

DEVELOPMENTS IN THE STRUCTURAL FEATURES OF THE EURO AREA LABOUR MARKETS OVER THE LAST DECADE

ARTICLES

Developments in the structural features of euro area labour markets over the last decade

This article reviews developments in the structural features of the euro area labour markets over the last ten years. It identifies several improvements in the labour market performance of the euro area, including rising labour force participation and employment rates, as well as declining unemployment rates. Women and older workers in particular, and to some extent workers with lower skills, have experienced significant improvements in their labour market situation. In line with these improvements over the last ten years, available information points to a steady, though gradual, decline in the structural unemployment rate in the euro area. This decline may be related to the fact that many euro area countries have made some progress with labour market reform, such as improving incentives to work. In addition, wage developments characterised by moderate outcomes have made an important contribution to stronger employment growth. Nevertheless, the performance of the euro area labour markets is still far from being efficient and sufficiently flexible. Unemployment rates continue to be unacceptably high and participation in the labour market is low by international standards. This indicates that labour market and wage rigidities remain a problem and represent important challenges that need to be addressed by further reform.

I INTRODUCTION

The structural features of the euro area labour markets affect the economic environment in which the ECB's monetary policy is conducted in three main ways. First, the structural features of labour supply and demand, such as labour force participation, employment and unemployment, influence an economy's output level and its potential growth rate. Second, these features, together with the structural features of wage formation, have an impact on labour costs, which are in turn an important determinant of price developments. Third, along with the flexibility of labour and product market institutions, the structural features of the euro area labour markets determine the adjustment flexibility and resilience of the euro area economy to economic shocks.

Accordingly, this article reviews developments in the structural features of the euro area labour markets over the last ten years, a period characterised by signs of an improvement in the performance of euro area labour markets and by some progress with structural reform in both labour and product markets.¹ Section 2 surveys recent euro area trends and patterns in labour force participation, employment and unemployment, while Section 3 analyses recent trends and patterns in wages. Section 4 reviews the progress made in reforming labour market institutions, briefly assesses how far such

reforms may explain recent labour market developments and finally addresses further necessary structural reforms. Section 5 summarises the main findings and concludes.

2 RECENT TRENDS AND PATTERNS IN LABOUR FORCE PARTICIPATION, EMPLOYMENT AND UNEMPLOYMENT RATES

LABOUR FORCE PARTICIPATION

Over the last decade, the euro area has made progress in increasing the share of the working age population participating in the labour market as employed or unemployed, i.e. its labour force participation rate, narrowing the gap with the United States. Between 1995 and 2006 the labour force participation rate increased by 5.1 percentage points to 70.4% (see Table 1). To a considerable extent, this increase was the result of an increase in the participation of older persons (aged 55-64) and women, while the participation rate among young persons (aged 15-24) and prime-age men (aged 25-54) remained broadly unchanged. Among young persons, the labour force participation rate was associated with an increased participation in

¹ This article follows up the article entitled "The composition of employment growth in the euro area in recent years" in the November 2002 issue of the Monthly Bulletin. The data used refer to the euro area excluding Slovenia. The main source of information is the EU Labour Force Survey published by Eurostat.

Table I Labour force participation rates¹⁾ in the euro area and the United States by gender and age group

(percentages per annum; changes in percentage points)

	Age	Euro area			United States		
		Level		Change from 1995 to 2006	Level		Change from 1995 to 2005
		1995	2006		1995	2005	
All	15-64	65.3	70.4	5.1	76.9	75.4	-1.5
Men	15-64	76.4	78.4	2.0	84.3	81.8	-2.5
	25-54	92.8	93.0	0.2	91.6	90.5	-1.1
Women	15-64	54.2	62.4	8.1	69.7	69.3	-0.4
	25-54	66.8	75.5	8.8	75.6	75.3	-0.4
Older persons	55-64	36.0	44.8	8.8	57.2	62.9	5.7
Young persons	15-24	43.7	44.1	0.4	66.3	60.8	-5.5

Sources: Eurostat and Bureau of Labor Statistics.

Note: Euro area figures refer to the second quarter of the year.

1) Ratio of those in employment and those in unemployment (i.e. the labour force) to the working age population.

education. Whereas 61.2% of young persons participated in education in 1995, in 2006 the share was 66%. As a result, the last decade has seen a steady “catch-up” in the educational attainment of young persons compared with older persons, as indicated by a rising share of young persons having attained at least secondary education level.

Several factors may have contributed to the rise in labour force participation rates observed among women and older persons. These include a structural change in female labour supply with women staying longer in education and subsequently displaying a greater preference for participating in the labour force than in the past.² Moreover, tax and benefit system reforms aimed at increasing work incentives for women and older workers seem to be gradually bearing fruit.

Nevertheless, while the labour force participation rate among prime-age men in the euro area exceeds that in the United States, US participation rates among older workers and young persons are much higher than in the euro area. Finally, over the period considered, the increase in the labour force participation rate in the euro area occurred alongside a slight increase in the growth rate of its working-age population that was partly driven by a rise in immigration (see Box 1).

- 2 Evidence on the impact of education decisions on the participation of young women can be found in V. Genre, R. Gómez Salvador and A. Lamo, “European women, why do(n't) they work?”, ECB Working Paper No 454, March 2005. Generally, the increased share of more educated workers is estimated to have made an important contribution to euro area labour productivity growth (see G. Schwerdt and J. Turunen, “Growth in euro area labour quality”, ECB Working Paper No 575, January 2006).

Box 1

IMMIGRATION AND LABOUR SUPPLY

Part of the increase in labour supply over the last decade is a result of increased immigration. The chart shows the net flow of migrants into the EU-15¹ and the United States since the 1960s. Three phases of migration can be identified in Europe until the late 1990s: the guest-worker phase (1950s and 1960s, when a number of countries initiated programmes to recruit foreign workers), the family-reunification phase (1970s, when existing immigrants decided to stay in

1 Data are not available for the euro area aggregate.

their host countries and were joined by their families) and the asylum-seeker phase (late 1980s and early 1990s, when a number of political events, wars and ethnic conflicts caused the number of people seeking asylum to rise).

More recently, a fourth phase seems to have arisen. Since 1998, net migration to the EU-15 has increased from around 500,000 people per year to close to two million in 2003. Furthermore, since 1999, net migration to the EU-15 has risen above that to the United States. Indeed, part of the increase in recent years reflects new immigration, possibly as a result of globalisation, but part is also the result of the large-scale regularisation of existing, but illegal, immigrants in some Member States. Enlargement of the European Union to 25 Member States in 2004 also contributed to an increase in net migration to the EU-15.

The extent to which migration flows have contributed to labour supply varies strongly across euro area countries. In 2002-03 the percentage of working and residing foreign nationals was highest in Luxembourg at around 40%, around 10% in Austria, Greece, Germany and Belgium, and less than 5% in Italy, the Netherlands, Portugal and Finland. In the period 2005-06, the immigrant population in Spain and Ireland rose notably due to high inflows of migrants and the Spanish regularisation programme of 2005.

Both economic theory and empirical evidence suggest that the net economic gains from immigration are likely to be positive for receiving countries. The net inflow of migrants will also contribute to boosting labour supply in the euro area, helping to offset some of the negative effects of demographic change.²

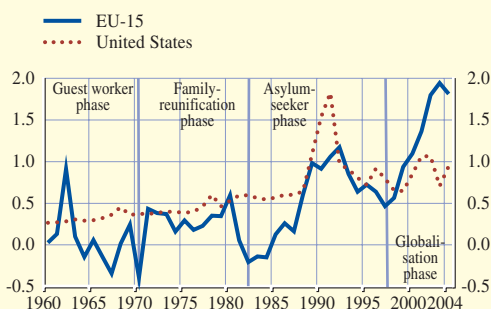
² See the article entitled "Demographic change in the euro area: projections and consequences" in the October 2006 issue of the Monthly Bulletin, and A. Maddaloni, A. Musso, P. Rother, M. Ward-Warmedinger and T. Westermann, "Macroeconomic implications of demographic developments in the euro area", ECB Occasional Paper No 51, August 2006.

EMPLOYMENT

As with labour force participation, the euro area has also made progress in increasing employment rates over the last decade, reducing the differences vis-à-vis the United States. In this regard, the euro area employment rate rose by 6.6 percentage points to 64.4% in 2006; increases in the employment rates among women and older workers were the largest (see Table 2). Interestingly, in terms of employment

Net migration flow into the EU-15 and United States

(millions of persons)



Source: European Commission.

Notes: Net migration is measured as the difference between the total population on 1 January and 31 December for a given calendar year, minus the difference between births and deaths (or natural increase). The EU-15 refers to the EU Member States prior to May 2004.

by educational attainment, rates grew most significantly among less-skilled workers. This may reflect, inter alia, wage policies that support job creation at the lower end of the wage scale. However, significant differences in employment rates remain across skill groups. Currently, more than 80% of those with tertiary education are employed, while among those with below secondary education the proportion remains under 60%.

Table 2 Employment rates¹⁾ in the euro area and the United States by gender and age group

(percentages per annum; changes in percentage points)

	Age	Euro area			United States		
		Level		Change from 1995 to 2006	Level		Change from 1995 to 2005
		1995	2006		1995	2005	
All	15-64	57.8	64.4	6.6	72.5	71.5	-1.0
Men	15-64	69.2	72.4	3.3	79.5	77.6	-1.9
	25-54	85.4	86.8	1.4	87.6	86.9	-0.7
Women	15-64	46.6	56.4	9.8	65.8	65.7	-0.1
	25-54	58.5	69.0	10.5	72.2	72.0	-0.2
Older persons	55-64	33.0	41.6	8.6	55.1	60.8	5.7
Younger persons	15-24	33.6	36.7	3.1	58.3	53.9	-4.4
Skills	25-64						
	<i>below secondary education</i>	50.5	57.2	6.7	53.9	56.5	2.6
	<i>at least secondary education</i>	71.1	74.3	3.2	75.1	72.8	-2.3
	<i>tertiary education</i>	81.9	83.5	1.6	85.8	82.0	-3.8
Part-time ratio ²⁾	15-64	13.8	19.3	5.5	13.2	12.8	-0.4

Sources: Eurostat, Bureau of Labor Statistics and OECD.

Note: Euro area figures refer to the second quarter of the year.

1) Ratio of those in employment to the working age population.

2) Ratio of part-time employment to total employment.

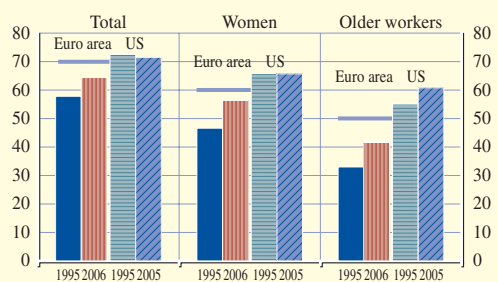
From a sectoral perspective, the trend towards a service-based economy has continued in the euro area over the last decade. While the agricultural and industrial sectors have lost around 1.5 and 3.5 percentage points respectively in their employment shares over the last decade, the services sector increased its weight to around 70% in 2006. However, a sizeable gap persists compared with the sectoral employment structure in the United States, where employment in services accounted for 77% of total employment in 2004. To some

extent, this may be explained by the greater flexibility of wages in the services sector in the United States, as suggested by the greater wage differential with respect to the total economy (for more on this, see Section 3).

Despite the latest improvements in employment rates in the euro area, there is still some way to go to reach the employment rate targets envisaged by the Lisbon agenda for 2010 (overall employment of 70%, 60% of women and 50% of older workers). As Chart 1 shows, the United States outperformed all of these targets in 1995 and 2005.

Chart 1 Employment rates in view of the Lisbon agenda targets for 2010: 1995 and 2006

(percentages)



Sources: Eurostat and Bureau of Labor Statistics.

Note: The thick horizontal lines indicate the respective employment targets set by the Lisbon agenda.

The increase in euro area employment over the last decade is lower when measured in terms of hours worked than in terms of persons in employment. This is due to the fact that the rise in the employment rate over the last decade was accompanied by a significant decline in the average annual hours worked per worker to a level much lower than in the United States. This decline was mainly driven by a significant increase in the part-time employment rate from 13.8% to 19.3% between 1995 and 2006 (see Table 2). In general, more part-time work may be voluntary, indicating an increased flexibility

Table 3 Unemployment rates¹⁾ in the euro area and the United States by gender, age group and skills

(percentages per annum; changes in percentage points)

	Age	Euro area			United States		
		Level		Change from 1995 to 2006	Level		Change from 1995 to 2005
		1995	2006		1995	2005	
All	15-64	11.4	8.3	-3.1	5.6	5.1	-0.5
Men	15-64	9.5	7.5	-2.0	5.6	5.1	-0.5
Women	15-64	14.1	9.4	-4.7	5.7	5.2	-0.5
Younger persons	15-24	23.1	16.2	-6.9	12.1	11.3	-0.8
Skills	25-64						
<i>below secondary education</i>		13.3	9.9	-3.4	10.0	10.5	0.5
<i>at least secondary education</i>		8.6	7.2	-1.4	5.0	5.6	0.6
<i>tertiary education</i>		6.7	4.7	-2.0	2.7	3.3	0.6
Long-term unemployment ²⁾	>15	49.5	46.8	-2.7	9.7	11.8	2.1

Sources: Eurostat, Bureau of Labor Statistics and OECD.

Notes: Euro area figures refer to the second quarter of the year. US figures for 2005 relating to skills refer to 2004.

1) Ratio of those in unemployment to the labour force.

2) Share of those in unemployment who have been unemployed for over a year.

of working time arrangements. However, the decline in annual hours worked per worker was also a result of legal arrangements providing for a decline in working hours, a trend that seems to have come to a halt only more recently.³ In the case of females, the gap in average annual hours worked per worker between the United States and the euro area tends to shrink when the sum of hours worked in the market and at home is considered, pointing to a stronger allocation of household production to the market in the United States than in the euro area.⁴

Turning to the resilience of economies to shocks, both the euro area and the United States reacted to the latest economic downturn by a stronger downward adjustment in hours worked per worker than in employment. However, employment in the euro area has shown a greater resilience to the downturn than in the United States. This is remarkable, since in previous slowdowns, labour input in the euro area has adjusted mostly via employment. More flexible working time arrangements and moderate wage developments are likely to have contributed to this development.

UNEMPLOYMENT

The positive trend in employment rates has been mirrored by lower unemployment. Over the last decade, the overall euro area

unemployment rate among persons aged 15-64 declined by 3.1 percentage points to 8.3% in 2006 (see Table 3). The reduction in the euro area unemployment rate mainly benefited young persons, women and, by educational level, low-skilled persons. As regards the decline in youth unemployment, to the extent that it was accompanied by an increase in the employment rate in that age group, this may reflect, inter alia, a continuous rise in young people's educational attainment, increasing their employability. To the extent that the decline in youth unemployment was not accompanied by an increase in the youth employment rate, it is likely that it reflects an increased participation in education.

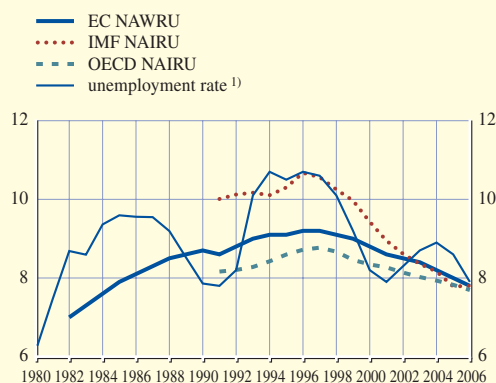
When looking at indicators of labour market performance that may reflect more fundamental and structural changes in the labour market, such as changes in long-term unemployment (i.e. the percentage of unemployed persons

3 See also the box entitled "Developments in total hours worked, employment and average hours worked" in the September 2006 issue of the Monthly Bulletin, and N. Leiner-Killinger, C. Madaschi and M. Ward-Warmedinger, "Trends and patterns in working time across euro area countries 1970-2004: causes and consequences", ECB Occasional Paper No 41, December 2005.

4 See R. Freeman and R. Schettkat, "Jobs and home work", *Economic Policy* 20(41), Blackwell, 2005. Their study is based on time-use surveys/diaries that organise the 24 hours in a day into hours spent working in the market, in the household, for leisure and for personal time.

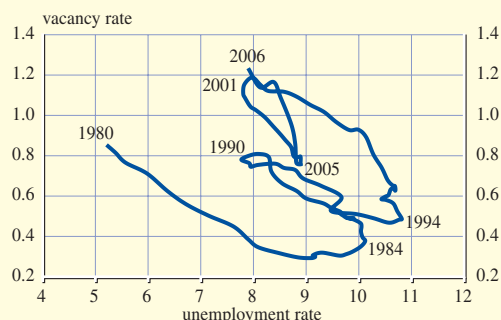
Chart 2 NAIRU/NAWRU estimates of the euro area by international organisations

(percentage of the labour force)



Sources: European Commission, Eurostat, IMF and OECD.
 Notes: The methods and data used by the different institutions in their estimation of the NAIRU/NAWRU differ. The main difference relates to the use of a purely statistical filtering method by the IMF, compared with a Phillips-curve framework used by the European Commission and the OECD. This largely explains the level difference observed. The underlying unemployment definitions and data also differ somewhat, but to a lesser extent.
 1) The figure for 2006 refers to the average up to the end of October 2006 as released by Eurostat.

Chart 3 The unemployment-vacancy relationship in the euro area



Sources: Eurostat, OECD and ECB calculations.
 Notes: The unemployment rate and the vacancy rate are defined respectively as the ratio of the number of unemployed and the number of vacant jobs to the labour force. The figure for 2006 refers to the second quarter.

being unemployed for more than a year), its decline from 49.5% in 1995 to 46.8% in 2006 was limited. Overall, the high level of long-term unemployment is one of the most striking indications of the still insufficient functioning of the euro area labour markets.

As another indicator capturing more structural changes in the labour market, estimates of the non-accelerating inflation rate of unemployment (NAIRU) fell moderately over the last decade. The NAIRU is a theoretical concept defined as that level of unemployment which is consistent with a stable inflation rate. Occasionally the relationship modelled is between unemployment and wage inflation, in which case the structural unemployment rate estimated is labelled as the non-accelerating wage inflation rate of unemployment (NAWRU). In the past, the NAIRU/NAWRU was assumed to approximate to the long-term average unemployment rate, but was later recognised to change over time.⁵

The measurement of the NAIRU/NAWRU can be quite imprecise, particularly when looking at real-time estimates.⁶ The ECB does not therefore

rely on measures of the NAIRU/NAWRU level in the context of its regular monetary policy assessment. Nevertheless, NAIRU/NAWRU developments can provide some information on longer-term trends. Indeed, although estimates vary, the broad pattern across measures used by international organisations appears to be similar and suggests a gradual, but steady, decline since the mid-1990s, from a level of around 9.3% in 1995 to around 8.0% in 2006 (see Chart 2). It is also notable that the NAIRU/NAWRU estimates continued to fall during the period of weak economic growth between 2001 and 2005. The positive developments in the NAIRU/NAWRU over the last decade have largely been attributed to the benefits of greater wage flexibility, as well as the labour and product market reforms

5 For a more detailed analysis of developments in structural unemployment in the euro area, see the box entitled "A longer term perspective on structural unemployment in the euro area" in the August 2005 issue of the Monthly Bulletin.
 6 See, for example, the evidence reported in D. Staiger, J. Stock and M. Watson (1997), "How precise are estimates of the natural rate of unemployment" in C. Romer and D. Romer (eds) *Reducing inflation: motivation and strategy*, University of Chicago Press, 1997.

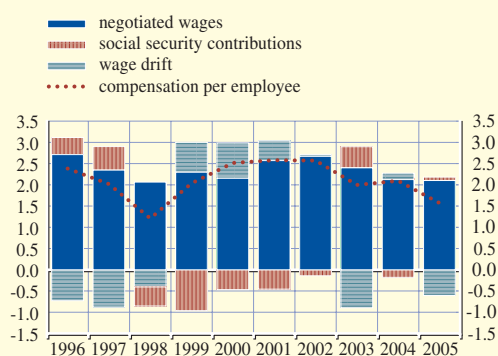
implemented in several euro area countries.⁷ However, the NAIRU/NAWRU still remains at a high level, suggesting the need for further reforms to increase labour market flexibility.

Finally, an assessment of changes in the Beveridge curve – i.e. the relationship between vacancies and unemployment – for the euro area may provide an indication of changes in labour market functioning arising from structural factors. The Beveridge curve presents a broad description of developments in the matching process of unemployed persons and vacancies. Movements along the curve, i.e. where vacancies and unemployment move in different directions, reflect cyclical fluctuations in economic activity. These movements are characterised by anti-clockwise loops.⁸ An inward (outward) shift of the curve, where vacancies and unemployment decline (increase) simultaneously, may indicate an improvement (deterioration) in the matching process owing to structural factors such as more (less) efficient labour market institutions.

Since the mid-1990s, developments in the euro area Beveridge curve have been mainly driven by cyclical movements (see Chart 3). Indeed, the vacancy rate increased pro-cyclically between 1994 and 2001, while the unemployment rate declined. This was followed by a period of economic slowdown, when the vacancy rate fell and the unemployment rate started to increase. The vacancy rate has increased again since the start of 2005, contributing to lower unemployment. It is worth noting that there is no evidence of any further outward movements in the Beveridge curve relationship during this ten-year period. This suggests that adverse impacts of shocks of a more structural nature, such as those relating to the reduced effectiveness of the job matching process and sectoral shifts, have come to a halt. At the same time, no inward movements have been seen either, and today's performance is significantly worse than in the early 1980s, suggesting the need to improve the efficiency of the matching process.

Chart 4 Growth in euro area compensation per employee and its components

(annual percentage changes)



Sources: Eurostat, ECB and ECB calculations.

3 RECENT TRENDS AND PATTERNS IN WAGES

The last ten years have been characterised by overall moderate developments in wages and labour costs. The annual growth rate of nominal compensation per employee in the euro area averaged 2.2% between 1995 and 2005, compared with more than 5% per year in the previous ten-year period. Average wage growth per hour worked has been somewhat stronger at approximately 2.6%, owing to the trend decline in hours worked per worker. Furthermore, despite a sustained decline in labour productivity growth, annual growth in unit labour costs in the euro area averaged about 1.4% between 1995 and 2005, less than half the growth rate observed in the previous ten-year period. This has facilitated the conduct of monetary policy and the maintenance of price stability in the euro area. In addition, overall moderate wage developments have made an important contribution to the improved performance of the euro area labour markets observed in recent years.

⁷ See, for example, S. Nickell, "Labour market institutions and unemployment in OECD countries", CESIFO DICE Report 1, No 2 (2003), pp. 13-26.

⁸ For a more detailed analysis of the unemployment-vacancy relationship in the euro area and the possible shocks affecting it, see the box entitled "The unemployment-vacancy relationship in the euro area" in the December 2002 issue of the Monthly Bulletin.

A number of structural factors are likely to have contributed to the overall moderate wage bargaining outcomes in recent years. Negotiated wages and salaries can be considered to be the basic component of labour costs (see Chart 4).⁹ Growth in negotiated wages is the largest component of compensation per employee growth and moderate wage bargaining outcomes are thus confirmed as the main driving force of overall lower wage growth in the last decade. An enhanced common understanding between parties involved in the wage bargaining process that lower wage increases foster employment creation, contribute to keeping inflation low and stable and improve competitiveness is likely to have been a significant factor. Other factors, such as the still high levels of unemployment due to structural rigidities, changes in production structures and technologies, and increased downward pressure on labour costs stemming from enhanced global competition (including competition from the new EU Member States), are also likely to have contributed to dampening bargaining outcomes. Social security contributions – the second main component of overall compensation per employee growth – are generally stipulated by law. In the period between 1998 and 2002 they were subject to cuts, reflecting the contribution to lower wage growth of specific reforms aimed at lowering the

cost of labour in a number of euro area countries (see Chart 4).

The recent wage developments in the euro area are an aggregation of diverse developments across euro area countries.¹⁰ Differences in the extent of wage rigidities across euro area countries and compared with the United States are likely to have played an important role (see Box 2 for empirical evidence on wage rigidities). Wage rigidities, in turn, may be determined by a number of institutional factors. For example, backward-looking indexation clauses that adjust wage growth based on past inflation, while less common now than in the past, still exist in some euro area countries, potentially giving rise to real wage rigidities.¹¹

9 See, for example, the box entitled “Recent developments in euro area wage drift” in the October 2006 issue of the Monthly Bulletin.

10 Divergence in labour cost developments across euro area countries is an important determinant of the dispersion in HICP inflation rates and has important implications for cost competitiveness and economic growth in euro area countries. See the report entitled “Inflation differentials in the euro area: potential causes and policy implications”, ECB (2003).

11 Wage indexation clauses are automatic in Belgium and Luxembourg (as well as applying to minimum wages in France), are included in most contracts in Spain, and can be invoked in a few other euro area countries.

Box 2

WAGE RIGIDITIES IN THE EURO AREA AND THE UNITED STATES

A number of studies have attempted to estimate the degree of downward nominal wage rigidity (i.e. the ease with which nominal wages adjust downwards) in European countries. Two studies of cross-country variation during the mid-1990s using data from the European Community Household Panel (Dessy, 2005, and Knoppik and Beissinger, 2005) find that nominal wage rigidity varies considerably across the EU-15.¹ Using industry level data for 19 OECD countries, Holden and Wulfsberg (2005) also find significant downward nominal wage rigidity.² Evidence on the extent of real wage rigidity is far scarcer. Barwell and Schweitzer (2004), Bauer, Bonin, and Sunde (2003), Böckerman, Laaksonen and Vainiomäki (2003), Dessy (2005), and Devicienti, Maida and Sestito (2005) find varying degrees of downward real wage rigidity in the United

1 O. Dessy (2005), “Nominal wage rigidity in Europe: estimates, causes and consequences”, paper prepared for the European Economics Association Annual Conference, Vienna 2005, University of Milan. C. Knoppik and T. Beissinger (2005), “Downward nominal wage rigidity in Europe: an analysis of European micro data from the ECHP 1994-2001”, IZA Discussion Paper No 1492.

2 S. Holden and F. Wulfsberg (2005), “Downward nominal wage rigidity in the OECD”, mimeo, available at <http://folk.uio.no/sholden/#wp>.

Kingdom, Germany, Finland, Italy and other European countries.³ However, significant differences in data and measurement methods used in these independent studies make comparisons of their conclusions as regards the extent of rigidities across countries difficult.

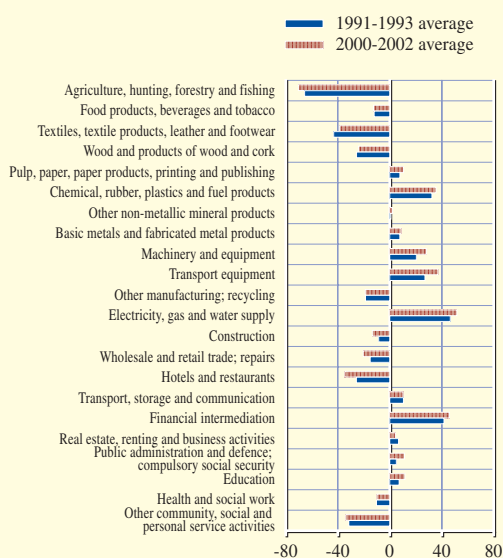
Research by the International Wage Flexibility Project (IWFP), an international network of academics and policymakers, aims to fill this gap by measuring downward nominal and real wage rigidity using microeconomic data for a number of euro area countries and the United States.⁴ Estimates from the IWFP point to significant wage rigidities. Compared with the United States, real wage rigidities appear to be more common in European countries. However, overall there is significant heterogeneity in the nature and extent of both types of rigidity across countries. In terms of the causes of wage rigidity, the results suggest that downward real wage rigidities appear to be positively associated with union presence. This suggests that participants in collective bargaining may give more attention to developments in real, as opposed to nominal, wages. Unions may also have the bargaining power to protect real wages.

3 For complete references, a summary of this work and the results of the International Wage Flexibility Project, see W. Dickens, L. Goette, E. L. Groschen, S. Holden, J. Messina, M. Schweitzer, J. Turunen and M. Ward-Warmedinger, "How wages change: micro evidence from the International Wage Flexibility Project", ECB Working Paper No 697, November 2006. A paper stemming from the same project also measures downward wage rigidity after controlling for measurement error, see W. Dickens, L. Goette, E. L. Groschen, S. Holden, J. Messina, M. Schweitzer, J. Turunen and M. Ward-Warmedinger, "The interactions of labour market institutions and inflation: micro evidence from the International Wage Flexibility Project", paper presented at the San Francisco Federal Reserve Bank Conference "Labor Markets and the Macroeconomy", San Francisco, 3-4 March 2006.

4 See W. Dickens et al. (2006).

Chart 5 Inter-industry wage differentials in the euro area

(percentage differences with respect to the total economy average wage)



Sources: OECD STAN database and ECB calculations.

Notes: Average percentage differentials with respect to the average level of compensation per employee for the economy as a whole. Averages for three-year periods rather than single years are used to avoid any single-year specific particularities in the data.

Developments in inter-industry wage differentials provide additional insight into the degree of wage flexibility in the euro area and different inflationary pressures from wages across the different sectors. There are substantial and persistent differences in relative wage levels across the different sectors, with services jobs being paid on average over 15% less than jobs in manufacturing (see Chart 5).¹² These differences appear to persist even after correcting for hours worked and skills across industries.¹³

12 V. Genre, D. Momferatou and G. Mourre, "Wage diversity in the euro area: an overview of labour cost differentials across industries", ECB Occasional Paper No 24, February 2005.

13 This is a common finding in the empirical literature on international wage differentials. See, inter alia, E. Groschen, "Sources of intra-industry wage dispersion: how much do employers matter?", *Quarterly Journal of Economics*, vol. 106, No 3, 1991, pp. 869-84; D. Levine, "Can wage increases pay for themselves? Tests with a production function", *Economic Journal*, vol. 102, No 414, 1992, pp. 1102-15; and J. Kouwenberg and R. Van Opstal, "Inter-industry wage differentials: evidence from micro data", CPB Report 1999/3, pp. 26-29.

Focusing on dispersion at a more disaggregated level, it is worth noting that this overall negative differential for services mainly results from lower wages in both the wholesale and retail trade sector and the hotel and restaurant sector, while workers in financial intermediation services are among the highest paid. Sectoral wage differentials in the euro area and the United States have been rather similar in terms of ranking of industries and overall wage structure. However, wage dispersion appears to be somewhat higher in the services sector in the United States than in the euro area.

Wage differentials corrected for worker-specific characteristics are likely to be explained to some extent by firm-specific characteristics, such as firm size and capital intensity. Furthermore, evidence suggests that euro area sectoral wage differentials persist over time and there is no evidence of a convergence of wages between low and high paid industries (see Chart 5). Indeed, it appears that the gap between wages in manufacturing and services has widened somewhat in the last decade, driven by more positive labour productivity developments in manufacturing and reflecting increased wage flexibility in services.

4 PROGRESS WITH STRUCTURAL REFORM

Sections 2 and 3 of this article identify several improvements in the performance of the euro area labour markets over the last decade. However, they also indicate that the levels of labour force participation, employment and unemployment are still unsatisfactory, suggesting the need for greater flexibility in order to increase the adjustment capacity of the euro area labour markets, as well as their resilience to shocks, thereby supporting the smooth functioning of EMU. Against this background, this section reviews the progress made with reforms of labour market institutions, analyses how such progress may have supported the labour market situation in the euro area

countries, and considers where further progress is still necessary.

Progress in implementing structural reforms can best be assessed on the basis of indicators that gauge the associated change in market restrictiveness. In this regard, the OECD has set up various indicators comparing the design and changes in institutions across countries, including indicators measuring, for example, features of employment protection legislation, tax and benefit systems, and product market regulation. More recently, with the intention of measuring the progress made within the framework of the Lisbon agenda, Eurostat has set up a “structural indicators” database to monitor structural reform across EU countries. There are, however, several caveats to analyses measuring the progress of structural reform. First, several of these indicators are summary measures (such as the OECD indicator on employment protection legislation) that compare various aspects of institutions that differ widely across countries, with the choice of weights of the single elements necessarily including subjective judgement. Second, some indicators are published with long lags or are available only at a very low frequency, e.g. at five-year intervals, and thus do not reflect most recent developments. Nevertheless, despite these caveats, such indicators are the only available numerical measures to compare countries’ progress with the implementation of structural reforms.

TAX AND BENEFIT SYSTEMS

Over the last decade, on average euro area countries have made progress in increasing the incentives to work, particularly by reducing disincentives to work longer and the financial incentives to retire early. Over the last six years, tax wedges, which capture the amount of income tax paid plus employee and employer social security contributions, have declined for various groups, including families with a second earner and persons with below-average incomes, pointing to increased incentives for female

Table 4 Progress with structural reforms in tax and benefit systems

(percentages per annum; changes in percentage points)

	euro area		United States	
	%	Change	%	Change
Tax wedges¹⁾	2005	2000-2005	2005	2000-2005
One-earner married couple, 2 children (100% of average earnings)	31.3	-1.7	11.9	-4.0
Two-earner married couple, no children (100% and 33% of average earnings)	38.1	-1.7	26.7	-1.1
Single person, no children (67% of average earnings)	37.8	-1.6	26.7	-0.5
	2005	2001-2005	2005	2001-2005
“Low-wage trap”²⁾	42.7	1.7	31.0	-3.0
“Unemployment trap”³⁾	77.2	1.7	70.0	0.0
Early retirement	2003	1993-2003	2003	1993-2003
Implicit tax rate on continuing work from 60 to 65 ⁴⁾	48.1	-23.5	12.8	6.5
	2005	2001-2005		
Average exit age from labour force ⁵⁾	60.7	0.8		
Unemployment benefits	2004	2001-2004	2004	2001-2004
<i>Net replacement rates</i>				
One-earner married couple, 2 children (67% of average earnings), initial phase of unemployment ⁶⁾	80.0	-0.8	51.0	-2.0
One-earner married couple, 2 children (67% of average earnings), long-term unemployment ⁷⁾	72.0	-1.0	48.0	-3.0
	2003	1995-2003	2003	1995-2003
OECD summary measure of benefit entitlements ⁸⁾	35.7	3.3	14.0	2.0

Sources: Eurostat, OECD and ECB calculations.

Notes: Unweighted averages for the euro area unless otherwise stated. Indicators refer to different time periods according to data availability.

1) Tax wedges capture the amount of income tax paid plus employee and employer social security contributions less cash benefits as a percentage of labour costs.

2) The “low-wage trap” is defined as the percentage of gross earnings taxed away by higher taxes and reduced benefits when taking up a higher paid job. It is measured here for a single person with no children, moving from 33% to 67% of the average earnings of a production worker.

3) The “unemployment trap” is defined as the percentage of gross earnings taxed away through higher taxes and social security contributions, as well as benefit withdrawal when an unemployed person takes up a job. It is measured here for a single person with no children with 67% of the average earnings of a full-time production worker in the manufacturing industry.

4) Average annual change in pension/social wealth (i.e. the present value of the future stream of pension/social benefits), net of additional contributions paid, resulting from a decision to postpone retirement from age 60 to age 65. The calculations are made for a single earner with average earnings; they exclude Greece and Austria. For more details, see *OECD Employment Outlook 2006*, p. 134.

5) Estimated value by Eurostat; weighted average.

6) The net replacement rate is defined as after tax and including unemployment benefits, social assistance, and family and housing benefits in the initial phase of unemployment but following any waiting period. Children are aged four and six and neither childcare benefits nor childcare costs are considered.

7) The net replacement rate is defined as after tax and including unemployment benefits, social assistance, and family and housing benefits in the 60th month of benefit receipt. Children are aged four and six and neither childcare benefits nor childcare costs are considered.

8) Average of the gross unemployment benefit replacement rates for two earnings levels, three family situations and three durations of unemployment, excluding Luxembourg.

labour supply and persons with low skills (see Table 4).¹⁴ Nevertheless, tax wedges remain significantly above US levels. At the same time, Eurostat’s structural indicator of the “low-wage trap”, which measures the cost – in terms of higher taxes paid and reduced benefits received – of taking up a higher paid job, has increased slightly to 42.7% of the additional income between 2001 and 2005 (see Table 4 for details).

Considerable progress has been made over the last decade to reduce the incentives for older

workers to retire early, as indicated by the strong decline in the implicit tax rate on continuing work from 60 to 65, reflecting the decline in the pensions “lost” due to later retirement. At the same time, the average exit age from the euro area labour force increased

14 The time period considered for the change in tax wedges refers to 2000-05 given that the OECD broadened the definition of the average wage concept, starting with 2005, to include not only manual workers but also non-manual workers. This led to a break in the series between 2004 and 2005. However, tax wedges have tended to follow a declining trend also for the period 1995-2004. For more details see OECD, “Taxing wages 2004-2005”, Paris, 2006.

by more than nine months to 60.7 years between 2001 and 2005.

By contrast, euro area countries have, on average, been comparably less successful in increasing the incentives for the unemployed to take up work opportunities. In this regard, net replacement rates declined slightly between 2001 and 2004 and the OECD summary measure of benefit entitlements for the unemployed even increased between 1995 and 2003. At the same time, the Eurostat structural indicator of the so-called “unemployment trap”, which measures the percentage of gross income taxed away when an unemployed person takes up a job, also increased slightly to a high level of 77.2% in 2005 (see Table 4 for details). The fact that the income situation of the unemployed did not change significantly mirrors the fact that several euro area countries focused instead on tightening work availability criteria and reducing the duration of unemployment benefits. Consequently, a further improvement in euro area labour utilisation requires a continuation of tax and benefit reforms, including lower taxation of labour and adjustments in the income support paid to the unemployed where this reduces incentives to search for work.

Generally, apart from improved incentives arising from tax and benefit systems, labour supply could be further raised, inter alia, by flexible working arrangements, sufficient childcare possibilities, and improved education and training opportunities.

EMPLOYMENT PROTECTION LEGISLATION

In the area of employment protection legislation, euro area countries have made progress particularly in making the use of temporary employment contracts more flexible. As a result, the share of young people working on temporary contracts in the euro area, for example, rose to 50.3% in 2006, compared with 41% in 1996. At the same time, the level of employment protection legislation for permanent contracts has fallen only slightly since 1990. For the euro area as a whole, the

OECD indicator on employment protection legislation for temporary contracts declined from 3.1 in 1990 to 2.2 in 2003, whereas the indicator covering permanent contracts declined from 2.7 in 1990 to only 2.5 in 2003.¹⁵ As a caveat, this indicator does not account for changes in the level of employment protection legislation in small firms. The increased flexibility of temporary employment contracts should have supported the employment possibilities of older workers, women and young persons in particular, whose chances of being hired tend to be more adversely affected by high levels of employment protection legislation. The reasoning behind this is that for firms, the cost of an unsatisfactory hiring is higher in a context of high employment protection and, as a result, they may decide to avoid hiring workers whose capabilities are not immediately obvious (e.g. young workers without work experience and women starting work after a career break). At the same time, the rise in the share of persons working on temporary contracts has been criticised for increasing the duality in the labour market, with potential adverse effects on productivity in the long term owing, for example, to lower investments in education and training for temporary workers.¹⁶ It is thus important to reform regulation on regular contracts, wherever it has adverse effects on hiring incentives.

WAGE FLEXIBILITY

A broadly unchanged degree of wage bargaining centralisation and coverage over the last decade has been accompanied by a slight decline in trade union density, i.e. the percentage of employees organised in a trade union.¹⁷ At the same time, as indicated in Section 3, an

¹⁵ The unweighted indicator ranges from 0 to 6 with higher values indicating stricter regulation.

¹⁶ For a discussion, see *OECD Employment Outlook 2006* and O. Blanchard and A. Landier, “The perverse effects of partial labour market reform: fixed-term contracts in France”, *Economic Journal*, Vol. 112, 2002, pp. 214-244.

¹⁷ Data for this indicator are available only up to 2000. Between 1998 and 2000, the unweighted euro area OECD index on wage bargaining centralisation increased from 3.0 to 3.2. At the same time, trade union density declined from 38% in 1990 to 33% in 2000, mainly driven by developments in Germany. For more details, see *OECD Employment Outlook 2004*.

enhanced common understanding between the parties involved in the wage bargaining process that lower wage increases foster employment, in some cases resulting in explicit tripartite agreements, seems to have been emerging over the last ten years, contributing to moderate wage developments. These developments may also have been supported by globalisation-induced pressure on wages and the increase in migration to the euro area. At the same time, the implementation of sub-minimum wage regulations in some euro area countries may have helped to reduce the “employment-harming” effects of existing minimum wages on young persons, contributing to the decline in their unemployment rate over the last decade. Five out of eight euro area countries with minimum wages in place have sub-minimum wage regulations for young persons. Overall, minimum wages adversely affect employment when set at too high a level.

Finally, the reforms directly linked to the euro area labour markets have been accompanied by a general increase in product market competition over the last decade, arising from increased privatisation, the opening-up of network industries and efforts to reduce administrative and business start-up costs.¹⁸ In addition, EU internal and financial market integration has deepened visibly over the last decade. All these reforms and their interactions have tended to support the overall trend in employment creation experienced by the euro area since the mid-1990s.

Looking back over the last decade, governments and social partners in euro area countries have become increasingly aware of the necessity to implement structural reforms and have stepped up their reform efforts. However, progress with structural reform implementation has been mixed across euro area countries with some countries being less successful in implementing far-reaching reforms, as indicated by still unacceptably high unemployment and low labour force participation rates. Further substantial efforts are therefore needed for the euro area countries to reduce their high

levels of unemployment and improve their competitiveness. In this regard, ambitious efforts are required to further raise work incentives for low-paid workers and unemployed persons, as well as to make labour market regulation more flexible where it impedes the employment opportunities of young persons, females and older workers in particular. In addition, further reforms in the area of product market regulation are required, such as continuing the process of opening up network industries, and additional measures to reduce administrative burdens and start-up costs as put forward by the spring 2006 European Council.

5 CONCLUSION

The euro area labour markets have witnessed a broad improvement in performance, accompanied by moderate wage developments and some progress with structural reform over the last decade. Looking back, euro area countries have become increasingly aware of the necessity to adjust to the challenges of increasing global competition, ageing populations and technological change, and have stepped up reform efforts, thereby supporting confidence and overcoming resistance to reform. Overall, the changes in the structural features of the labour markets, along with a greater flexibility and thus ability to absorb economic shocks, have contributed to lower inflation and greater economic stability in the euro area. However, significant structural impediments continue to exist that explain why unemployment rates are still unacceptably high and participation in the labour market is low by international standards. Considerable challenges therefore remain. These challenges, which differ across countries, require an increased openness and determination to change the status quo and habits of both firms and workers.

¹⁸ The OECD measures of product market regulation in the euro area have declined from an index value of 2.1 in 1998 to 1.5 in 2003 (unweighted average). The indicator ranges from 0 to 6 with higher values indicating stricter regulation.

The comprehensiveness of adequately tailored national reform packages is important if labour market outcomes are to be improved. These must include labour, product, financial and fiscal reforms, alongside increased efforts to complete and deepen the EU internal market for goods and services, and to increase R&D and innovation. Such comprehensive reform packages must include measures increasing employment opportunities for young persons, women and older workers in particular. It is therefore essential for each euro area country to remove its country-specific market distortions and to implement rigorously the announcements in the National Reform Programmes that are at the heart of the Lisbon process.