IMK Report

No. 56 | November 2010

From a source of weakness to a tower of strength?

The changing German labour market

Alexander Herzog Stein (WSI), Fabian Lindner, Simon Sturn, Till van Treeck

The last decade has been a turbulent one for the German labour market. At the start of the millennium its supposed rigidities were blamed for high unemployment and persistent economic stagnation, but now the greatest economic crisis since the Second World War has apparently produced a real labour market miracle. Employment scarcely fell during the crisis and now is above pre-crisis levels; meanwhile unemployment is lower than at any time since German unification. How has this extraordinary development come about? What is its relationship to the deregulation of the labour market, the wage moderation of the 2000s and the macro-economic policy since the mid/end of the 1990s? With an upturn now emerging, what lessons can be drawn from the experience of the last economic cycle for the further development of the German growth and labour market model?

The German employment miracle – an international comparison

To answer these questions, the economic and employment development in Germany will be examined from the start of the Great Recession[1] to see whether they show peculiarities which would justify the term "employment miracle". The first step is to compare developments in different EU states which were also – although to varying degrees – affected by the crisis.

This comparison will look at the economic and employment developments in Spain, France, Austria and the 16-state strong eurozone[2] (referred to as eurozone from now on). Spain and France are, like Germany, large economies in the eurozone. Austria, although a smaller economy, follows like Germany an export-oriented growth model (see Section 3 for more on this). The eurozone is examined to provide a better overall context.

The downturns during the Great Recession, which are analysed here, are dated using the output gap concept (see box "Business cycle dating using the output gap concept"). Using this procedure, it becomes clear that the downturn in Germany and the comparator countries began in the first quarter of 2008.

Figure 1a shows the change in GDP in Germany and the other observed countries. An international comparison shows that the decline in Germany was particularly sharp – GDP fell by a dramatic 6.5%.[3] However the recovery since the start of 2009 has been stronger than in other countries. By the second quarter of 2010, GDP had grown by 3.8%, although it was still 2.7% below the level at the start of the downturn. In the eurozone, GDP fell by 5.3% at its lowest point – in

[1] In the Anglo-Saxon world the term "Great Recession" is increasingly being used for the current global economic crisis in order to distinguish it from the world economic crisis of 1929, which is described at the "Great Depression".

[2] The 16 eurozone states are Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia and Spain.

[3] In none of the previous post-war downturns has the fall in GDP been anything like as sharp. However, it should be noted that, for example, during the downturns in the 1970s trend growth was significantly higher than it is now. If adjusted for this, the fall in GDP in the Great Recession is comparable in severity with the downturn that started in 1973.

Business cycle dating using the output gap concept

Examining the "output gap" is now accepted as a mechanism for defining an economic cycle, as well as its periods of upturn and downturn in a relatively simple way.[4] The output gap is generally defined as the percentage deviation of actual GDP from its long-term trend, or the potential output that could be produced.[5] As this potential output cannot be observed, it must first be estimated using various statistical filtering techniques. Like the German Council of Economic Experts (Sachverständigenrat, SVR) we use the average of four filter procedures (Hodrick-Prescott (HP), Baxter-King, Bandpass and Lowpass) to compute trend GDP (SVR 2008 p. 326). This evens out the variations produced by each of the filter procedures used.

The starting point of the downturn is defined as the quarter in which the value of the output gap reaches a local high point, after which the output gap closes, to be followed by four quarters where it is negative. This is an analogous process to that used by the SVR in defining an upturn (SVR 2007, p. 325 ff.) The end of the downturn and the start of the upturn comes using a precisely symmetrical definition, when the value of the output gap reaches its local low point, after which the output gap closes and is then positive for four quarters. The length of the economic cycle is defined as the period between two high points in the cycle with only one low point between them (Herzog-Stein/Seifert 2010).

4 See for example SVR (2007), SVR (2008), Herzog-Stein/Seifert (2010), as well as Sturn/van Treeck (2010). For details on the determination of output gaps see Herzog-Stein (2010).

5 The long-term growth trend is, however, partially determined by the short-term changes resulting from the economic cycle (see Horn et al. 2007).

France by only 3.8%. However, the recovery in the comparator countries was significantly slower than in Germany. At the end of the period examined, output in the eurozone was still 3.5% below the level at the start of the Great Recession, and in France it was still 2.1% lower.

The German labour market miracle in the Great Recession is found in the unusual development of employment, which stand out in international comparison. Despite the massive fall in GDP, employment levels remained surprisingly stable (Figure 1b). Over the whole period, the number of employed persons never sank below the level of the first quarter of 2008 and in fact increased by 0.4%. In contrast, in the comparator countries, employment began – after the normal delay – to fall significantly, as could also have been expected for Germany. By the second quarter of 2010, eurozone employment was 2.4% below the level of the first quarter of 2008; in France the fall was 1.4%. However, Austria is also an exception. By the end of the period examined, it is not just Austria's fall in output that is similar to Germany's but also its level of employment.

What are the reasons for Germany's very positive employment performance? To answer this question it is helpful to restate the relationship of the key variables used to define GDP, i.e. total value added in the whole economy. According to the output side of the national accounts GDP is defined as the number of employees (EMP), multiplied by their average working time, i.e the number of hours worked per employee (WT), and labour productivity per hour (LP). In terms of growth rates (g) the formula looks like this:

$$g_{GDP} = g_{EMP} + g_{WT} + g_{LP} \qquad (1)$$

The equation for the rate of growth of employment is therefore:

$$g_{EMP} = g_{GDP} - g_{WT} - g_{LP} \qquad (2)$$

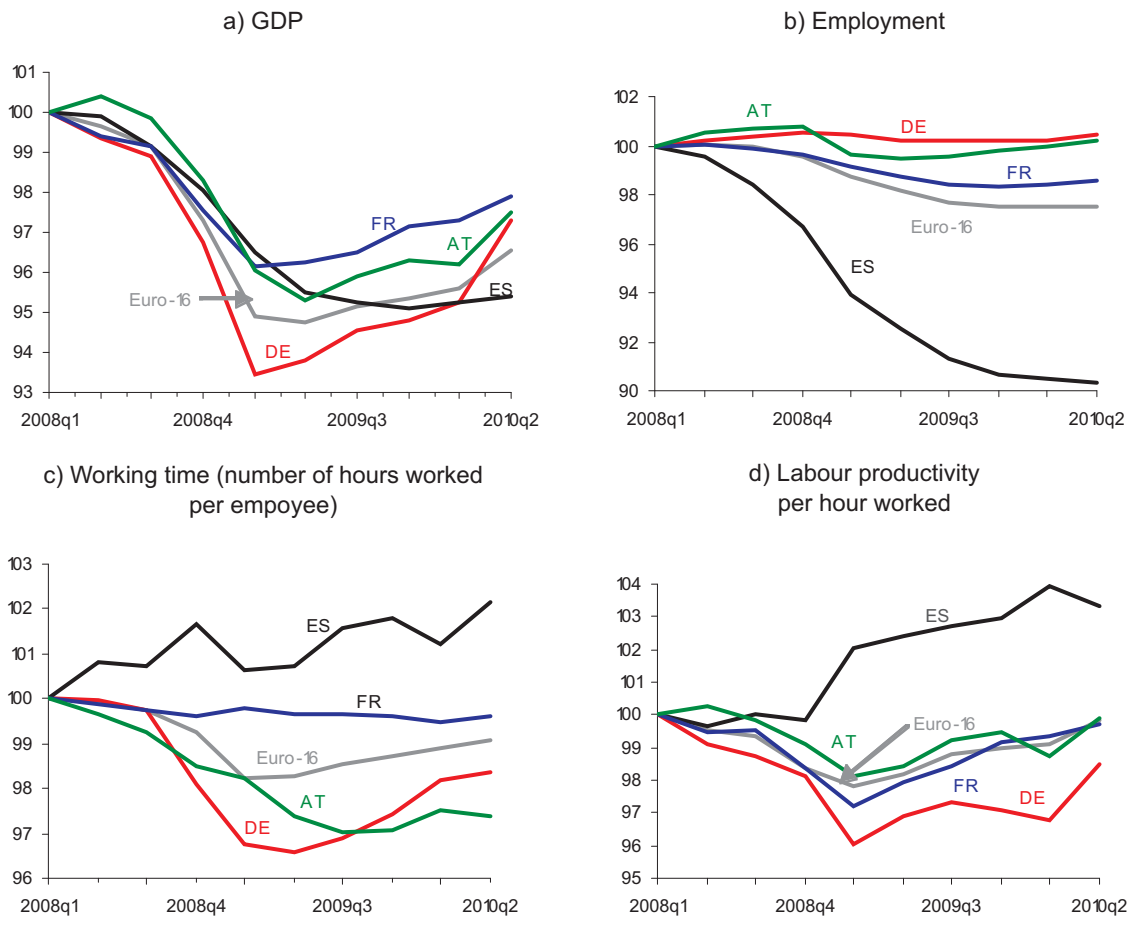
The international differences in the development of employment in different countries can therefore be decomposed into changes in GDP, in per capita working time and in hourly productivity. If GDP decreases, companies can maintain employment by reducing working time and/or productivity; they then need to dismiss fewer employees.

Varying the number of hours worked in the downturn is referred to as "internal flexibility".[6] Companies do not primarily adjust their labour input by means of redundancies – that is by making use of external flexibility – but by shortening the working time of employees within the company.

6 More precisely it should be called numerical internal flexibility, since there can also be other forms of internal flexibility, such as internal functional flexibility (Keller/Seifert 2006, p. 15-18). This expression is used to describe changes in work organisation, in order to respond to changes in demand. In the context of this report internal flexibility is taken to mean numerical internal flexibility.

Figure 1

The Great Recession – an international comparison[1]



AT = Austria, DE = Germany, Euro16 = Eurozone (16 countries), ES = Spain, FR = France.

[1] Index: Start of downturn = 100; adjusted for seasonal and calendar effects.

Source: Federal Statistical Office (Statistisches Bundesamt); Eurostat; own calculations.

Figure 1c shows how working time has changed. In Germany it was reduced particularly rapidly and sharply (by 3.4% at its lowest point), while in France working time remained constant and in Spain it even rose. This means that in these countries internal flexibility was not used. Austria shows an even more noticeable decline in working time than Germany in the second quarter of 2010, the end of the period being examined. However, working time in Austria was falling more sharply than in Germany even before the crisis, with a more widespread use of part-time work.[7]

In addition to reducing labour inputs by cutting working time, companies were also able to maintain employment during the downturn by temporarily accepting more non-productive time. This resulted in lower hourly productivity and is described as “labour hoarding”. A short-term fall in demand can, for example, be used to maintain infrastructure, to optimise working methods and to give employees further training. In addition, companies may be interested in hoarding labour if they will incur high costs through dismissing staff and later having to re-employ them – if, for example in an economic upswing additional qualified employees needed can only be found or poached at a high cost. Especially in the case of skilled occupations it can also sometimes take a long time to find suitable candidates and even more time for them to become fully effective (see

[7] A sectoral examination also suggests that working time was less responsive to the economic cycle in Austria than in Germany. Austrian industry experienced a much smaller reduction in working time and a much larger loss of jobs than was the case in Germany, despite a significantly smaller fall in output.

Dietz et al. 2010 for an overview of the reasons for hoarding labour).

Figure 1d presents the development of hourly productivity. It shows clearly that in the first quarters of the exceptionally severe cyclical downturn from 2008 onwards, hourly productivity responded in a strongly pro-cyclical way in many countries. This reaction can in part be explained by the fact that the crisis hit highly productive export industries hardest, whereas less productive services were not as affected. Looking at the economy as a whole, this led to a higher proportion of less productive jobs and therefore lower overall productivity. Only in Spain did hourly productivity not fall. Here employment fell so sharply that there was in fact an increase in hourly productivity, which leads to the conclusion that mainly low productivity jobs were eliminated.

Overall it is clear that not only was there a very rapid fall in working time, but also that hourly productivity declined more significantly in Germany than in other countries. However, the analysis up to this point does not permit any conclusions to be drawn on the extent to which the response of working time and productivity to the economic downturn during the Great Recession was unusual for Germany. This question is examined in the next section.

Safeguarding employment in Germany: a historical comparison

This section examines more closely how many jobs were saved through working time reductions and labour hoarding in the Great Recession, as well as whether there had been similar efforts to save jobs in earlier downturns. This comparison with earlier periods makes it possible to establish whether or not the way working time and/or hourly productivity reacted to the Great Recession was unusual.

To put the current economic downturn into a historical perspective economic recessions are identified with the help of the method described in the box "Business cycle dating using the output gap concept". The recession of the early 1970s, from the second quarter of 1973 until the second quarter of 1975, provides an appropriate comparison for a downturn, as it was the most severe economic decline in German's post-war history up to then. The period from the first quarter of 2001 to the second quarter of 2005 is the most recent downturn period available for comparison.

The method employed is the same as in Herzog-Stein/Seifert (2010). In order to compare the actual importance of the reactions of the various components of GDP – that is employment, average working time and hourly productivity – with earlier recessions, it is necessary to look at trend growth in these periods and then compare the cyclical variations. Trend growth is defined as the average growth rate in the ten years before the start of each downturn, with the exception of the 1973 to 1975 recession, for which only the quarterly figures for the previous three years are available (Table 1).[8]

The starting point for the examination comes again from equation 2:

$$g_{EMP} = g_{GDP} - g_{WT} - g_{LP} \qquad (2)$$

Therefore the following relationship holds for the changes in the trends:

$$\bar{g}_{EMP} = \bar{g}_{GDP} - \bar{g}_{WT} - \bar{g}_{LP} \qquad (3)$$

The cyclical rate of change in the number of employees – that is the actual development less the trend development – can be expressed by the appropriate remodelling of equations (2) and (3), as follows:

$$\begin{aligned} \hat{g}_{EMP} &= (g_{EMP} - \bar{g}_{EMP}) = \hat{g}_{GDP} - \hat{g}_{WT} - \hat{g}_{LP} \\ &= (g_{GDP} - \bar{g}_{GDP}) - (g_{WT} - \bar{g}_{WT}) - (g_{LP} - \bar{g}_{LP}) \end{aligned} \qquad (4)$$

Equation (4) shows that a deviation from the long-term trend for employment growth can be explained by deviations from trend in GDP growth, in the growth of average working time and in the growth of hourly labour productivity.

Table 1 covers each of the three downturns – 1973/75, 2001/05 and 2008/09 – and sets out the computations of the cyclical components, as well as the trend changes in the four factors and the impacts on employment that result from them, using equation (4).

In all of the economic downturns GDP falls sharply in relation to the trend, which, without a cyclical change in working time or labour productivity would lead to an equally sharp fall in employment. However, if working time and/or labour productivity fall relative to their trend development, this cushions the negative impact on employment.

In the first downturn in the 1970s, employment declined by 3.4% or 914,000 people. If, in addition, the employment trend before the start of the downturn is also taken into account, the negative cyclical effect

8 This exercise must take account of the fact that it is methodologically problematic to distinguish between the trend and the economic cycle as the cyclical dynamic influences the trend in a crucial way.

Table 1

The elements contributing to safeguarding employment in the periods of economic downturn

		Downturn I (1973 Q2 to 1975 Q2)		Downturn II (2001 Q1 to 2005 Q2)		Downturn III (2008 Q1 to 2009 Q2)	
		Impact on the number of employees					
		%	thousands[1]	%	thousands	%	thousands
Employment	Actual development (1)	-3.4	-914	-1.4	-566	0.2	92
	Trend[2] (2)	1.6	442	0.4	140	0.8	334
	Cycle [(1) – (2) = (3)]	-5.0	-1356	-1.8	-706	-0.6	-242
Real GDP	Actual development (4)	-1.0	-273	1.2	473	-6.2	-2489
	Trend[2] (5)	8.5	2307	7.3	2864	2.0	817
	Cycle [(4) – (5) = (6)]	-9.5	-2580	-6.1	-2390	-8.2	-3306
Difference between (6) and (3)[2]		-4.5	-1224	-4.3	-1685	-7.6	-3065
Labour productivity	Actual development (7)	-7.1	-1927	-4.9	-1933	3.0	1212
	Trend[2] (8)	-10.1	-2750	-9.6	-3788	-1.9	-756
	Cycle [(7) – (8) = (9)]	3.0	823	4.7	1855	4.9	1968
Working time	Actual development (10)	4.4	1193	2.1	839	3.4	1379
	Trend[2] (11)	3.0	822	2.6	1010	0.6	259
	Cycle [(10) – (11) = (12)]	1.4	371	-0.4	-171	2.8	1120
Total of (9) and (12)[3]		4.4	1194	4.3	1684	7.7	3088

[1]The employment effects in Downturn I are lower in numerical terms as they relate only to the former West Germany (FRG).
[2] The trend is calculated on the basis of the seasonally adjusted quarterly figures for the 10 year period before the start of the downturn (3 years in the case of Downturn I)
[3] The variation between the two figures is in part explained by the trend calculation and the fact that each time series in the national accounts is individually seasonally adjusted.

Source: Federal Statistical Office (Statistisches Bundesamt); own calculations.

becomes 5% or 1.4 million people. However, in the light of the sharp deviation of GDP from its trend rate, a fall in employment of almost twice this amount – 9.5% or 2.6 million people – would have been possible.

This was prevented, first, because working time was reduced by more than the trend, which safeguarded, on a purely computational basis 370,000 jobs – 1.4% of employment. Second, a further 3.0% of employment – more than 800,000 jobs – was saved through a slowing down, against the trend, of labour productivity – labour hoarding in other words. Together these two effects protected 4.4% of employed persons or 1.2 million people.

In the 2001/05 downturn, on the other hand, working time reduction played no part. Indeed the opposite was the case. Actual working time reduction during the period of the downturn was less pronounced than the trend fall in working time. The cyclical change in working time therefore cost 170,000 jobs or 0.4% of employment. In contrast, the cyclical slowing of the growth of labour productivity saved 1.9 million jobs on a purely mathematical basis – 4.7% of employment.

In the current downturn, employment actually increased by 0.2%, whereas the sharp fall in GDP might have been expected to have led to a substantial loss of 3.3 million jobs. Had that occurred, unemployment would have gone well over the 5 million mark. However, the cyclical reduction in working time safeguarded the employment of over 1.1 million people – 2.8% of employment – and the cyclical reduction in hourly labour productivity saved just under two million – almost 5%.

Overall, the historical comparison shows that in all the downturns labour hoarding, in the form of an acceptance of lower hourly productivity, played an important role and contributed substantially to safeguarding employment. It is of interest that particularly in the 2001/05 downturn the cyclical fall in hourly productivity secured employment to a very substantial degree – almost to the same extent as in the Great Recession.[9]

Reducing working time, on the other hand, played an important role in only two of the downturns examined – in 1973/75 and in 2008/09. The trend increase in working time during the 2001/05 downturn, in contrast, cost jobs. To a large extent, this can be explained by the fact that the instruments of internal flexibility, used so extensively in the 1970s and the Great Recession, were barely employed in the 2001/05 downturn. The contribution that cyclical working time reduction made to safeguarding employment was somewhat greater in the Great Recession, when it accounted for 36% of jobs saved, than in the 1970s' downturn, when it accounted for 32%.

Institutional reasons why employment was safeguarded

While in the economic downturns of 1973/75 and 2008/09 working time reduction made a substantial contribution to safeguarding employment, this was not the case in 2001/05. It therefore appears that internal flexibility measures were either not available in 2001/05 or not used. The various instruments of internal flexibility that contributed to this cyclical cut in working time are examined more closely below.

The importance of the different components of working time can be calculated from the working time data produced by the IAB (Institut für Arbeitsmarkt- und Berufsforschung) which provide detailed information on employees' annual working time (Table 2).

Annual working time fell substantially in all three downturn periods: in the current downturn it dropped by 44.6 hours, in the previous downturn from 2000 to 2005 by just under 33 hours, and in the downturn from 1973 to 1975 by almost 83 hours.[10]

In all of the downturns, changes in collectively agreed/customary working time made the largest contribution to this reduction. From 1973 to 1975 collectively agreed working time was cut on a general and permanent basis on a large scale. In many areas the 40-hour week was introduced in 1974 and it continued to apply after the downturn had ended (Herzog-Stein/Seifert 2010). In contrast, in 2000 to 2005 the change in collectively agreed working time can above all be explained by the expansion of part-time work during the long downturn. The number of part-time employees increased by 1.7 million between 2000 and 2005.

What is special about the current downturn is that the change in regular working time has been deliberately used to adjust to a temporary fall in demand. Many collective agreements now allow for the possibility of reducing agreed working time within given limits, or allow it to be increased or decreased in line with the economic situation within the framework of so-called working-time corridor arrangements (Bispinck/WSI-Tarifarchiv 2009). This gave companies the space to deviate from standard working time during the crisis.

An important difference between the downturn periods is the extent to which other instruments of internal flexibility have been used – i.e. cuts in overtime, short-time working and the reduction of positive balances on working time accounts. In 1973 to 1975 and in 2007 to 2009, the overall contribution of these mechanisms to the (temporary) reduction of working time was of the order of between 60% and 70%. Cuts in overtime and short-time working were used in both downturns. However, it was only in 2007 to 2009 that the reduction of positive balances on working time accounts had a meaningful impact. In the 2001 to 2005 downturn, with the exception of overtime cuts, these mechanisms played no role. This explains why in this downturn working time reduction made no contribution to safeguarding employment.

Overall, therefore, there is a long tradition of using instruments of internal flexibility, as their employment in the 1970s shows. The question is rather, why they were not used in the 2001 to 2005 downturn.

It is not immediately obvious why politicians did not bring short-time working into play during the 2001/05

[9] As this result is based on the forward projection of the productivity growth of the years before the start of the downturn, the impact of labour hoarding during the long downturn of 2001/05 could be exaggerated in our representation. However, this representation makes clear the high costs of this long period of stagnation, as the performance of growth, employment and productivity would all have been much enhanced if labour market and economic policies had responded better to the downturn from 2001 onwards. Other studies calculating the extent to which productivity deviates from trend arrive at different results. Dietz et al. use a HP (Hodrick-Prescott) Filter to determine the productivity trend and then calculate the deviations in actual productivity from this trend. However, the problem with this method is that the trend is endogenous, if for a long period productivity does not grow as rapidly after a negative economic shock as before the shock; the reason for this can be that economic growth is not large enough, that investment activity is low and that productivity endogenously declines. An effective anti-cyclical economic policy would have led to stronger trend growth in productivity. The HP trend, however, does not pick this up, because it only fits the actual time series. Using trend growth from before the downturn – as has been done here – may therefore be better suited for describing a potential trend growth.

[10] The comparison has been made on an annual basis. The IAB provides detailed information on working time on a quarterly basis, but it is not seasonally adjusted.

Table 2

Change in employees' working time during the downturns

	1973 to 1975			2000 to 2005			2007 to 2009		
	Hours	%[1]	Share in the change in annual working time (%)	Hours	%[1]	Share in the change in annual working time (%)	Hours	%[1]	Share in the change in annual working time (%)
Change in annual working time per employee	-82.8	-4.6		-32.9	-2.4		-44.6	-3.3	
Change in selected elements of working time[2]									
including: Collectively agreed/customary weekly working hours	-43.8	-2.4	52.9	-58.5	-4.2	177.9	-18.7	-1.4	42.0
of which: part-time effect	-11.4	-0.6	13.8	-58.7	-4.2	178.5	-5.2	-0.4	11.7
Overtime	-31.8	-1.8	38.4	-10.1	-0.7	30.8	-10.1	-0.7	22.7
Short-time work	-18.1	-1.0	21.9	-0.6	-0.0	1.9	-13.7	-1.0	30.7
Working time accounts	-0.6	-0.0	0.7	-0.9	-0.1	2.8	-10.0	-0.7	22.5

[1] Percentage change in relation to annual working time in 1973, 2000 and 2007 respectively.

[2] As only the elements of working time that have played an important role in the reduction of working time during the downturns are examined, the individual elements do not add up to the overall totals.

Source: Institute for Employment Research (IAB) working time data; own calculations.

downturn. There is something to be said for the view of Bogedan (2010) that a "negative interpretation" of the usefulness of short-time work dominated political thinking of the time. Following German unification, short-time subsidisation of wages had been used extensively by the government to cushion the impact of the massive job cuts that resulted from the process of transformation after German reunification, but had only been successful in the short term. Short-time work was at that time discredited as an expensive and structurally conservative measure, and politicians did not promote it in a positive way in the 2001/05 downturn. Figure 2 shows that short-time work has been regularly used in periods of economic downturn and that the downturn from 2001 to 2005 was a clear exception to this rule.

The small role played by working time accounts in 2001 to 2005 can be explained by the fact that their prevalence was much more limited than it is today. Currently around half of all employees use working time accounts (Groß/Schwarz 2010), while in 2003 according to Bauer/Munz (2005) it was only 41%. In addition it can be assumed that at the start of the Great Recession working time accounts had substantial surpluses as a result of the economic boom from 2005 onwards (Möller 2010).

The German example shows that effective internal flexibility requires both an appropriate legal framework (for example, employment protection legislation and short-time work), and well-functioning corporatist structures. The rapid reduction of weekly working time at company level was only possible because of collective agreements that permitted companies to adjust their regular working time to these difficult economic circumstances (Bispinck/WSI-Tarifarchiv 2009). In addition, the existence of working time accounts is a consequence of corporatist structures: they were implemented within the framework of collective and company agreements (Groß et al. 2000).[11]

The extensive use of instruments of internal flexibility during the Great Recession indicates how flexible the German labour market actually is, despite its reputation for rigidity. Thanks to this internal flexibility it was

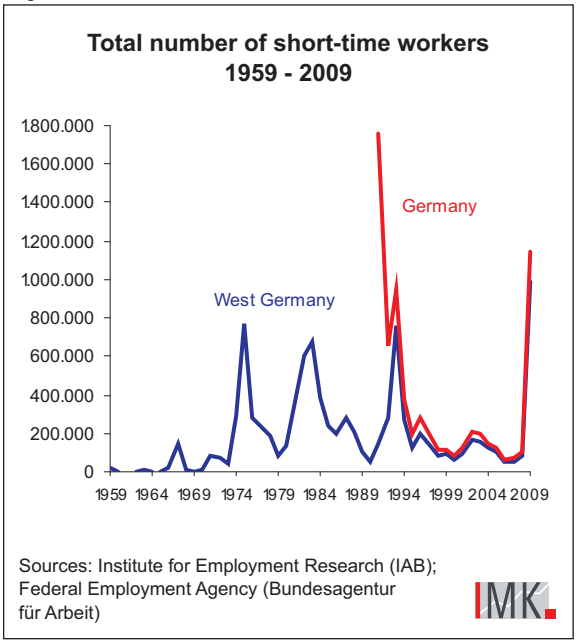
[11] German industrial relations legislation distinguishes between collective agreements (Tarifverträge) signed, normally at industry level, by employers and unions, and company or works agreements (Betriebsvereinbarungen) reached between a single employer and the works council.

possible to save many jobs and avoid negative macroeconomic consequences such as hysteresis (permanently higher unemployment) and panic-saving because of strongly rising unemployment.

In contrast, in countries with high levels of external flexibility – with, for example, little protection against dismissal or a high proportion of temporary employment – the Great Recession led to a much more pronounced growth in unemployment (Tangian 2010, IMF 2010a).[12]

Increasing external labour market flexibility was one of the aims of the labour market reforms under Agenda 2010. The intention was that through the extension of agency work and the weakening of protection against dismissal it would be easier for companies to take on employees but also to dismiss them more rapidly in a downturn. However, in the Great Recession employment was safeguarded through the use of the instruments of internal flexibility. There is therefore no direct relation between Germany's good employment performance in the Great Recession and these labour market reforms.

Figure 2



Sources: Institute for Employment Research (IAB); Federal Employment Agency (Bundesagentur für Arbeit)

The dark side of the German labour market model

Labour market deregulation has no positive impact on employment

It is often suggested in the economic debate that the rude health of the German labour market in the crisis is a consequence of the indirect effects of labour market deregulation – in particular the so-called Hartz reforms – as well as the wage moderation during the years before the crisis, which they helped to promote (Möller 2010; Kohns 2010).

Möller, for example, argues that, because of reforms before the Great Recession, the German labour market was in exceptionally good health. Boss et al. (2009, p. 21) argue that the reforms produced positive structural employment effects, which have been only partially overlaid by the fall in demand in the course of the crisis. They write: "The labour market reforms implemented within the framework of 'Agenda 2010' have contributed to the unprecedented wage moderation of recent years. As a comparable development was not to be observed in most other countries, the price competitiveness of German companies abroad improved, which in turn stimulated Germany's external balance and so contributed substantially to the recent upturn. It can be assumed that without the global recession, this employment creation would have continued."[13]

According to this view, wage moderation – which was reinforced through the deregulation of the labour market – was responsible for the success in safeguarding employment during the crisis. Although there were other explanations, such as the feared shortage of skilled workers, one reason why companies accepted substantial falls in profits as a consequence of falling hourly productivity could be that they had been able to build up a financial cushion through the strongly growing profits and wage stagnation of the previous upturn.

Even though parts of this explanation may be correct, overall it is insufficient. It is true that during the period 2005 to 2008 the export-oriented German economy profited more than most from the global economy's strong growth and the long-lasting upturn it brought with it. However, both in comparison with earlier periods of growth (Logeay/Zwiener 2008) and in international terms, job creation in Germany was in no sense exceptionally strong.

[12] In the industrial relations literature there are many indications that there is a trade-off between high internal and high external flexibility. For example, the OECD has established in international comparisons that stringent employment protection legislation is accompanied by higher levels of internal flexibility (OECD, 2010: p. 63). Also other studies find a certain trade-off between high internal and external flexibility (Hicks/Kenworthy 1998; Hemmerijck et al. 2000; Baccaro 2003; and Brandl/Traxler 2005). Accordingly, high internal flexibility requires a certain external rigidity in the labour market.

[13] Quote originally in German.

If the differing lengths of the two periods of growth before and after the reforms (1999-2001 and 2005-2008) are taken into account, no more employment was created in the economic boom before the current crisis than in the upturn at the turn of the millennium. The larger fall in unemployment in the more recent upturn is primarily a result of the weaker growth of the labour force (Logeay/Zwiener 2008). In other countries in the eurozone, where there was no comparable deregulation of the labour market, both levels of employment and hours worked grew more before the Great Recession (that is after the reforms) than in Germany (Sturn/van Treeck 2010). A clear reform dividend was, therefore, not visible in the last upturn.

In addition, the success in safeguarding employment during the crisis is, as has already been seen, largely to be ascribed to the use of working time accounts, as previously agreed between unions and employers; changes in standard working time at company level; and the extensive use of short-time working arrangements. These are measures that have nothing to do with the deregulation of the labour market in the 2000s.

Moreover, the positive assessment of labour market deregulation sketched out above ignores the negative macroeconomic consequences of wage moderation, both in respect to the development of Germany's domestic economy and of the economic stability of the eurozone. These negative consequences are examined more closely by looking at the economic development of specific eurozone countries (see Section 1) in the economic cycle before the crisis. This comparison makes it clear which of the economic policy mistakes characteristic of the upturn of 2001 to 2005 were avoided during the Great Recession. In the period of growth which is now emerging, it is important to avoid the mistaken developments of the previous upturn.

The consequences of wage moderation for the whole economy

Depending on the country, the start of the downturn, using the filter method described above (see box "Business cycle dating using the output gap concept"), fell between the second quarter of 2000 and the first quarter of 2001. The cycle ended in all countries in the first quarter of 2008. This period covers a complete economic cycle and one which falls entirely within the period since the establishment of the European monetary union.

From the start of the period under investigation (2000/01 to 2008) and particularly in the second half, Germany stood out because of its extremely weak wage growth, as compared with other countries.[14] This was expressed both in nominal unit labour costs, which barely grew at all (Figure 3a)[15], and in stagnating real compensation of employees. In all the other eurozone countries unit labour costs grew substantially.

At the same time real wages in Germany fell even during the upturn from 2004/05 onwards and despite a fall in unemployment (see Logeay/Zwiener 2008, Brenke 2009). During the period examined, there was a ferocious rise in income inequality (see Sturn/van Treeck 2010, Table 1) and differences in wage levels widened. This last development also reflects the rapid growth of the low-wage sector (Brenke 2007, Bosch et al. 2008).

However, contradicting the theory that high wages were the cause of weak growth and high unemployment, wage moderation had no positive results for the German economy. Instead this period of wage moderation was accompanied by weak growth.

Thus, private consumption largely stagnated in Germany over the whole of the economic cycle, growing by only 3.1%, while other countries showed substantial increases (+13.0% in the eurozone) (Figure 3b). Nor did wage moderation lead to higher investment. In Germany investment increased over the whole cycle by only 3.8%, while in the eurozone it grew by 13.8% (Figure 3c).

Growth stimulus came primarily from abroad. The result was that Germany's current account surplus grew from 1.2% of GDP at the start of the cycle to around 7% immediately before the outbreak of the current crisis. The stagnation of wage and unit labour costs had a positive impact on the current account as it improved Germany's price competitiveness, particularly in relation to the members of the eurozone.

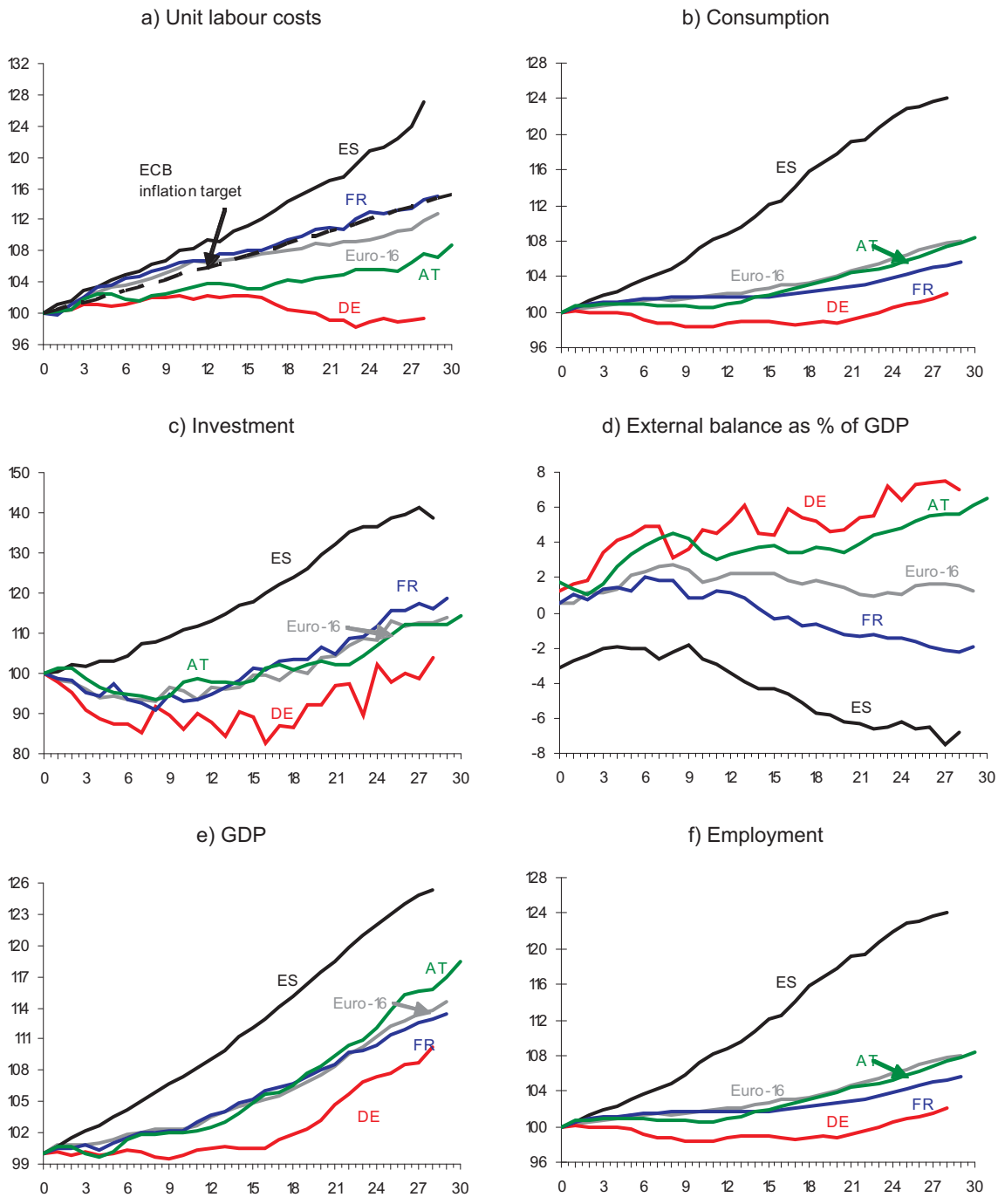
However, a significantly increased external contribution to economic growth via an increasing currant account surplus is only one part of economic growth. Overall consumption and investment, the domestic economy, have a more powerful impact on GDP growth in a large economy like Germany's than its external balance. Internal demand in Germany grew by only 3.2% (GDP by 10.2%). In the eurozone real internal demand

[14] Sometimes it is argued that Germany's wage moderation and export orientation from 1999 onwards are an appropriate reaction to the fact that it was overvalued when it entered the euro. However, it is unclear which criteria are being used for this. An assessment by the German Council of Economic Experts (Sachverständigenrat, SVR), indicates that Germany's actual effective exchange rate in 1999 was in line with an exchange rate based on fundamentals and that there was therefore no overvaluation (see SVR 2004, 840 ff.)

[15] Figure 3a also includes the ECB's inflation target for context. It is to be noted that unit labour costs are closely linked to inflation but that inflation is also influenced by other exogenous factors, such as energy prices.

Figure 3

Changes over the business cycle 2000/01 to 1st Quarter 2008[1]



[1] 1 Start of the cycle: Euro-16: 2000 (Q4); Germany: 2001 (Q1); France: 2000 (Q4); Austria 2000: (Q3); Spain: 2001 (Q1)
Index: Start of downturn = 100; adjusted for seasonal and calendar effects.
AT = Austria, DE = Germany, Euro16 = Eurozone (16 countries), ES = Spain, FR = France.

Source: Eurostat; own calculations.

was 13.2% higher at the end of the period analysed than at the beginning (GDP +14.6%), in Spain it grew by 31.8% (GDP +25.4%), in France by 16.8% (GDP +13.4%) and even in Austria by 11.6% (GDP +18.5%).

The below-average growth in GDP (Figure 3e) had a negative effect on employment, which progressed extremely sluggishly during this period. Measured both per head and by hours worked, Germany displays by far the lowest growth in employment among the countries examined. Employment in the eurozone grew by 8.1%; in Spain it grew by 24.1%, in France by 5.6%, in Austria by 8.3%, but in Germany by only 2.1% (Figure 3f). In terms of total hours worked, growth in the eurozone was 2.6%; in Spain it was 8.3%, in France 1.7%, in Austria 3.2%, while in Germany, it fell by 1.2%. Even in relation to the (low) growth in GDP, the development of employment was below average, and this is true both before and after the labour market reforms (Sturn/van Treeck 2010).

Against this background, there is much to be said for the conclusion drawn by Boss et al. (2009) that the labour market deregulation from 2002 onwards played a role in the way wage and income distribution developed, as well as in the heavy export orientation of the German economy – but, with overall negative consequences for growth (Joebges et al. 2009). In addition, it is possible that the labour market reforms, or the way they were perceived by the public from 2002 onwards, together with the partial privatisation of the pension system, played a part in unsettling private households and holding back their consumption (Klär/Slacalek 2006). Against both historic and international trends, the savings rate began to climb from 2002. Up to half of this increase in the savings rate can be explained by the redistribution of income towards richer households, who save disproportionately. There was also higher "precautionary" saving following the introduction of the so-called "Riester pension" (a private pension which is promoted through state subsidies) (Meinhardt et al. 2009). In addition, particularly in the years 2003 to 2005 Germany adopted what was in international terms a particularly restrictive and pro-cyclical fiscal policy (Hein/Truger 2009).

The result was that after the economic downturn at the start of 2001, Germany was not in a position to generate solid domestic economic growth "under its own steam". It was only in the middle of the decade that Germany profited from strong global economic growth, at a time when other countries had long since freed themselves from stagnation. Germany's growth strategy was particularly disastrous for the other countries of the eurozone, who were not able to make up for their loss in international competitiveness through changes in the nominal exchange rate (see the more detailed box "Germany's dependence on exports: a danger for European Monetary Union").

Another growth strategy is possible

In the economic cycle before the crisis, German growth was unnecessarily burdened by its poor wage development and its orientation towards an export surplus. If annual wage increases had followed a path of medium-term productivity growth and the target inflation rate of the European Central Bank, this would have led to a higher growth rate, which would also have been better balanced (Joebges et al. 2009). This approach could have been further promoted by expansionary anti-cyclical fiscal policies immediately after the economy began to turn down in 2001 and through a structurally higher growth in public spending. Had this path been followed, Germany would have contributed less to the creation of international economic imbalances that were a major cause of the world economic crisis and the crisis of the eurozone (Horn et al. 2009; Brecht et al. 2010).

In the Great Recession, it proved possible to avoid the mistakes made in the downturn from 2001. There was an anti-cyclical response in fiscal policy and there was no unnecessary debate on the so-called "incrustation" of the German labour market – the view that existing industrial relations structures and social protection inhibit growth and employment. Instead it was possible to observe elements of an approach which brought together a cooperative labour market and pragmatic economic policies (Horn et al. 2010; Stein/Aricò 2010). Continuing and strengthening this positive side of the German employment model is a crucial task for the upturn that is now emerging.

The example of France shows that it is possible to have better balanced growth, with improved employment levels and a fairer income distribution (Horn et al. 2008; Sturn/van Treeck 2010). Despite all its political and sometimes economic problems, France is, in many ways, exemplary within the eurozone in terms of its macroeconomic development.[16] From the first quarter of 1999 to the first quarter of 2008 – a period which covers developments from the start of the monetary union until the crisis – nominal unit labour costs grew by 16% in France. This growth was fully in line with the ECB's inflation target. French foreign trade was broadly in balance over the period, slightly in surplus in the first half, slightly in deficit in the second. Domestic demand grew

[16] "A currency union with 16 Germanys would be a nightmare … From a macroeconomic point of view a currency union with 16 Frances wouldn't be a bad idea." (Bofinger 2010; quote originally in German).

Germany's dependence on exports: a danger for the European Monetary Union

Even the relatively strong growth performance during the upturn which started in 2005 must be viewed very critically in the light of the current eurozone crisis. During the upturn, German economic growth was driven by a strong demand for its exports, particularly from the rest of Europe.[18] It is frequently emphasised internationally that Germany shares responsibility for the current financial problems of the eurozone countries with current account deficits (see, for example, Fitoussi 2010, Giavazzi 2010, Posen 2010, Stiglitz 2010).

Not that there is anything against the German economy achieving high exports. The problem is its systematic export and current account surpluses, which are a result of a weak domestic performance, as compared with other countries, so that imports are low. As the eurozone's current account has been approximately balanced since the foundation of the monetary union in 1999,[19] German surpluses were inevitably accompanied by high deficits and growing indebtedness in other countries, such as Spain.

A crucial factor explaining the foreign trade imbalances in the eurozone has been the enormous differences in the way unit labour costs have changed, as these are closely related to price inflation (Zemanek et al. 2009). Between 1999 and 2007 unit labour costs in Germany rose by 1.8%, while in Greece, Portugal and Spain they went up by between 28% and 30%. The ECB's inflation target implied a growth in prices of around 18% (see Brecht et al. 2010). In this respect, wage developments in Germany were more at variance with stability than wage developments in Spain. Germany's low inflation rate led not just to an improvement in its price competitiveness but also to high real interest rates that weakened domestic demand. In Spain and in other countries with high current account deficits, developments moved in exactly the opposite direction. Inflation was higher and real interest rates lower, giving a powerful boost to the domestic economy.

Despite all the economic mistakes that countries with current account deficits may have made, one thing is clear: a monetary union in which by far the largest member[20] follows a growth strategy that is so focussed on export surpluses and scarcely contributes to domestic demand[21] cannot function in the long term (Horn et al. 2009; Brecht et al 2010).

[18] Over 60% of German exports go to the EU, over 40% to the eurozone.

[19] It is sometimes argued that, because of its ageing population the eurozone needs to achieve current account surplus in order to build up a stock of assets, the income from which (or the liquidation of which) will secure pensioners' living standards in the future. However, there are hardly any countries with secure growth prospects, whose demographic development is moving in a different direction to the eurozone. In addition, the currently observed crises of countries with current account deficits and growing foreign debts show how uncertain investments of this type are.

[20] Germany accounts for around 25% of the eurozone's GDP.

[21] Germany is the only country in the eurozone where net exports between 1999 and 2007 contributed more to GDP growth than the domestic sectors of the economy.

strongly and inequality in terms of disposable income fell as against the international trend. In fact between 1999 and 2007, the Gini-coefficient[17] fell by 3 points (it has again increased by 2 points since the start of the crisis).

Developments in employment levels were also very positive – until the recession. However, even if the most recent downturn is included, France has created many more jobs than Germany in recent years – even after taking account of differences in growth rates. Between the first quarter of 2001, the start of the cycle, and the second quarter of 2010, employment grew by 4.0% in France (GDP +11.1%) but by only 2.6% in Germany (GDP +7.2%). If the previous upturn, from the first quarter of 1999, which produced a particularly strong growth in employment in France, is also included, the gap in France's favour increases. On this basis employment in France went up by 8.7% (GDP + 18.8%) but in Germany by only 5.5% (GDP +13.4%).

France's strong performance may be a surprise to some, as the OECD's database on labour market institutions shows the "rigidity" of the French labour market to be above average. According to most of the indicators used for analysis, the French labour market is more tightly regulated than the German. Not least because of a minimum wage which is relatively high in relation to median wage, the French low paid sector is very small in international terms (Bosch 2009), and the

[17] The Gini-coefficient measures income equality. If its value is 0, all incomes are absolutely evenly distributed across the population; if its value is 100 they are absolutely unevenly distributed. A fall in the Gini-coefficient is an indicator of falling inequality.

wage spread – particularly in the bottom half of the wage distribution table – is very narrow (OECD 2008). That would, in the prevalent view of German economists, have to lead to higher unemployment (SVR 2006, ifo 2008).

France has also undertaken sweeping labour market reforms. However, the purpose of these reforms was not to increase pressure on employees and to improve the external flexibility of the labour market, but rather to cut working time. While in Germany average working time fell primarily because of the growth of (often precarious) part-time working, in France a general reduction in working time, the 35-hour week, was pushed through in stages from 1998 (see box "Working time reduction in France"). This was accompanied by measures intended to prevent a fall in the monthly wage of those in the low wage sector and the resulting increase in hourly wage rates was spread over several years. In addition, the system of subsidies for the social contributions paid by employers was extended in the low wage area.

Despite Germany's recent positive employment performance during the crisis, the French approach has not been less successful. If Germany had developed in a similar way to France, then the greater concentration on domestic demand, with higher wage increases, would not just have contributed to higher growth at home, but also to greater stability in the eurozone.

No miracle but still a success

Despite the greatest economic crisis since the Second World War, employment in Germany has not fallen. On the contrary, while in many other countries around the world employment has been massively reduced, in Germany it has risen slightly. This is a sensation. It is explained by a per capita reduction in working time and the hoarding of labour. Working time reductions secured some 1.1 million jobs, labour hoarding, with the acceptance of lower hourly productivity, some 2 million.

The rapid and deliberate cut in working hours in the downturn is an indication of the high levels of internal flexibility within companies. As well as short-time working, which was rediscovered in the crisis, it was working time accounts and the possibility of reducing working time at company level which helped to bring hours down. Both these instruments of internal flexibility developed by means of dialogue between employers and trade unions. Germany's experience during the crisis and an international comparison of employment levels show that internal flexibility depends on strong social partners and protection for the employees – as for example through employment protection legislation. Countries which have high external flexibility – with limited employment protection and a high proportion of temporary employees – have experienced very large falls in employment. By saving jobs during the Great Recession, Germany's internal flexibility has also helped to avoid unemployment becoming entrenched after the downturn.

Germany's good employment performance during the Great Recession cannot be explained by the labour market reforms of the last decade. This is because the purpose of the reforms was to increase external flexibility – for example through agency work. If companies had made greater use of these instruments during the Great Recession, then employment in Germany would have fallen sharply and there would have been more unemployment.

But on balance, even in the upturn before the Great Recession, employment was not promoted by the deregulation of the German labour market and the wage moderation that it reinforced. In the upturn from 2005 to 2008, despite the reforms, employment in Germany did not grow particularly strongly as compared with other countries; and in the downturn from 2001 to 2005, wage moderation was an additional barrier to employment growth. In addition German wage moderation led to imbalances in the eurozone.

The experiences of the Great Recession, and the economic cycle before it, should be utilised, and the successful and cooperative side of the German labour market, where unions, employers and the government work together, should be further strengthened. The instruments of internal flexibility have made it possible to pursue an anti-cyclical working time policy, which can save jobs and avoid unemployment. These instruments should be further developed through dialogue between unions and employers, with a view to establishing a sustainable model for working time. This needs to take account not just of safeguarding employment but also increasingly the challenges posed by making work appropriate to the age of the employees, by the demands on time made by external, in particular family, commitments and by the need for gender equity.

In addition, wage increases should make full use of the space for growth provided by trend productivity and the ECB's inflation target. This would strengthen the domestic economy and stabilise the recovery. Political decisions can help with this by reducing pressure on wages through a minimum wage. Overall, a strategy of strengthening the domestic economy and the cooperative side of the German labour market would offset the social dislocation of recent years, create more employment and stabilise the eurozone.

Working time reduction in France

The French socialist-led government pushed through a general reduction in working time in France from 39 to 35 hours a week through two laws in 1998 and 2000. The cut in working time was accompanied by a substantial extension of the subsidies for social contributions for low earners and working time flexibility. The aim of the reform was to increase the employment intensity of growth.

Under the first piece of legislation, Aubry I in 1998 – it took its name from the labour minister of the time – working time reduction was voluntary, although the employment creation requirements were very tight. If these requirements were met, subsidies were paid most notably in respect to employers' social contributions for low earners. Under Aubry II in 2000, the cut in working time was extended to all employees; however, the conditions linked to job creation or alternatively to employment security were less strict. Employers' social contributions continued to be subsidised.

There is no consensus in the academic literature on the precise employment effects of the reform. Nevertheless, no study has established that the reforms resulted in a loss of employment. Only the extent to which employment has been created remains uncertain. Most studies have used microeconomic data, that is databases including details of many different single companies. This has both advantages and disadvantages. Among the advantages is the fact that the effects of the legislation can be examined in a very differentiated way according to groups of companies. The disadvantage is that it is not clear whether the results of these studies reflect the whole of the economy, because they do not always deal with representative groups of companies. Many studies exclude companies with fewer than 20 employees.

Using micro data, Crépon et al. (2004) find that companies that reduced working time under Aubry I created around 10% more employment than companies that did not. Crépon/Kramarz (2008) come to a similar conclusion, with 10.5% more employment under Aubry I. However, they also look at the employment effects of the legislation from 2000 onwards. In this they find that working time reduction from 2000 led to 5% more employment than was the case in companies which did not cut working time. If this percentage is converted into jobs, this means that, between 1998 and 2002, around 350,000 jobs were created through the reforms (Gubian et al. 2004).

Crépon et al. (2004) also quantify the influence of the different measures. Of the 10.5% higher employment created by the 1998 legislation, higher demand as a result of higher growth explains five percentage points, two percentage points come from lower wage costs through subsidising social contributions, and the cut in working time itself is responsible for 3.5 percentage points, in other words, around a third of the growth in employment.

On the other hand, Estevao/Sa (2008) using a wider range of data find the legislation had no impact on employment. They also look at small companies with fewer than 20 employees, which were legally first required to reduce working time in 2002. The authors compare the probability of finding a job in a small or a large company following the reform, and, as they find no difference between the two probabilities, they conclude that the reforms had no impact on employment.

The problem with this result is, as Askenazy (2008) shows, that there were very many small companies which had introduced the 35-hour week even though they were not legally required to do so. This means that the comparison between the two groups of companies reveals very little about the employment effects of cuts in working time.

Schreiber/Logeay (2006) are among the few authors who used macro data for their evaluation – aggregated employment figures, GDP etc. The detailed examination of individual companies is missing from their work, but they can better estimate the overall economic effect of the reforms. They forecast the development of GDP, working time, labour costs and employment from 1998 on the basis of data from 1980 to 1998, in other words before the reforms. Looking at the difference between this forecast and what actually happened to these indicators following the reduction of working time, allows them to calculate the effect of the reform. In fact their forecast for GDP is very close to the actual trend, but employment is substantially underestimated in the forecast and working time overestimated. This indicates that the cut in working time led to high levels of employment creation.

Schreiber (2008) also uses macro data and comes to results which are similar to those of Schreiber/Logeay (2006). However, he does not find that working time reduction had any clear influence on

employment, which leads him to conclude that it must have been other elements within the reform, such as the greater flexibility of working time or the subsidies, which led to job creation.

The studies indicate that it is difficult to establish precisely which elements of the reform led to a growth in employment and a fall in unemployment. At the same time there was an improvement in the quality of life of those affected. In polls a majority of French people – just under 60% – stated that the cut in working time had made their daily lives better, while 28% said there had been no changes and 13% saw a worsening (Cette et al. 2004; Coutro 2006). The working time reduction had a particularly positive impact on family life.

The conservative government, which came to power in 2002, did not repeal the reforms, but they did water them down. The rules on overtime have been substantially weakened and the subsidies for employers' social contributions have been extended to all companies, whether or not they have cut working time. Despite this, companies have not greatly extended working time, so that the 35 hours continues to be the length of the standard working week.

Literature

Askenazy, P. (2008): A Primer on the 35-Hour in France, IZA Discussion Paper, No. 3402.

Baccaro, L. (2003): What is Alive and What is Dead in the Theory of Corporatism, in: British Journal of Industrial Relations, Vol. 41, No. 4, 683–706.

Bauer, F./Munz, E. (2005): Arbeitszeiten in Deutschland: 40plus und hochflexibel, in: WSI-Mitteilungen, No. 1, 40-48.

Bispinck, R./WSI-Tarifarchiv (2009): Tarifliche Regelungen zur befristeten Arbeitszeitverkürzung, Elemente qualitativer Tarifpolitik, No. 67.

Bofinger, Peter (2010): Deutschland lebt unter seinen Verhältnissen:
URL: http://www.sueddeutsche.de/wirtschaft/137/511245/text/ (last access: 19.05.2010).

Bogedan, C. (2010): Arbeitsmarktpolitik aus der Mottenkiste? Kurzarbeit in Zeiten der Aktivierung, in: WSI-Mitteilungen, No. 11, 577-583.

Bosch, G. (2009): Low-wage work in five European countries and the United States, in: International Labour Review, Vol. 148, No. 4, 337–356.

Bosch, G./Kalina, T./Weinkopf, C. (2008): Niedriglohnbeschäftigte auf der Verliererseite, in: WSI Mitteilungen, No. 8, 423-430.

Boss, A./Dovern, J./Groll, D./ Meier C.-P./van Roye, B./Scheide, J. (2009): Weltkonjunktur und deutsche Konjunktur im Winter 2009, Kieler Diskussionsbeiträge, No. 470 /471.

Brandl, B./Traxler, F. (2005): Industrial Relations, Social Pacts and Welfare Expenditures: A Cross-national Comparison, in: British Journal of Industrial Relations, Vol. 43, No. 4, 635-658.

Brecht, M./Tober, S./van Treeck, T./Truger, A. (2010): Squaring the circle in Euroland? Some remarks on the Stability and Convergence Programmes 2010-2013, IMK Working Paper 3/2010.

Brenke, K. (2007): Zunehmende Lohnspreizung in Deutschland, in: DIW Wochenbericht, No. 6, 73-79.

Brenke, K. (2009): Reallöhne in Deutschland über mehrere Jahre rückläufig, in: DIW-Wochenbericht, No. 33, 550-560.

Cette, G./Dromel, N./Méda, D. (2004): Les déterminants du jugement des salariés sur la RTT, in: Economie et statistiques, No. 376-377, 177-151.

Coutro, T. M. (2006): Les conditions de travail des salariés après la réduction de leur temps de travail, in: Documents pour le Médecin du Travail, No. 106, 95-201.

Crépon, B./Kramarz, F. (2008): The Two French Work-Sharing Experiments: Employment and Productivity Effects, in: T. Boeri, M. C. Burda and F. Kramarz. (ed.): Working Hours and Job Sharing in the US and USA, Oxford, Oxford University Press, 167-188.

Crépon, B./Leclair, M./Roux, S. (2004): RTT, productivité et emploi: nouvelles estimations sur données d'entreprises, in: Economie et statistiques, No. 376-377, 55-89.

Dietz, M./Stops, M./Walwei, U. (2010): Safeguarding Jobs through Labor Hoarding in Germany, in: Applied Economics Quarterly Supplement, No. 61,125-151.

Estevao, M./Sá, F. (2008): The 35-Hour Workweek in France: Straightjacket or Welfare Improvment?, in: Economic Policy, Vol. 23, No. 55, 417-463.

Fitoussi, J.-P. (2010): Rezepte gegen den Exportexzess, Interview in FTD, 7 April, 2010.

Giavazzi, F. (2010): Germany's trade surplus and investments in southern Europe, URL: http://www.voxeu.org/index.php?q=node/4911 (last access: 19.05.10).

Groß, H./Munz, E./Seifert, H. (2000): Verbreitung und Struktur von Arbeitszeitkonten, in: Arbeit, Vol. 9, No. 3, 217-229.

Groß, H./Schwarz, M. (2010): Arbeitszeit, Altersstrukturen und Corporate Social Responsibility, Wiesbaden.

Gubian, A./Jugnot, S./Lerais, F./Passeron, V. (2004): Les effets de la RTT sur l'emploi: des simulations ex ante aux évaluations ex post, in: Economie et statistiques, No. 376-377, 25-54.

Hein, E./Truger, A. (2009): How to Fight (or Not to Fight) a Slowdown, in: Challenge, 52/3, 52–75.

Hemerijck, A./Unger, B./Visser, J. (2000): How small countries negotiate change: twenty-five years of policy adjustment in Austria, the Netherlands, and Belgium, in: Scharpf, F. W. / Schmidt, V. A. (ed.), Welfare and Work in the Open Economy, Vol. II: Diverse Responses to Common Challenges, Oxford, Oxford University Press, 175-263.

Herzog-Stein, A. (2010): Das Jahr der Krise, in: Groß, H./Seifert, H. (ed.), Zeitkonflikte, Berlin, 17-36.

Herzog-Stein, A./Seifert, H. (2010): Der Arbeitsmarkt in der Großen Rezession – Bewährte Strategien in neuen Formen, in: WSI-Mitteilungen, No. 11, 1-10.

Hicks, A./Kenworthy, L. (1998): Cooperation and Political Economic Performance in Affluent Democratic Capitalism, in: American Journal of Sociology, Vol. 103, No. 6, 1631–1672.

Horn, G./Logeay, C./Tober, S. (2007): Methodological Issues of Medium-Term Macroeconomic Projections – The Case of Potential Output, IMK Studies No. 4.

Horn, G./Joebges, H./Logeay, C./Sturn, S. (2008): Frankreich: Ein Vorbild für Deutschland? Ein Vergleich wirtschaftspolitischer Strategien mit und ohne Mindestlohn, IMK Report No. 31.

Horn, G./Dröge, K./Sturn, S./van Treeck, T./ Zwiener, R. (2009): From the financial crisis to the world economic crisis. The role of inequality. English version of IMK Report No. 41. IMK Policy Brief.

Horn, G./Sturn, S./Tober, S./Truger, A. (2010): Herausforderungen für die Wirtschaftspolitik 2010 – Geldpolitik, Finanzpolitik und Arbeitsmarktpolitik in diesem Jahr, IMK Report No. 46.

ifo (2008): Schutz vor Niedriglohnen oder Arbeitsplatzvernichter: Für und wider die Festsetzung eines gesetzlichen Mindestlohns, ifo Schnelldienst No. 6.

IMF (2010): Unemployment Dynamics during Recessions and Recoveries: Okun's Law and Beyond, in: World Economic Outlook, April, 1-39.

Joebges, H./Schmalzbauer, A./Zwiener, R. (2009): Der Preis für den Exportweltmeister Deutschland: Reallohnrückgang und geringes Wirtschaftswachstum, IMK Studies No. 4.

Keller, B./Seifert, H. (2007): Atypische Beschäftigungsverhältnisse – Flexibilität, soziale Sicherheit und Prekarität, in: Keller, B./Seifert, H. (ed.), Atypische Beschäftigung – Flexibilisierung und soziale Risiken, Berlin, Edition Sigma.

Klär, E./Slacalek, J. (2006): Entwicklung der Sparquote in Deutschland: Hindernis für die Erholung der Konsumnachfrage, in: DIW-Wochenbericht, 40/2006, 537-543.

Kohns, S. (2010): Arbeitsmarktreformen in Deutschland: eine noch unvollendete Erfolgsgeschichte, in: WSI Mitteilungen, No. 11, 584-591.

Logeay, C./Schreiber, S. (2006): Testing the Effectiveness of the French Work-Sharing Reform: A Forecasting Approach, in: Applied Economics, Vol. 38, 2053-2068.

Logeay, C./Zwiener, R. (2008): Deutliche Realeinkommensverluste für Arbeitnehmer: Die neue Dimension eines Aufschwungs, in: WSI Mitteilungen, No. 8, 415-422.

Meinhardt, V./Rietzler, K./Zwiener, R. (2009): Konjunktur und Rentenversicherung – gegenseitige Abhängigkeiten und mögliche Veränderungen durch diskretionäre Maßnahmen, Forschungsbericht im Auftrag Deutsche Rentenversicherung Bund, IMK Studies No. 3.

Möller, J. (2010): The German labor market response in the world recession – de-mystifying a miracle, in: Zeitschrift für ArbeitsmarktForschung, Vol. 42, No. 4, 325-336.

OECD (2008): Growing unequal? Income distribution and poverty in OECD countries, Paris.

OECD (2010): Employment Outlook. Moving Beyond the Jobs Crisis, Paris.

Posen A. (2010): Rezepte gegen den Exportexzess, Interview in FTD from 7 April.

Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (SVR) (2004): Erfolge im Ausland – Herausforderungen im Inland, Jahresgutachten 2004/05, Wiesbaden.

Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (SVR) (2006): Widerstreitende Interessen - Ungenutzte Chancen, Jahresgutachten: 2006/07, Wiesbaden.

Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (SVR) (2007): Das Erreichte nicht verspielen, Jahresgutachten 2007/2008, Sections 481 – 492, Wiesbaden.

Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (SVR) (2008): Die Finanzkrise meistern – Wachstumskräfte stärken, Jahresgutachten 2008/2009, Sections 475 – 490, Wiesbaden.

Schreiber, S. (2008): Did Worksharing Work in France? Evidence from a Structural Co-integreted VAR Model, in: European Journal of Political Economy, Vol. 24, 478-490.

Stein, U./Aricò, F. (2010): Beschäftigungspolitische Krisenreaktion in Deutschland, Italien und dem Vereinigten Königreich, in: WSI-Mitteilungen, No. 11, 569-576.

Stiglitz, J. (2010): Kann der Euro gerettet werden? URL: http://www.project-syndicate.org/commentary/stiglitz125/German (last access: 28.10.2010).

Sturn, S./van Treeck, T. (2010): Arbeitsmarktreformen in Deutschland: Hohe soziale Kosten ohne gesamtwirtschaftlichen Nutzen, in: WSI Mitteilungen, No. 11, 592-600.

Tangian, A. (2010): Not for bad weather: macroanalysis of flexicurity with regard to the crisis. ETUI Working Paper No. 4.

Zemanek, H./Belke, A./Schnabl, G. (2009): Current Account Imbalances and Structural Adjustment in the Euro Area: How to Rebalance Competitiveness, DIW Discussion Papers, 895.

Published by: Macroeconomic Policy Institute (IMK) at the
Hans Böckler Foundation, Hans-Böckler-Str. 39, 40476 Düsseldorf, Telephone +49 211 7778-331,
Fax +49 211 7778-266, IMK@boeckler.de, http://www.imk-boeckler.de

Managing Editor: Prof. Dr. Gustav A. Horn
Press officer: Rainer Jung, +49 211 7778-150

Hans **Böckler** Stiftung