend over the last two decades toward more decentralized wage bargaining, e. g., in the US, the UK, Australia, New Zealand, the Scandinavian countries or Italy, is at least partly related to this set of reasons, because the described efficiency costs in the end amount to foregone opportunities for GNP and employment growth (Lindbeck and Snower, 1997). This assessment fits with the observation

that new economy firms and in fact small firms in general do usually not join employer associations and centralized wage bargaining arrangements and often even offer remuneration packages to their employees which contain profit sharing components and/or stock options of their firms in order to mitigate the growing incentive and efficiency wage problems. Such remuneration packages have great advantages for new economy firms. First, wage pressure is reduced and payroll costs become more flexible. Second, they foster more decentralized decision making and make it easier to split firms up into profit centers. Hence, from this perspective the new economy promotes the creation of a share economy thus blurring the historic division between capital and labor (Freeman, 2000).

Germany lags behind in the international trend toward more decentralized wage bargaining which boils down to some kind of profit sharing even without explicitly linking wages to profits of their firms. This is the case because wages negotiated at the firm level always also depend on the profitability of the specific firm. The slow pace of institutional change especially in Germany in this respect is all the more surprising because of the aforementioned fact that reunification raised the efficiency costs of a relatively centralized wage bargaining system in particular in this country thus making structural reforms in favor of more decentralized wage setting even more urgent than in other OECD countries. Reform resistance by entrenched interest groups therefore appears to be especially high in Germany. However, it is well known that a sizable number of firms in the German "Neue Länder" do not pay according to industry-wide wage agreements even though they belong to the employers' association, but this kind of behavior is clearly illegal and only continues because such firms have not yet been sued in court. Nonetheless, in the end the gulf between official centralized wage agreements and economic reality in the "Neue Länder" might help to break apart the bargaining cartel, which was unfortunately imposed by the "Alte Länder" on the "Neue Länder" after reunification.

If unions, employer associations and the government would like to avoid an uncontrolled collapse of the current institutional setting, it is advisable to preemptively make centralized wage agreements more flexible and to cede greater decision-making power to the firm level. Most important, wage negotiations and agreements on the firm level, e.g. between management and works councils, should in contrast to the current legal situation be legalized and in fact be given priority if a qualified majority of the firm's workers like 75% agrees to differ from the central wage agreement. In case wage negotiations on the firm level fail, the

central wage agreement could continue to serve as the fall back position. It should furthermore be clarified in the respective labor laws that wage concessions on the firm level relative to the centralized bargaining agreement can be beneficial to workers if jobs are thereby preserved. The current prevailing legal interpretation states that only higher wages can be better for workers thus completely neglecting the fact that there is a trade-off between the real cost of labor and the number of jobs. Finally, the legal possibility for the government to declare sectoral wage agreements between unions and employer associations as generally binding for all firms of an industry, even those which do not belong to the particular employers' association like in the construction sector, should be abolished once and for all since it violates fundamental principles of a market economy and since it destroys rather than creates jobs (Berthold and Fehn, 2002).

If these urgent steps turn out to be politically infeasible right away, there are some inferior alternatives which are more in line with the current system. First, central wage agreements should only fix a corridor for wage changes within in the industry with the specific number to be determined on the firm level. Second, central wage agreements should contain a provision that part of the fixed wage change is allowed to be substituted by a profit sharing component by mutual consent on the firm level. Third, central wage agreements should always contain special wage clauses for disadvantaged groups of the labor market like the long-term unemployed or elderly workers. In sum, all institutional arrangements and legal barriers in Germany which obstruct the path toward greater wage flexibility and wage differentiation according to local conditions should be put under very close scrutiny, since they are highly likely to contribute to the malaise on the German labor market especially under the conditions of the new economy and due to the changes brought about by reunification.

c. Employment protection legislation

Another important and controversial labor market institution which differs greatly across OECD countries is firing costs or employment protection legislation (EPL). EPL is in general considerably more restrictive in continental European countries than in Anglo-Saxon countries (table 6). In particular the US with its "employment at will" principle is usually ranked very low concerning firing costs. Within continental Europe, firing costs tend to be higher in Southern European countries compared to Northern European countries. Northern

European countries usually protect workers against negative shocks rather via relatively generous unemployment insurance and welfare assistance (Buti et al., 1998). Firing costs increased substantially in some continental European countries like Germany and France in the late 1960s and early 1970s and have roughly stayed on this higher level since then (Caballero and Hammour, 1997). It was one of the first measures of the Red-Green government in 1998, though, to extend the scope which firms are affected by EPL, i.e., that such legal restrictions already apply again to small firms with only five or more employees. The Kohl government had just raised this threshold to firms with ten employees or more during its last term.

Table 6: Indicators of the strictness of employment protection for regular employment

	Strictness of employment protection legislation	
	late 1980s	late 1990s
Germany	2.7	2.8
Netherlands	3.1	3.1
Switzerland	1.2	1.2
UK	0.8	0.8
Italy	2.8	2.8
Denmark	1.6	1.6
Finland	2.7	2.1
Sweden	2.8	2.8
United States	0.2	0.2
Australia	1.0	1.0
Japan	2.7	2.7
New Zealand	na	1.7

Source: Eichhorst, Profit and Thode (2001)

It is not obvious how EPL affects overall labor market performance because there are opposing effects at work. There exist several arguments why some EPL might be superior to the free market solution with no government-imposed EPL not only for reasons of equity but also on efficiency grounds (Bentilola and Bertola, 1990). First, EPL in the form of severance payments forces firms to internalize some of the costs which they impose on workers who are dismissed and on society at large. Second, EPL smoothes employment over the business cycle because firms will then be more reluctant to fire workers in recessions as this would make them incur firing costs which they might avoid by simply hoarding workers over the downturn. Third, EPL protects workers against arbitrary dismissals by firms thus possibly

creating a more trustful working relationship between firms and workers and making workers more willing to invest themselves into firm-specific human capital.

It can be argued on these grounds that continental European firms are specialized on activities which require long-term relationships between firms and their workers, trust and a lot of firm-specific human capital whereas US firms specialize on activities which basically require no human capital at all like hamburger flipping or on activities which require a high level of general human capital like software development or auditing/consulting. However, in such a case a more volatile economic environment along with faster structural change constitutes a greater problem for continental European countries. More jobs along with the employees' firm-specific human capital and rent-sharing component are destroyed and the resistance of workers against such dismissals can accordingly be expected to be fiercer in continental Europe as their outside options are worse. Whether or not German workers along with their continental European counterparts command over greater firm-specific human capital is in the end an empirical question. The empirical literature confirms the interpretation that firm-specific human capital plays a greater role in continental Europe with the associated problems under the current turbulent economic conditions (Wasmer, 2002).

Independent of economic conditions, there exist a couple of fundamental arguments which caution against raising EPL too much. First, EPL increases total labor costs thus reducing labor demand at given wage costs. It is sometimes argued that EPL is viewed as insurance against adverse shocks by workers and that wages will therefore fall in reaction to higher EPL as workers are willing to pay an insurance premium. However, this argument is not convincing in the context of EPL which is imposed by the government and not the result of negotiations between workers and their respective firm. In the latter case, a package deal might be struck between workers and firms explicitly involving lower wages in return for higher employment protection ceded by firms, e.g., in the form of severance payments. Once they are employed and insiders, workers have no reason whatsoever, though, to make such wage concessions if the government raises their bargaining power unilaterally via imposing higher EPL on firms. On the contrary, it must be expected that their wage demands will become more aggressive once they are hired and enjoy protection via EPL because their potential to appropriate firms after having been hired is raised (Caballero and Hammour, 1997). Insiders will not be dismissed by firms as long as wages do not exceed their marginal productivity plus firing costs (Lindbeck and Snower, 2002). The negative effect on labor

market performance is the greater, the larger is the long run elasticity of substitution between capital and labor. Recent empirical evidence pointing to a long run elasticity of substitution between capital and labor which exceeds the threshold value of one suggests that the negative effects in the long run of expanding EPL are considerably larger than hitherto assumed (Berthold, Fehn and Thode, 2002).

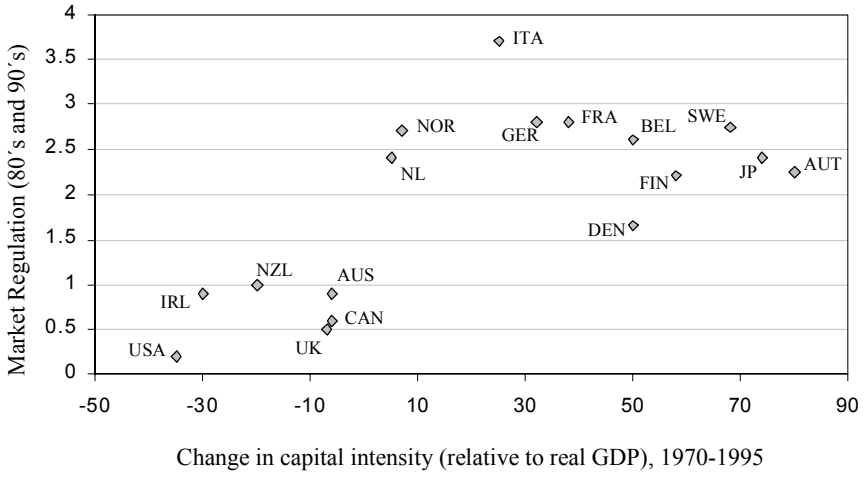
Second, EPL makes firms more reluctant to hire workers at given wage costs. Labor market flows in and out of unemployment are unambiguously reduced by EPL. While there is in theory no clear-cut effect on total unemployment from lower labor market flows, the reduced hiring rate due to EPL makes unemployment more persistent and raises long-term unemployment, which is especially problematic not only from an economic but also from a political point of view. Hence, once dismissed it is more difficult for workers in countries with high EPL to obtain a regular job compared to a laissez-faire country such as the US. EPL therefore increases the segmentation of the labor market into insiders and outsiders.[10]

In addition to these general arguments against EPL, which apply irrespective from economic conditions, the above-described transition to the new economy makes it likely that countries with relatively low EPL fare better nowadays with respect to labor market performance. EPL is especially bad for employment when big structural breaks occur such as is the case with the new economy because firms are then very reluctant to hire new workers while EPL cannot prevent dismissals in firms or sectors which are going down the drain anyway. Furthermore, economic conditions have become more volatile over the last about 15 years due to globalization and the transition to the new economy with shocks occurring more frequently and with shocks also being greater in size. However, such a development toward a less stable economic environment is not innocuous with respect to the effects of EPL on labor market performance. The negative effect of EPL on labor demand is greater in a volatile than in a tranquil economic environment and is especially harmful to firms which are largely financed via debt rather than via equity because labor becomes a quasi-fixed production factor with which firms cannot quickly adjust to changing economic conditions. Thus, quasi-equilibrium unemployment is raised if unions do not exercise sufficient wage restraint in return.[11]

[10] See Lindbeck and Snower (2002) and Saint-Paul (2002b).
[11] See Bertola and Ichino (1995) and Fehn (2002).

There are four additional arguments why EPL might be especially problematic in the context of the new economy. First, it can be shown that firms in high-EPL countries are induced to specialize on relatively secure goods at later stages in their product life cycles in order to avoid paying firing costs (Saint-Paul, 2002a). New and innovative goods with a high failure risk but which are essential for the transition to the new economy are first developed and produced in low-EPL countries such as the US and only move later on to high-EPL countries, such as Germany, which will then tend to refine their production via process innovations. Via this negative effect on innovative activity in a country like Germany, strict EPL reduces opportunities for GDP and employment growth and induces excessive growth of the capital intensity of production (figure 16).

Figure 16: Market regulation and capital intensity



Source: Eichhorst, Profit and Thode (2001)

Second, this negative effect of EPL on innovation and growth is reinforced by the fact that growth based on radical product innovations depends less on having experienced workers and managers but rather much more on selecting the right group of innovative people and on being able to lay off people without much hassle who have turned out to be incompetent. The importance of selection relative to experience rises when moving to the frontier of economic development thus making rigid EPL less efficient (Acemoglu, Aghion and Zilibotti, 2002).

Third, large-scale creation of new firms has been a hallmark of the new economy in the US. However, newly founded firms often face financial restrictions and a high rate of new firms

per period depends on a well-functioning venture capital market in order to circumvent as much as possible such financial restrictions. Venture capitalists in the form of business angels also often help their portfolio firms to survive the especially risky start-up period by counseling and advising them. Empirical studies show, though, that the growth of the venture capital market, which clearly helps a country to be a successful player in the new economy, depends greatly on labor market flexibility, so that countries with a rigid labor market due to high EPL have from this perspective a lower chance of benefiting from a positive new economy effect than countries with low EPL and a more flexible labor market.[12]

Fourth, lower firing costs would also fit well with the above-described desideratum of a more decentralized system of wage bargaining in the new economy and after reunification. It would help to prevent locally negotiated wages to be greatly affected by insider-outsider and rent-seeking considerations which is bound to occur if EPL is very strict and wages are negotiated on the firm level. Insider wage negotiating power on the firm level is strongly affected by EPL. Firm-level wage bargaining is therefore much more beneficial for employment growth if EPL is low to avoid rent appropriation by insiders as much as possible.

Considering though that there are countervailing effects of EPL on labor market performance, the direction and size of the net impact on the unemployment rate and, less so, on employment growth is after all an empirical question. There exist by now numerous cross-country studies concerning the effect of labor market institutions on unemployment.[13] EPL is often found to have an insignificant effect on the unemployment rate, and if the effect is significant, it usually raises the unemployment rate but with a rather small impact coefficient. Yet, most of these studies suffer three important shortcomings. First, the time period which is investigated often only extends up to the early 1990s so that most of the 1990s when the transition to new economy got under way is left out.[14] If the new economy matters, this restriction concerning the time period under investigation tends to bias the results in favor of EPL. Second, they either include only institutional variables concerning the labor market or supplement them merely with goods market variables. Capital market variables are as a rule completely left out. This might be an important shortcoming because it is reasonable to

[12] See Jeng and Wells (2000) and Fehn (2002).
[13] See e.g. Nickell (1997) and Blanchard and Wolfers (1999).
[14] Chen, Snower and Zoega (2002) find that the empirical effect of firing costs depends on the time period under investigation because firing costs do have especially adverse employment effects in periods of economic instability with many negative shocks and low growth rates.

assume that a well-functioning capital market, especially concerning venture capital, has become more important for labor market performance with the new economy. If these shortcomings are amended with the time period under consideration extending from 1986 to 1999 and with labor, goods and capital market variables included as explanatory variables, EPL does turn out to have a significant negative effect on labor market performance across OECD countries, raising the standardized unemployment rate and lowering employment growth with the negative effect on employment growth of EPL being more pronounced than the positive impact on the unemployment rate (Belke and Fehn, 2001).

In sum, lowering EPL would help to fight unemployment and to raise employment in the age of the new economy by facilitating hiring decisions of firms. Conversely, the policy of the current German government with respect to EPL must be regarded as deeply flawed if lowering unemployment is indeed one of the key policy objectives. Extending EPL also to small firms and restricting the possibilities for fixed-term labor contracts does not match with the requirements of the new economy. From the perspective of achieving employment growth, it would be best to completely substitute current EPL by a legal financial solution which is clear-cut and unambiguous. Firms, which need to lay off workers due to firm-specific reasons and not due to, say, misconduct of workers, would then be legally obliged to make severance payments to these workers, which would be linked concerning their size to the annual salary and tenure in the firm of the individual worker. Such a stratification and simplification of EPL would have the great advantage to create certainty with respect to the legal consequences of lay offs and to substantially reduce the role of labor courts which are notorious in Germany for their foot-dragging and for not considering the consequences of their jurisdiction for the economy at large as well as for employment creation. It would end the unfortunate current situation in Germany in which firms are now in fact playing a lottery with the court system (Heckman, 2002).

If such a radical solution concerning EPL turns out to be not immediately politically feasible due to heavy resistance by insiders and unions, it should at least be introduced for future hirings by firms and it should be much more clearly stated in the law when dismissals by firms are legal so that labor courts have less discretion in their rulings on disputes between firms and laid-off workers. The current insecure legal situation and the tendency of labor courts to interpret unclear cases in favor of workers greatly reduces the willingness of firms to hire new workers and to found firms in the first place in Germany.

IV. Moving from Investment- to Innovation-Based Growth

There is a widespread presumption that unemployment must be due to labor market rigidities and a generous welfare state. This is obviously not the case, though, in Keynesian type situations where unemployment is due to a lack of goods demand. Yet, structural unemployment of the continental European type may also not be solely due to labor market rigidities and a generous welfare state (Solow, 2000). It is straightforward to show within the standard labor market model for determining the quasi-equilibrium unemployment rate that structural unemployment rises in the long run with higher entry barriers for new firms. Such higher entry barriers for new firms lower the equilibrium number of firms, the elasticity of product demand for each incumbent firm along with its output and thus raise the markup of incumbent firms on production costs. Monopoly rents are higher thus inducing more aggressive wage negotiation behavior by insiders who seek to acquire part of the rents. All effects taken together result in an unambiguously higher quasi-equilibrium rate of unemployment (Blanchard and Giavazzi, 2001).

Labor market rigidities and an ill-designed welfare state play of course an important role especially in Germany in explaining the ongoing malaise on the labor market as has been pointed out in the previous section. However, it is crucial to recognize that Germany is in fact stuck in a web of rigidities which essentially involves all markets. Institutions are designed in such a way that not only insiders on the labor market are privileged, but incumbents are given substantial legal prerogatives essentially on all markets including in particular the product and the capital market. The housing market is another leading example which stifles the mobility of workers due to its substantial prerogatives for incumbents. Competition by outsiders is systematically thwarted across markets by law and by non-legal institutional settings in order to induce "stability" and "long-term relationships". This might have been a successful institutional setting in the past when Germany was behind in terms of economic development and could therefore count on catch-up growth and the adoption of technologies which were invented by countries at the frontier of economic development such as the US. However, this strategy of "investment-based growth" reached its limits some time ago and the post-war period with little importance of investing into R&D, of orchestrating radical product

innovations and of being among the leading countries in moving to new sectors is basically finished for Germany. In order to be successful in the future, Germany just like Japan has to adapt its institutional setting in such a way that the switch to "innovation-based growth" is made possible (Acemoglu, Aghion and Zilibotti, 2002). This involves much more competition, i.e., lower entry barriers for outsiders on all markets, greater selectivity of managers, more risk taking, greater failure rates of firms, more mobility, less government involvement in market activities, less invidivual income stability over time and greater income differentiation between individuals. Hence, nothing less than a cultural revolution is called for in Germany. Resistance by entrenched insiders on all markets, who have benefited from the anti-competitive institutional setting in the past and are therefore well-positioned to fight for their privileges, is bound to be fierce. The futile efforts of economists in Germany over at least the last decade to push its political leaders in the direction of bold structural reforms underscores this sobering assessment. It is a precondition for future economic success, though, that Germany finally gets rid of its corporatist deal-making between union leaders, managers of large companies and the government in smoke-filled back rooms in favor of transparency, competition and innovation.

This is an era of creative destruction and of massive structural change in which the traditional German policy approach of trying as much as possible to preserve the status quo and of maintaining special privileges for incumbents on the labor, the goods and the capital market is no longer sustainable. The opportunity costs in terms of foregone GDP and employment growth of such an obsolete policy have risen dramatically. It results in an insufficient rate of job creation thus inevitably raising unemployment over time. Lowering the rate of job destruction via policy measures such as targeted subsidies to declining sectors or labor market rigidities such as employment protection legislation is a self-defeating and non-sustainable policy approach as can be seen once again in the German case. Now even more than in the past, the institutional framework on all markets must be such that the creation of new firms and the development of innovative products is fostered in order to achieve job growth that is not entirely limited to low wage jobs. The overall institutional framework must enable the German economy to adapt to change and to exploit as much as possible the opportunities and to meet the challenges provided by the ongoing transition to the new economy. Hence, entry by outsiders on all markets must be promoted and not hindered so that new ideas, innovation and competition are fostered.

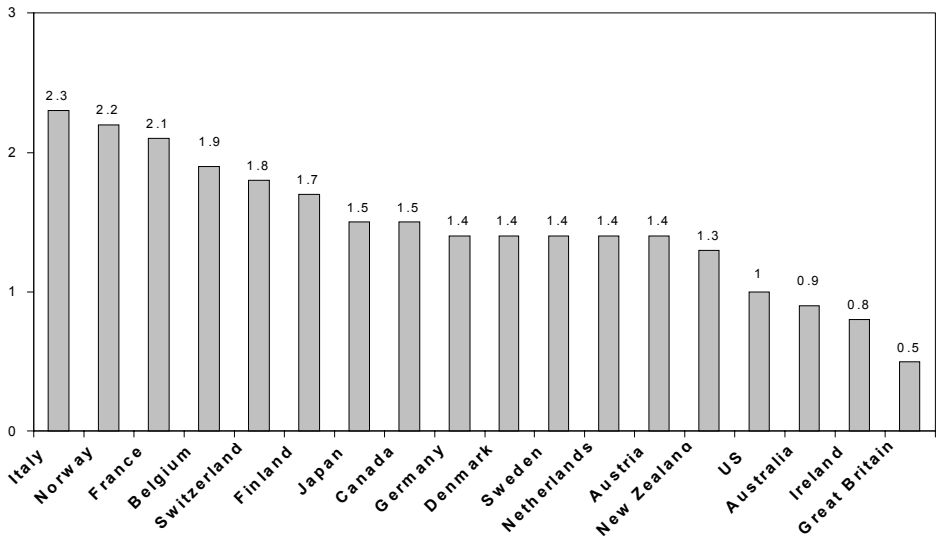
The barriers to business formation are high in Germany by international comparison so that the entry of new firms into the product market is impeded rather than promoted, e.g., via relatively high start-up costs and a tedious bureaucracy with which potential founders of new firms have to cope (table 7). Hence, incumbent firms are relatively well protected against the start up of potential competitors thus raising their monopoly power and reducing quantities concerning output and employment. Overall product market regulation is considerably higher than in the Anglo-Saxon countries but lower than, e.g., in France and Italy (Figure 17).

Table 7: Barriers to business formation across OECD countries

	# procedures required	days to get approval	Cost / GDP per capita	barriers to entrepreneurship
Australia	3	3	0.2090	1.1
Canada	2	2	0.0140	0.8
France	16	66	0.1970	2.7
Germany	7	90	0.0851	2.1
Greece	13	53	0.4799	1.7
Italy	11	121	0.2474	2.7
Japan	11	50	0.1144	2.3
Netherlands	8	77	0.3031	1.4
New Zealand	3	17	0.0042	1.2
Spain	11	83	0.1269	1.8
Sweden	4	17	0.0254	1.8
Switzerland	12	88	0.1336	2.2
UK	7	11	0.0056	0.5
US	4	7	0.0096	1.3

Source: Heckman (2002), Nicoletti et al. (1999)

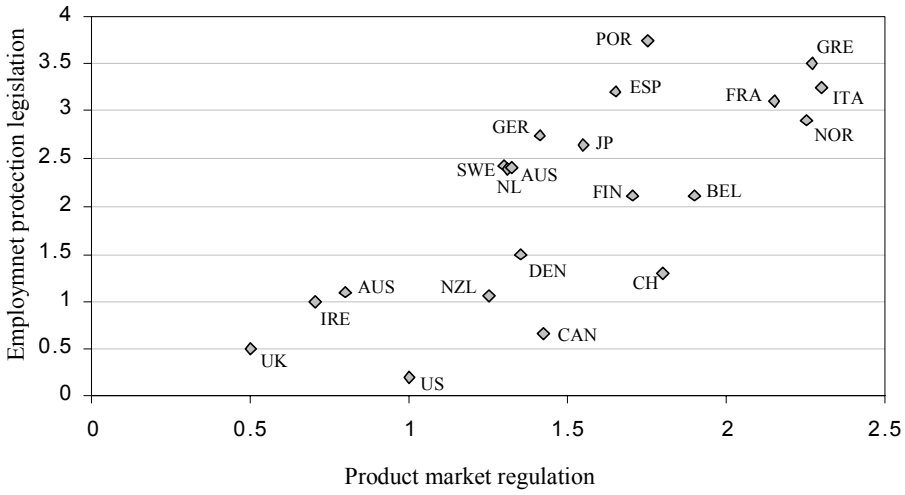
Figure 17: Product market regulation end of 90's



Source: Eichhorst, Profit and Thode (2001)

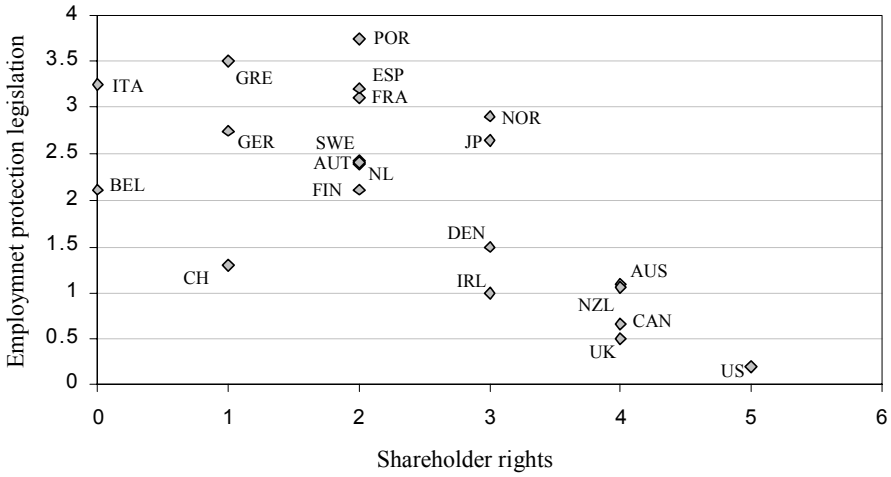
High product market regulation, low legal protection of providers of risk-bearing capital against ex-post appropriation by management and highly regulated labor markets go hand in hand across countries (figures 18 & 19). Countries tend to cluster into groups which either covet flexibility and level playing field for newcomers on all three markets - labor, capital and goods markets - (especially the US and the UK) or prefer to give special protection to incumbents also on all three markets (Germany, France and Italy). It is important to keep in mind in this context that inducing competition on the product market, e.g., via low regulatory barriers for entry on the product market and via a booming venture capital market is an important way of curbing excessive union power on the labor market. The larger are the monopoly rents on the product market due to entry barriers for new firms, the greater is the incentive for unions and workers to engage in rent-seeking activities and to lobby, e.g., for higher employment protection legislation. Hence, a vicious circle is set in motion. Lack of competition on the product market reduces labor demand and induces aggressive union wage bargaining due to monopoly rents, which incumbent firms earn. All this results in higher wage pressure so that labor market performance is negatively affected from both sides of the market. In order to escape this vicious circle and to set instead in motion a virtuous circle of more innovative activity as well as higher GDP and employment growth, it is necessary to implement comprehensive and complementary structural reforms lowering entry barriers in favor of competition by outsiders on the labor, the product and last but not least the capital market (Koeniger, 2002).

Figure 18: Regulation of labor and product markets



Source: Heckman (2002)

Figure 19: Shareholder rights and employment protection legislation



Source: Heckman (2002)

It is important to keep in mind in this context that the institutional structure of capital markets varies considerably between Anglo-Saxon countries such as the U.S. and the UK and continental European countries such as Germany (table 8). While the stock market along with a booming venture capital market play a central role in the former countries among other things due to an elaborate legal protection of shareholders against expropriation by management, the latter countries can be crudely characterized as being bank based (Edwards and Fischer, 1994). Firms in Germany still rely to a much larger degree on debt financing via banks and there are still extensive cross shareholdings between banks and especially large firms.[15] This and proxy voting causes control of firms to rest largely with banks rather than with the public as shareholders at large or institutional investors such as pension funds. The capitalization of the stock market relative to GDP and the size of the venture capital market is much lower compared to Anglo-Saxon countries. Hence, firms in Anglo-Saxon countries enjoy considerably better access to risk-bearing capital.

Table 8: External capital markets across OECD countries

	shareholder rights	creditor rights	domestic firms / population	debt / GNP
Australia	4	1	63.55	0.76
Canada	4	1	40.86	0.72
France	2	0	8.05	0.96
Germany	1	3	5.14	1.12
Greece	1	1	21.6	0.23
Italy	0	2	3.91	0.55
Japan	3	2	17.78	1.22
Netherlands	2	2	21.13	1.08
New Zealand	4	3	69.00	0.90
Spain	2	2	9.71	0.75
Sweden	2	2	12.66	0.55
Switzerland	1	1	33.85	-
UK	4	4	35.68	1.13
US	5	1	30.11	0.81

Source: Heckman (2002), La Porta et al. (1998)

While this has been the common way of grouping institutional structures on capital markets for quite some time, recent research has shown that another fruitful, but after all related approach consists in distinguishing countries according to the degree to which laws and their enforcement effectively protect the providers of equity and debt capital from ex-post

[15] This might change in particular in Germany with the tax reform that has just been passed allowing corporate firms to sell stakes in other firms without paying capital gains taxes anymore.

appropriation by firms, i.e., by management and workers.[16] Four groups of countries emerge according to their legal heritage: French, Scandinavian and German civil law countries and the Anglo-Saxon common law countries. It is important to note that such countries as Japan, South Korea, and Taiwan are grouped among the German civil law countries. Generally, Anglo-Saxon common law countries provide the best effective protection of financiers with the notable exception that countries where the legislation on capital markets stems from German civil law display the strictest protection of creditors. Hence, Anglo-saxon countries have institutional structures for financing firms which are superior in both respects compared to French and Scandinavian countries, but compared to German countries they tend to have a comparative institutional advantage only in equity and venture capital financing and not in debt financing where the reverse holds (Carlin and Mayer, 1999).

The real effects of such differences in the institutional setting on capital markets in particular with respect to the situation on the labor market have just recently started to receive closer attention in the literature. It is a crucial point when comparing the Anglo-Saxon with the German law countries to recognize that the economic environment has fundamentally changed over the last twenty years. Not only have the German law countries essentially finished the catch-up process after the war by the end of the 1970s, but all highly developed countries have entered into another phase of radical structural change, which can in a stylized form be described as moving away from the industrial sector toward the service sector and toward the information-technology sector. In particular the manufacturing of largely standardized industrial goods, where fixed capital investment and economies of scale play a large role ("investment-based growth"), is rapidly becoming an outdated mode of production in highly developed countries.

Their relatively sophisticated protection of creditors gives German law countries a comparative institutional advantage in debt financing which is reflected in close and long-lasting bank-firm relationships. Such an institutional setup appears to be advantageous mainly in stable times where countries are moving along a more or less already known technological trajectory and where the aggregate level of investment into fixed capital is crucial for the overall performance of the economy. Past profits are then a relatively good indicator for future success so that the information problem which firms should receive financing is less

[16] See La Porta et al. (1997), (1998), (1999a), and (1999b).

difficult to disentangle. Furthermore, fixed capital can very well serve as collateral, which is important for debt-financing. German law countries such as Germany itself or Japan, which have an edge in protecting creditors and where there are strong ties between banks and large firms, therefore display comparatively high rates of fixed capital investment.

Fixed capital investment was an important component of employment growth in the catch-up phase after the war when radical innovations by the leading industrial nations could be mimicked and when insiders on the labor market were not as well entrenched yet. But the more a country moves to the frontier of economic development, the less investment into fixed capital fosters employment growth. This fits with the observation that countries such as Germany and Japan have benefited from their capital market institutions during the post-war period, but that this has become doubtful during the last decade (Carlin and Mayer, 1999).

While such a capital market structure might have been appropriate in the first half of the post-war period, it is hardly optimal for the current period of rapid structural change, where especially the correlation between past profits and future investment opportunities is lower. A key problem in financing structural change nowadays is how to get free cash flows out of large established firms with few profitable investment projects to new, liquidity-constrained entrepreneurs with promising ideas for investment projects in fledgling sectors, where the chances to achieve lasting employment growth are greatest. A strong bargaining position of shareholders vis-à-vis management like in Anglo-Saxon countries helps because it forces management in the large public firms to pay out a larger fraction of free cash flows, which can then be channelled into investment projects according to capital market profitability criteria.[17]

Key aspects for achieving employment growth in highly developed countries and thus in later stages of economic development are the ability to achieve a first-mover advantage in the transition to new sectors and to finance structural change by funding R&D, by orchestrating radical product innovations and by establishing new firms ("innovation-based growth").[18] This is in particular true if employment growth is not to take place only in the form of low-paid service sector jobs where labor market rigidities, generous welfare states and, more fundamentally, deeply rooted equity considerations of society at large are the key obstacles.

[17] See Hubbard (1998) and Fehn (2002).
[18] See Acemoglu, Aghion and Zilibotti (2002) and Carlin and Mayer (1999).

Incremental or process innovations in industries where the main technological breakthroughs essentially occurred either at the end of the 19th century or during the first half of the 20th century are hardly avenues for achieving major employment gains anymore. Rather, employment growth largely takes place in the service sector or in the production of new and niche products which are often technologically advanced. An important source of employment growth in the 1990s have also been investments into information technology. However, similar to the service sector, investments into information technology largely produce intangible assets so that countries which have trouble in adequately financing such high-risk ventures by means of equity or venture capital have an inherent disadvantage in obtaining employment growth in the thriving service and information-technology sectors compared to Anglo-Saxon countries. Empirical evidence indicates that the use of debt financing depends positively on asset tangibility (Gompers and Lerner, 1999). A large stream of new firms entering the product market each period facilitates structural change, so that countries which provide an institutional environment which is conducive to the creation of new firms have less problems in managing the transition to a more service- and information-technology-based economy.[19]

The failure rates among such projects as R&D, radical product innovations, and new firms is generally high while the few successful ones are likely to produce large profits. A thriving entrepreneurial activity in these high-risk areas therefore depends on the one hand on society at large and on the tax system in particular accepting substantial income differentiation. Both aspects are lacking in Germany due to the high emphasis on egalitarianism and income compression which stifle entrepreneurial risk taking. It depends on the other hand also on the existence of a particular capital market structure. First, the institutional structure on the capital market must handle well problems of asymmetric information. Second, it must foster the funding of highly risky projects without much collateral. Third, as it is uncertain which projects will be successful, it must be able to sort out and provide financing to a large number of projects, and there must also be the possibility to abandon projects quickly once their failure becomes apparent. Fourth, the capital market must provide a suitable environment for financiers to convert successful projects into cash for themselves, e.g. by going public. It must help to prevent workers and management from breaching the ex-ante agreed upon terms of trade by reducing ex post payments to financiers.

[19] See Guiso (1997), Harhoff (1997) and Weigand and Audretsch (1999).

These conditions are arguably more likely to be fulfilled on Anglo-Saxon type stock-market based capital markets with in particular a thriving venture-capital market and with an elaborate effective legal protection of shareholders and venture capitalists than on German law capital markets.[20] In particular, venture capitalists participate fully in the profits of successful projects so that they are more willing than creditors to finance highly risky projects. In addition, venture capitalists are especially able to reduce the problem of asymmetric information due to their active engagement in the process of actually carrying out projects and due their expertise in monitoring firms in the sector concerned. Furthermore, the number of projects that are initially financed is larger when there is a well-developed venture capital market. Recent empirical studies show that there is a positive relationship between innovation activity, founding of new firms and in the end labor market performance on the one hand and a well-developed and flourishing market for venture capital on the other hand (table 9).[21]

Table 9: International comparison of venture capital markets

	Total in per mil of GDP			"Early Stage" in per mil of GDP			In "high tech"-sector in % of total
Countries	1986	1995	1999	1986	1995	1999	∅ for 1995-1998
Australia	NA	1.336	0.600	NA	0.526	0.794	NA
Germany	0.031	0.375	1.300	0.007	0.063	0.462	28.8
France	0.194	0.336	1.180	0.032	0.027	0.362	24.1
Italy	0.021	0.295	0.490	0.011	0.071	0.148	7.0
Japan	NA	0.216	0.150	NA	0.047	0.030	NA
Canada	0.206	0.855	2.530	0.082	0.376	1.113	NA
N. Zealand	NA	0.517	0.410	NA	0.062	0.084	NA
Netherlands	0.532	1.433	2.450	0.127	0.304	0.744	27.5
Sweden	0.313	0.158	1.850	0.034	0.043	0.363	20.7
Switzerland	0.068	0.105	1.540	0.050	0.004	0.755	43.1
Spain	0.087	0.425	0.860	0.037	0.056	0.213	16.6
UK	0.793	1.033	1.880	0.194	0.042	0.203	23.6
US	0.556	0.638	4.470	0.058	0.191	1.78	79.0

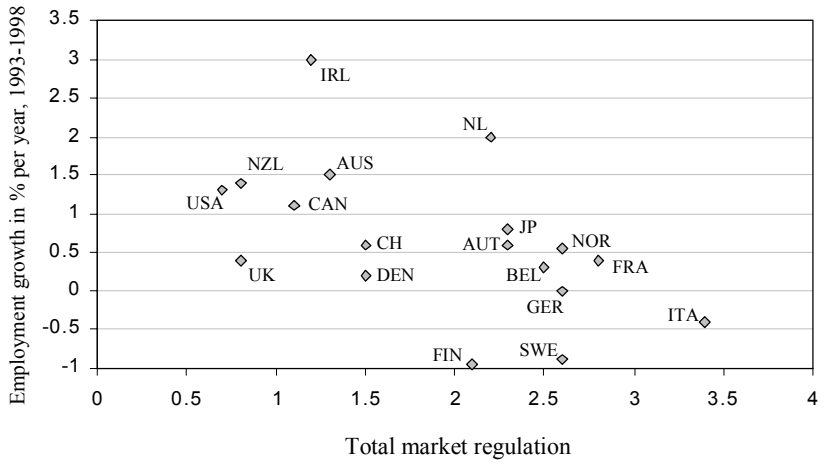
Source: Belke and Fehn (2002)

Thus, lowering entry barriers and raising the possibilities of competition by outsiders via fundamental, comprehensive and complementary structural reforms in Germany of the institutional setup on the labor, the goods and the capital market is crucial for achieving a sustainable and significant improvement of labor market performance. Piece-meal reforms of

[20] See Black and Gilson (1998) and Hellmann and Puri (1999).
[21] See Kortum and Lerner (1998), Belke and Fehn (2001), Belke, Fehn and Foster (2002) and Bednarzik (2001).

changing something here and there once in a while when the political climate happens to be favorable will not work. The overall intensity of market regulation needs to be cut back in order to achieve higher employment growth (figure 20).

Figure 20: Regulation intensity and employment growth, 1993-1998



Source: Eichhorst, Profit and Thode (2001)

V. Conclusions

Only an encompassing and bold set of institutional reforms including not only the labor market, but also the goods and the capital market can enable Germany to overcome its persistent unemployment problem and to meet successfully the challenges posed by the onset of the new economy. Such a broad package of structural reforms is the only way for Germany to get rid of its current position as being among the most sclerotic European countries which is reflected in its dismal record concerning especially economic and employment growth. However, complacency and political inertia are very high in Germany making determined institutional reforms, which would hurt large part of the electorate in the short run, a risky undertaking. It seems, in fact, that resistance to appropriate supply-side policies in particular on the labor market, but also on the goods and the capital market is so high in Germany that the walls of the fortress protecting insider prerogatives on all markets will, if at all, only crumble in times of a deep crisis. However, the current economic decline is so severe that the traditional German policy approach of muddling through might in fact no longer be possible. This is the time for Schumpeterian politicians to enter the stage and to organize a broad

coalition of reform supporters. They must not only resist the temptation of giving in to the lobbying efforts of special interest groups but also inspire confidence in the public at large that bold structural reforms will pay off for almost everybody in the medium to longer run by reanimating the economic dynamism of Germany.

As has been pointed out, reforming labor market institutions is only part of the economic policy package which is actually needed to tap the possible benefits of the new economy. Competitive goods and capital markets, especially a well-developed venture capital market, are also essential components just as well as a tax and social security system which do not stifle but rather spur entrepreneurial incentives.[22] The current policy of broadly raising taxes and social security contributions instead of cutting government expenditure on consumption to prevent the budget deficit from completely getting out of control is therefore self-defeating. It is bound to further reduce the potential of the German economy to produce GDP and employment growth.

Another key policy area has also just been mentioned briefly so far, this is the education system. It is essential to prepare people for the challenges posed by structural change and the new economy when they are young because any repair activities involving adults such as active labor market policies are bound to be inefficient.[23] Life-long learning has become more important and can be improved in Germany, but the basic skills, such as reading, writing and versatility to cope with different tasks along with mathematical and communicative skills have to be acquired when people are young. Germans have boasted for a long time that their education system is supposedly one of the best among OECD countries. However, it is almost uncontroversial by now that there is plenty of room to improve the German university system. More surprisingly, the long-heralded German system of high-school education has also come under fire recently by the results of international tests such as PISA. Only the apprenticeship system of vocational training still seems to be to some extent an asset of the education system by international comparison. Institutional reforms of the education system must therefore be high up on the economic policy agenda for preparing young Germans for the challenges posed by the new economy and for fostering entrepreneurial creativity. More competition and more

[22] See e.g. Boeri, Nicoletti and Scarpetta (2000) and Fehn (2002).
[23] The inefficiency of most active labor market policies is by now so well documented that a separate discussion of this policy issue was omitted for the sake of saving space; see, e.g., Heckman, LaLonde and Smith (1999), Lechner (1999), Kraus, Puhani and Steiner (2000) and Calmfors and Skedinger (1995).

decentralized decision making of schools and universities along with at least some form of tuition and an expanded system of scholarships should be parts of such a reform package.

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