ISSN 0379-0991

Labour market and wage development in 2007

EUROPEAN ECONOMY 5 | 2008

Economic and Financial Affairs
DIRECTORATE-GENERAL

EUROPEAN COMMISSION

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Cataloguing data can be found at the end of this publication.

Luxembourg: Office for Official Publications of the European Communities, 2009

ISBN 978-92-79-08387-7

doi: 10.2765/45722

Printed in Luxembourg

European Commission
Directorate-General for Economic and Financial Affairs

Labour market and wage developments in 2007, with special focus on the economic impact of immigration

EUROPEAN ECONOMY 5/2008

ACKNOWLEDGEMENTS

This report was prepared in the Directorate-General of Economic and Financial Affairs by Unit B3 (Labour market reforms) under the supervision of Marco Buti (Deputy Director-General) and Gert-Jan Koopman (Director, Economic Service and Structural Reforms Directorate). The production of the report was coordinated by Giuseppe Carone (Head of Unit-B3). The main contributors were as follows: Alfonso Arpaia (Summary and Main Findings, chapters 1 and 3, Box "Private-Public wage interactions in a Structural VAR (SVAR framework"), Kamil Dybczak (section 2.4), Andromachi Piperakis (inputs to chapter 3), Esther Perez Ruiz (chapter 2), Sebastian Kessing (box "The evolution of the tax wedge on labour"), Klara Stovicek (box "Labour market flows and transition rates"). Etienne Sail provided statistical assistance.

The report has benefited from useful comments and suggestions received from the colleagues in the Directorate-General for Economic and Financial Affairs as well as by the Directorate-General for Employment and Social Affairs.

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Summary and Main Findings

This report analyses labour market and wage developments in the European Union in 2007 from a macroeconomic perspective, looking at the main geographical aggregations.[1] The macroeconomic focus has been adopted in order to shed light on the interaction of employment trends with developments of key macroeconomic variables such as productivity and GDP. This report is a contribution to the overall efforts to upgrade the monitoring of macroeconomic developments in the EU and the euro area within the framework of the revamped Lisbon strategy for *"Growth and Jobs"* and the EMU@10 Communication. [2] To this end, it presents an analytical interpretation of the most recent trends and prospects on both the quantity side (participation, unemployment and employment rates) and the labour cost side (wage and unit labour cost developments). The report includes a statistical annex that provides data on key labour market aggregates for each Member States.

Employment and unemployment developments

2007 was a year of relatively strong growth in the EU economy, notwithstanding the significant uncertainties all industrialised countries faced in the second half of the year amid global financial turmoil. The dynamism that had characterised the EU labour market from the mid 1990s also continued in 2007. EU employment grew at the highest rate since 2000 (1.8%) and almost 4 million jobs were created. In 2007, the ratio of employment to working age population rose to a peak of 65.4%. Net job creation was particularly robust in Poland, the Netherlands, Slovenia and Germany.

Employment developments can usually be expected to weaken with a lag compared to GDP growth. In light of the downward revisions to the growth projection and of the uncertainty created by the recent financial shakeout, the outlook for the employment situation has turned less favourable. For the near term, this view is supported by the recent marked deterioration in the survey data concerning employment expectations of businesses and households.

The expansion of the workforce involved all segments of the labour force in 2007. Female and older workers' employment continued to grow at a sustained pace (+2.2% and 4.7%). The large increase in the employment of older and female workers has been one of the most remarkable developments of the last decade. A salient feature of 2007 was the vigorous acceleration of male employment (1.6% against an average of 0.7 over the 2000-2006 period). For the second year in a row, youth employment saw a significant increase, shared equally between men and women (about 1.5%).

The strong gains in employment mainly reflected the creation of more stable payrolls, with permanent employment accounting for about 80% of total employment growth. The share of employees in temporary contracts reached 14.5% in the EU, 2.3 pp higher than in the year 2000. This proportion does not generally reflect a voluntary choice by workers, as about 60% of those in temporary positions declared that they would have liked to have a permanent job but were not able to find one. The evidence suggests that the proportion of those that find themselves in less stable jobs by force of circumstances is correlated with the strictness of the employment protection legislation. The

1 An exhaustive panorama of recent developments in European labour markets is provided by the annual *Employment in Europe* report published by the European Commission (DG Employment) downloadable at http://ec.europa.eu/employment_social/employment_analysis/employ_en.htm. More detailed analysis on reforms of labour market institutions can be found in reports related to the Lisbon strategy and the Integrated Guidelines, which encompass the Broad Economic Policy Guidelines (BEPGs) and the European Employment Guidelines. The recent assessment of the national reform programmes, along with a detailed analysis of the employment aspects of the programmes at national level can be found in the Communication from the Commission to the Spring European Council, *"A year of delivery" The European Commission's 2006 Annual Progress Report on Growth and Jobs"* at http://ec.europa.eu/growthandjobs/annual-report-1206_en.htm. The most recent Joint Employment Report evaluating labour market reforms in 2006/2007 undertaken in response to the Employment Guidelines, within the framework of the Integrated Guidelines for Growth and Jobs (2005-2008), can be found at http://europa.eu.int/comm/employment_social/employment_strategy/employ_en.htm and http://ec.europa.eu/growthandjobs/annual- report_en.htm.

2 See Integrated Guidelines for Growth and Jobs (2005-2008).

proportion of those who declare themselves to involuntarily be in temporary employment is characterised by a strong cyclical pattern, fairly closely reflecting different consumers' and employers' perception of future labour market developments.

The imbalance between labour demand and supply is reflected in the unemployment rate, which in July 2008 reached the historically low rate of 6.8 percent (7.3% for the euro area). This improvement was fairly uniform across different age groups. The decline in the unemployment rate has been associated with a reduction in the rate of long-term unemployment and a shortening in the average duration of unemployment spells. Yet the long-term unemployment and the average unemployment duration picked up in the recently acceded Member States (RAMS), a development which calls for a careful monitoring over the medium-term. In 2007, about 55% of all job seekers in the RAMS were unemployed for 12 months or more, much higher than the average long-term unemployment of the remaining member states (about 40%).

The strong growth of employment has been associated with an increase in labour supply, which, in turns, reflects an increase in the participation rate - to 70.5% – as well as in the working age population, the latter mainly driven by the remarkable expansion of non-nationals. The inactive proportion of the total population aged 15-64 decreased almost everywhere. Although it is too early to consider the development in these two countries as a new trend, it should be monitored carefully, as it could signal potential inflationary pressures owing to a binding labour supply. There is a labour supply potential that needs to be activated in view also of the ageing of the population, to mitigate possible pressures on wages arising from buoyant demand for labour.

Although the good macroeconomic fundamentals may have played a role, the labour market improvements observed so far are also a sign that structural reforms have started to pay-off. In addition to an, although imperfect, liberalisation of the labour market, the reduction of disincentives to work and to hire, especially for the low-skilled, embedded in tax and benefit systems, a greater link with activation policies and a stronger reliance on preventive and targeted ALMPs, and a widespread wage moderation are all factors that have contributed to the structural improvement in the functioning of labour markets. The Commission has stressed the importance of labour market reforms that shift the focus from protection on the job to insurance in the market.[3] These reforms would enable workers to move smoothly from declining to expanding activities, thus easing tensions in the adjustment process, while ensuring adequate income support and responding to anxiety of European citizens.

Recent trends in wages and labour cost

Wage continued moderation in the euro area during 2007.

Wage growth has surprised on the downside in recent years, especially in the light of the buoyancy of the euro-area labour market. Overall, aggregate wage increases in the euro area over the past years have been moderate, thus contributing to job creation. Nominal unit labour costs have also been supportive of the goal of price stability. However, there are important differences between Member States. Much of the overall benign wage developments in recent years can be attributed to significant wage moderation in Germany where nominal unit labour costs stagnated over the period 2002 to 2007, thereby helping to correct the accumulated loss in competitiveness in the aftermath of reunification. In other countries, however, developments of nominal unit labour costs have not always contributed to moderate inflation. Should wage behaviour in Germany return to more standard growth patterns, while remaining unchanged in other countries, price pressures as a whole would rise.

Signs of wage acceleration emerged in 2007q4 and continued over the first half of 2008. The risk is that the last hikes in energy prices, although partially reverted in recent weeks, will trigger a wage-

3 European Commission Communication "Towards Common Principles of Flexicurity", COM(2007) 359 final. Flexicurity involves the combination of flexible and reliable contractual arrangements, comprehensive lifelong learning strategies, effective active labour market policies, and modern, adequate and sustainable social protection systems.

price spiral, which could potentially be fed by imitation effects between different national jurisdictions or sectors.

While evidence of second-round effects is scant, there is concern that they could materialise and become entrenched in wage bargaining behaviour. The greatest upside risks stem from concerns about workers' declining purchasing power after a prolonged period of wage compression and, despite the recent decrease, of still high consumer inflation perceptions and expectations. Wage growth can be fuelled by past inflation and have an effect on future inflation if employers can pass additional costs to their costumers via higher prices. If such increases are entrenched in private inflation expectations, the risk of a price-wage spiral via second-round effects will be higher. Short-term inflation expectations based on the EU's consumer survey have been increasing in the euro area until June 2008, softening in July and decreasing significantly in August and September. High profit margins and increased competition in some countries and sectors, together with a lower projected demand, should put a lid on further price increases.

However, wage claims are likely to be dampened by the sharper-than-expected weakening in economic activity. Although unemployment has remained at low levels and employment growth has been buoyant so far, the economic slowdown is set to affect the labour market, albeit with some lags. DG ECFIN business surveys for 2008 suggest weaker employment growth and higher unemployment compared to the recent past. Looking forward, the Commission's Spring September Interim forecasts expect labour market pressures to ease over 2008-09. The unemployment gap (i.e. the gap between the observed and the equilibrium unemployment rate given by the NAWRU) should widen somewhat, dampening wage pressures.

When a supply shock occur, it is difficult to predict whether higher inflation expectations would persist or even increase further. On the one hand, if the increases in wage and price inflation persist, the ECB will be forced to tighten its monetary policy beyond what the effective inflation figures and real economic developments would imply, just to curb inflation expectations. This might increase the cost of inflation in terms of potential output losses, though the increased flexibility of the labour market might partially offset the medium-term consequences of a restrictive monetary policy causing a larger but faster adjustment of the unemployment rate. On the other hand, if moderation in wage claims were to continue this might soften the adjustment burden, which would otherwise fall mainly on monetary policy and on real economic activity.

Price stability is put under strain by substantial changes in relative prices due to more limited supply of natural resources and changes in the composition of consumption patterns at the global level. Social partners can play an active role in ensuring a smooth adjustment to the deterioration in the terms of trade. At the aggregate euro-area level, this smooth adjustment may require nominal wages developments not to exceed the sum of trend productivity[4] plus the price stability target of the ECB of close to but below 2%. This would suggest an increase of wages not higher than about 3% on average, though a country's competitive position must be taken at the national level. Similarly, national authorities may take into account the inflationary consequences of excessive increases in indirect taxes and public wages.

In the short term, if the impact of reforms is limited, wage earners will likely have to help absorb the supply shock by further moderation in their nominal wages. Labour cost moderation will be particularly needed in those countries that have seen competitiveness losses in the past. The impact of wage indexation should be strictly monitored, to avoid fuelling a wage-price spiral.

The burden of adjustment cannot fall wholly on wages. In the medium term, policy measures should also aim to increase competition. Enhanced competition and continued increases in productivity will be key to accommodate the deterioration in the terms of trade. High energy prices are likely to prevail

4 The average trend productivity growth, measured in terms of real GDP per hour worked, has been 1.2% in the euro area (EA12) over the period 1996-2007, with marked differences cross member states, ranging from 0.4% in Italy and Spain to 5.3% in Ireland.

in the medium and long term in the face of continued strong demand from emerging economies and supply constraints. Actions should also be undertaken to improve substitution between the various energy resources and facilitate the structural shift to more sustainable patterns of production, transport and consumption, as proposed by the Commission in its Climate and Energy policy. In this regard, it is important to ensure consistency between short term and long term measures as well as between policies at both national and EU level. Finally, the significant changes in relative prices in the economy and the ensuing reallocation of resources strongly point to the need to ensure flexible product and labour markets.

Fiscal instruments (e.g. reduction of taxation on labour) could be used to support the poorer segments of the population and preserve their purchasing power, although how any tax reductions might be financed would need to be considered very carefully. These policies would contribute to offset the effects of the downward adjustment of real wages which would be required in the case of a permanent supply shock.

The EMU@10 Communication[5] stress deeper fiscal policy coordination and surveillance, the broadening of macroeconomic surveillance beyond fiscal policy and the better integration of structural reform in overall policy-coordination within EMU. Increased policy coordination and adequate policy surveillance need to comprise a wider set of economic and fiscal policies, structural policies, policies that may help to address the impact of idiosyncratic shocks faced by individual countries within the monetary union, as well as all policies that are particularly likely to generate spill-over effects to other euro-area countries.

While structural reforms are no short-term panacea, ambitious agendas could make macroeconomic policies more credible and could bolster investor and consumer confidence, enhancing the economy's resilience in face of sectoral or country specific shocks. A smooth adjustment to these shocks may require restructuring of the euro-area economy, which means the necessity of moving factors from one type of output to another. Where factor mobility is low, the misallocation and loss in output and welfare, respectively, are likely to be significant. Reforms that reduce rigidities and provide support to those undergoing transitions across different occupations and sectors may therefore be crucial also in the short-term.

The economic impact of migration in receiving countries

Few issues seem to be as controversial as international migration. For many countries immigration has been an important component of economic development, yet in recent years there has been a backlash against it. It has been argued that further inflows of immigrants will have a negative impact on labour market opportunities for native workers. Many consider that more job seekers from abroad means fewer jobs, or lower wages, for native workers, especially for those at the bottom end of the wage distribution. The costs of integration and the higher claims by immigrants of welfare benefits are often considered to put a strain on the financing of the welfare state.

Unsurprisingly, it is not easy to reach a consensus view. Different people weigh differently the well-being of natives, of new and old migrants as well as that of different groups of natives. Who gains and who loses from immigration has become a hotly debated issue.

Few economists would however dispute the positive contribution that immigration can make to total output. Immigration brings in more workers and yields more output. It creates opportunities for growth and jobs and, in an economy rapidly adapting to change, should not raise unemployment. More foreign workers does not imply fewer natives in employment or lower wages, for the same reason that more natives in the labour market does not imply a higher unemployment rate. An increase in the foreign labour supply will trigger an adjustment process that ultimately "shifts the labour

5 European Commission (2008) "EMU@10 Successes and challenges after 10 years of Economic and Monetary Union", European Economy, 2, 2008.

demand out". When more people enter the labour market, the amount of capital each worker is endowed with falls, making it profitable for firms to invest in physical capital. Foreign workers also produce and consume new goods and services. By virtue of their links with the country of origin, migrants promote trade between the home and the host countries. Being more mobile than natives, foreign workers tend to cluster in areas where they are most needed, i.e. where wages are the highest for the type of skills they offer.

Where regional differences persist (i.e. labour shortages are geographically concentrated), immigration flows into high wage regions speed up the process of matching of people with jobs, thereby helping to equalise the value of the marginal product across different geographical areas. Spatial arbitrage by foreign workers thus "greases the wheels" of the labour market.

The adjustment mechanisms caused by immigration may take time to have an effect on the rest of the economy. In the short-term, an increase in foreign labour may reduce the wages of those native-born workers that are more in competition with immigrants. Thus, immigrants hurt the labour market outcomes of the workers they compete with. Conversely, an increase in foreign labour raises the wages of those natives who complement immigrant labour in production. This implies that a rise in employment of foreigners also increases employment of complementary native workers. When wages cannot be adjusted in response to a change in the labour supply, an increase in foreign workers leads to higher unemployment and/or inactivity of the affected groups. Conversely, policies that make real wages more flexible may reduce the effects on unemployment.

As the European population becomes more educated and older, less educated immigrants supply a skill level which is much in demand. Low-skilled immigrants work in domestic services and nursing, providing childcare or elderly care. This has a particularly positive impact in labour terms if it allows another adult (often skilled) in the household to work, especially in countries where the public provision of care is less developed. But the complementarity of skills also plays a role in the case of better-educated immigrants. The native workers who gain most are those whose skills differ most from that of the immigrants.

Immigration of skilled workers not only can help alleviate labour shortages, but the increased return of capital resulting from the immigration of talented people tends to create investment opportunities, especially in knowledge intensive sectors. Skilled immigrants may also have a favourable effect on income distribution. More skilled immigrant implies more competition for highly educated natives. Skilled immigrants also earn more, pay higher taxes, and require fewer social services than the less-skilled. A balanced inflow of high- and low-skilled immigrants would lead to a better match between jobs and qualifications and would improve productivity.

The main uncertainty is about who are the gainers and losers from the distributive effects of migration. It is clear that immigrants gain in one way, since in the host country they are likely to be paid much more than what they could get in similar occupations in their home countries. A large majority of Europeans also benefit from immigration, especially if their skills and educational background are different from the immigrants'. The empirical evidence reviewed suggests that the effect of immigration on the labour market, if there is one, is very small, with the possible exception of the least skilled domestic workers.

PART I

Employment and wage developments

1. GENERAL DEVELOPMENTS IN 2007

1.1. EMPLOYMENT AND EMPLOYMENT RATES

Overall employment performance: robust growth in 2007

In 2007 the economic activity of the EU expanded at a healthy pace (2.9%), although signs of moderation occurred in the fourth quarter. Aided by resilient economic growth, employment (based on National Accounts) continued to expand at about the same rate as in 2006, 1.8% on a yearly basis for both the EU and the euro area, the largest increase since 2000. However, employment growth decelerated in 12 Member States, among these Spain, Ireland, Italy, and Romania (Graph 1 and Statistical Annex). The strong pick up in employment recorded in 2006 continued in 2007, especially in Germany (1.7%), where employment was for the first time above the 2001 level, France (1.3%) and Poland (4.5%) - Graph 2.

According to Labour Force Statistics, the number of persons employed in the EU increased in 2007 by about 3.9 millions (1.8%), of which 2.8 millions in the euro area (2.7%) - Table 2.[6] The population aged between 55 and 64 (the older workers) increased by 1.2 million, those aged between 25 and 54 (the prime age workers) and between 15 and 24 (the young workers) contributed respectively 2.4 millions and 323000 to the overall increase in employment. For older workers, employment expanded at the same rate experienced during 2001-2006, while young workers saw the strongest gains since 2001. Both male and female employment witnessed high growth compared to the 2001-2006 average. Employment was particularly dynamic for the high-skilled, while growth was negative for less educated persons.

At the national level, significant positive contributions were recorded in those countries which exepreinced a relatively modest employment performance in 2000-2006, i.e. Poland, Germany, the Netherlands and Finland (Graph 2). The increase in employment growth was largely the result of the increase in the number of women in France, of men in Austria. Consistently with the NA figures, employment growth based on Labour Force Survey (LFS) decelerated in Italy (by 0.8pp from the 1.8% in 2006), Spain (down from 4.1% to 3.1% in 2006), Ireland (down by 1pp to 3.4%) and the UK (down by 0.1pp. to 0.3%). Employment losses were registered for both men and women in Denmark and, only for women, in Hungary.

The breakdown of employment growth by age groups reveals a more dynamic employment compared to the 2000-2006 average for young workers, especially in Germany (+3.8% compared to 2% of one year earlier), the Netherlands (up to 4.2% from 2.1%), Finland (6.7%), and Sweden (8%). Conversely, in 2007 employment of young people fell in Portugal (-5.1%), Greece (-4.3%), Hungary (-3.7%), Italy (-3.2%), Spain (-1.9%) and the UK (-0.6%). The number of prime-age male workers increased everywhere but Denmark, where it dropped by 0.2% year over year, owing to the decline in the male component (-0.6%).

Foreign population is the main contributor to overall population growth in the EU

In 2007, the working age population increased at the same rate as 2006, namely 0.4% or about 1.2 millions, below the peak achieved in 2005 (2.2 millions). This increase was mainly due to the expansion of the resident foreign population (+1.5 million). From the EU perspective, it is appropriate to distinguish nationals from other EU Member States, for whom free movement within the EU generally applies, from third country nationals, which are subject to the immigration and asylum legislation of each country. In 2007, both components grew, with the citizens from countries outside EU27 accounting for more than 75% (80%) of the

6 These figures are based on labour force surveys (LFS) and refer to the age group 15-64. In some countries (notably Spain, Italy and the UK, but also Germany and Sweden), some labour market data have been revised over the most recent years, following revisions in the structure of the labour force survey and updating in the official estimates of population. This may have created some breaks in the series, making the comparison with past years more difficult. The differences between the National Accounts (henceforth NA) and LFS concept are discussed in the box "The Measure of employment in National Accounts and in the Labour Force Survey". Data on employment by gender and age group exist only from the LFS.

increase in the EU (euro area) population aged between 15 and 64[7]. Thus, both the intra-EU mobility and migration from the non-EU countries increased.

Stronger increase in the overall and the youth employment rates in 2007

In 2007, the employment rate rose in the EU and in the Euro area by almost 1 pp. (respectively up to 65.4 and to 65.7%), more than the 1996-2005 average (0.6 pp). Yet the employment rate remains about 4 pp below the Lisbon target of 70%. The increase of the employment rate was sizeable in Bulgaria (3.1 pp), Poland (2.6 pp), Germany (1.8 pp), the Netherlands (1.6 pp) and the Baltic countries (by about 1.5pp on average). Conversely, the employment rate declined in Denmark (-0.2 pp), the UK (-0.2 pp) and Portugal (by 0.1 pp to 67.8%).

The employment rate of foreigners, both from the EU and from non-EU countries, increased by about 0.8 pp to respectively 69.5 and 78% of the relevant population. The decline in the working age population of the young observed in 2006 continued in 2007 at the about the same pace (-0.6%). Owing to this fall and dynamic job creation, the employment rate of the young rose by 0.8 pp., to stand 37.2%.

The labour market recovery of 2007 strengthened the gains in the employment rate registered in recent years. After the modest improvements observed during the period 2001-2004, the overall employment rate increased significantly between 2005 and 2007 both in the EU (by 2.6 pp up to 65.4%) and the Euro area (by 2.9 p.p. from 62.8% up to 65.7%). All countries except Greece and Italy performed better in the second period compared to the first. For the EU as a whole, the pick up was stronger for countries with relatively low rates, implying cross-countries convergence in employment rates. Even so, convergence was driven by the EU Member States that do not participate in the EMU.

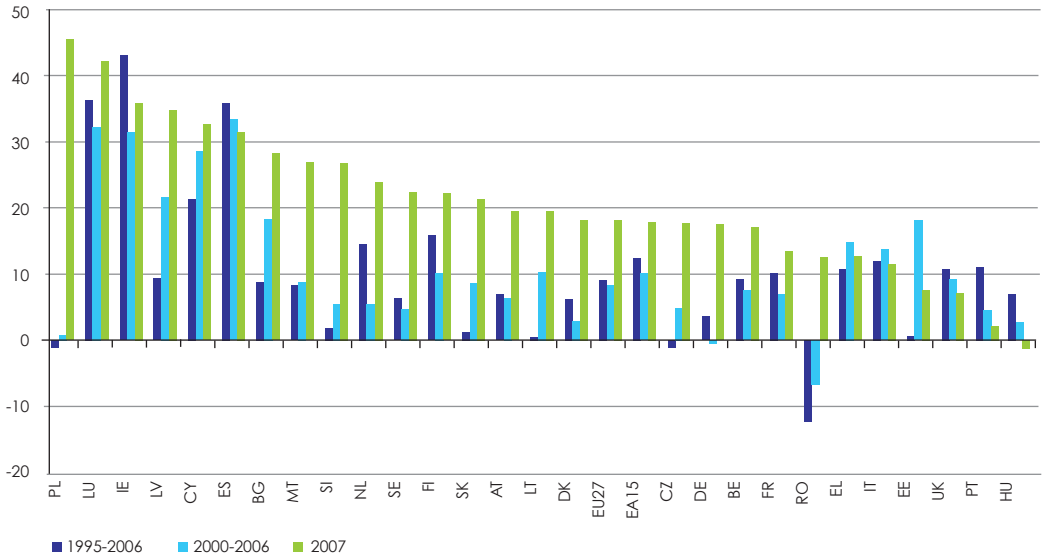
7 In the LFS employed are all residents in a country, either nationals or foreigners, A further distinction is made between non-nationals but citizens of other EU27 countries and citizens of countries outside the EU27. Thus, an increase in the number of foreigners with nationality from one EU country employed in another country of the Union implies higher intra-EU mobility. Conversely, an increase in the number of those with nationality from non-EU country implies higher international migration.

Table 1 – Key Labour market indicators in the EU27 - 2007

Structure of employment - EU27 – 2007			
	Thousand of persons or %	Percentage change 2006-2007	Percentage change 2001-2007
Total employment	214673	1.80%	7.10%
Men	118665	1.60%	5.00%
Women	96009	2.20%	9.80%
Employees	180196	2.10%	8.60%
Self-employed	21387	1.00%	12.50%
Employers	9547	1.20%	-4.30%
Family workers	3477	-4.60%	-35.00%
Permanent Employment	188670	1.70%	4.90%
Fixed-term and temporary employment	26003	2.70%	26.50%
Full-time employment	176261	2.50%	4.80%
Part-time employment	37616	2.80%	19.70%
High-skilled	55993	3.70%	27.20%
Medium-skilled	106417	2.00%	11.10%
Low-skilled	51804	-0.60%	-8.90%
Unemployed	16694	-12.10%	-12.50%
women	8449	-12.70%	-12.30%
men	8246	-11.50%	-12.70%
Labour force	231368	0.70%	5.40%
women	127113	0.50%	3.70%
men	104254	0.90%	7.60%
Participation rate (ages 15-64)	70.5	0.2	2
women	63.3	0.3	3.2
men	77.6	0.1	0.8
Employment rate (ages 15-64)	65.4	0.9	2.9
women	58.3	1	4
men	72.5	0.9	1.7
older workers (55-64)	44.7	1.2	7.2
Unemployment rate	7.1	-1	-1.4
women	7.8	-1.1	-1.6
men	6.6	-1	-1.1
Long-term unemployment rate	42.8	-2.8	-4
women	42.5	-2.8	-5.4
men	43.1	-2.8	-2.7
Youth unemployment rate (ages 15-24)	15.5	-1.8	-1.8
women	15.8	-1.9	-2.1
men	15.2	-1.8	-1.7

Source: Eurostat (LFS);1 Data do not add up to total employment due to non responses.

Graph 1 – Employment growth in the European Union



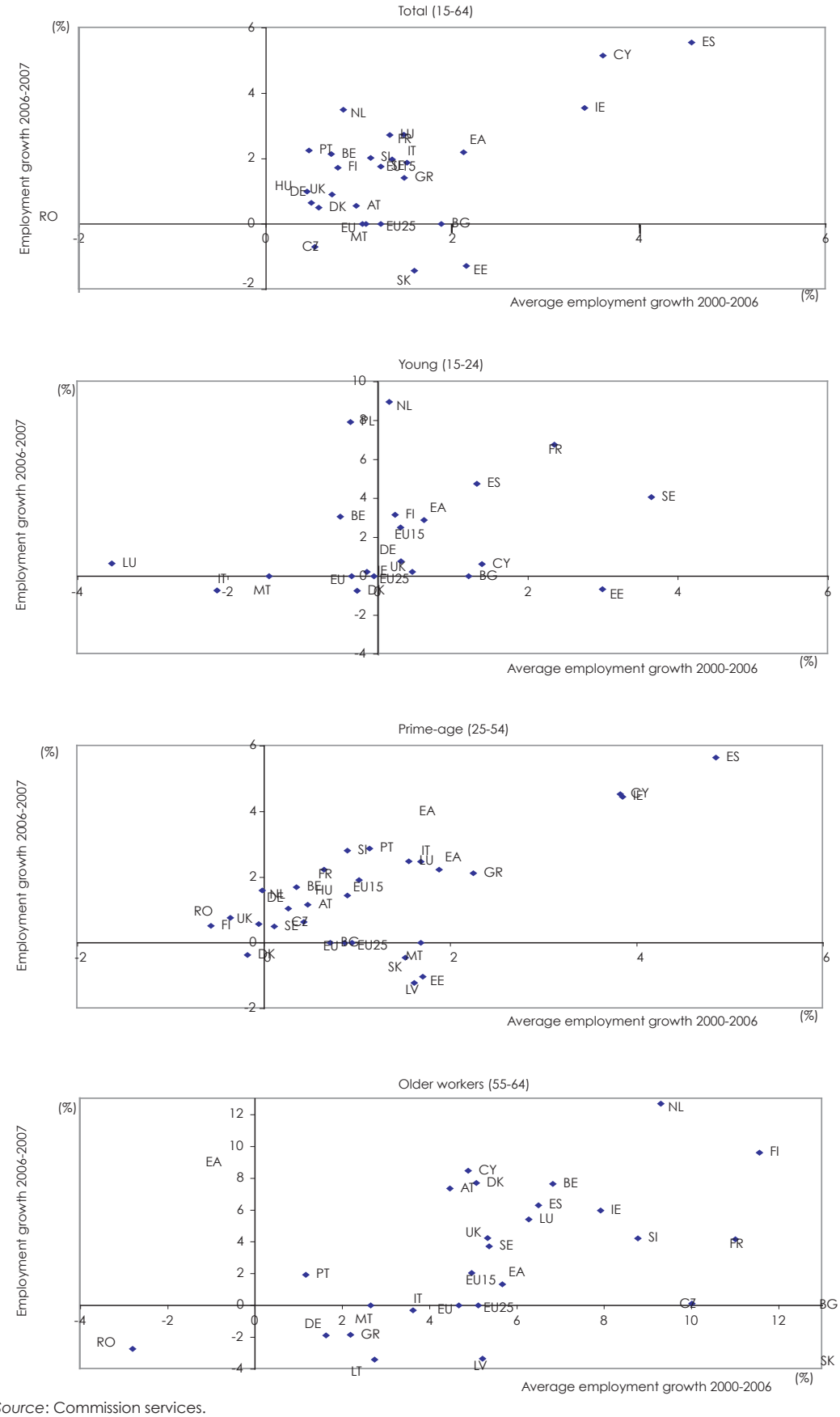
Source: Commission services.

Table 2 – Employment growth - Contribution by gender and age groups (in %)

	2006 - 2007						2000 - 2006					
	EU27		Euro area		EU15		EU27		Euro area		EU15	
	Growth rate	Contri-bution	Growth rate	Contri-bution	Growth rate	Contri-bution	Growth rate	Contri-bution	Growth rate	Contri-bution	Growth rate	Contri-bution
Employment growth:	1.8	(100%)	2.7	(100%)	1.7	(100%)	1.0	(100%)	1.9	(100%)	1.2	(100%)
Young (15-24)	1.5	8%	2.2	8%	1.2	8%	-0.4	-4%	0.6	3%	0.3	3%
Prime age (25-54)	1.4	61%	2.2	66%	1.3	60%	0.8	64%	1.8	72%	1.0	61%
Older (55-64)	4.7	30%	6.2	26%	4.5	32%	4.2	41%	5.0	24%	4.4	36%
MALE:	1.6	48%	2.2	46%	1.3	44%	0.7	37%	1.4	42%	0.8	35%
Young (15-24)	1.4	5%	1.8	4%	0.9	3%	-0.2	-1%	0.7	2%	0.3	1%
Prime age (25-54)	1.1	27%	1.8	29%	1.0	24%	0.4	19%	1.2	28%	0.4	16%
Older (55-64)	4.4	17%	5.3	13%	3.9	16%	3.4	20%	3.8	12%	3.4	17%
FEMALE:	2.2	52%	2.2	54%	2.1	56%	1.5	62%	1.7	57%	1.9	64%
Young (15-24)	1.5	4%	2.7	5%	1.5	4%	-0.5	-3%	0.5	1%	0.3	1%
Prime age (25-54)	4.4	35%	2.8	37%	1.7	36%	3.4	44%	2.5	44%	1.6	44%
Older (55-64)	5.2	14%	7.4	13%	5.3	16%	5.5	20%	6.9	12%	6.1	19%

Source: Commission services based on LFS, Eurostat.

Graph 2 – Average employment growth by age groups



Source: Commission services.

Box 1: The measurement of employment in National Accounts and in the Labour Force Survey

LFS and National Accounts (NA) are the two main sources of employment statistics.[1] The National Accounts estimate of employment identifies the input of labour that has contributed to the production of domestic output. LFS registers the employment status and labour market participation of the resident population in the reference week of the survey. In some countries, NA employment estimates draw on the LFS and a combination of other sources (e.g. depending on the country: social security records, household surveys, business surveys, tax records, population census etc.). Adjustments are done to ensure comprehensiveness and to avoid double counting and to ensure consistency with other NA estimates (e.g. output and wage and salaries). Thus, national accounts and LFS employment levels and growth rates may differ substantially (Table 3). This difference is also not stable over time. The growth of employment based on NA is higher than the growth rate based on LFS in some years but not in others.

Table 3 – Comparison of employment level and growth in 2007 according to the data source

	2000				2007			
	Employment (Total) National accounts		Employment (15-max) LFS		Employment (Total) National accounts		Employment (15-max) LFS	
Country	Level	growth	level	growth	level	growth	level	growth
BE	4142	2	4093	2.1	4408	1.7	4380	2.7
DK	2760	0.4	2713	0.5	2831	1.4	2804	-0.1
DE	39038	1.8	36324	0.7	39687	1.7	38210	2.2
GR	4255	-0.2	4088	1.4	4705	1.2	4510	1.3
ES	16399	5	15506	5.6	20580	3.1	20356	3.1
FR	24332	2.7	23123	2.7	25696	1.3	25642	1.9
IE	1696	4.6	1692	3.6	2116	3.6	2112	3.6
IT	22498	1.9	21080	1.9	24929	0.9	23222	1
LU	185	2.8	181	2.7	207	1.9	203	3.9
NL	8108	2.2	7870	3.5	8566	2.4	8464	2.5
AT	3766	1.1	3713	0.6	3988	1.9	4028	2.5
PT	5030	2.1	5021	2.3	5121	0	5170	0.2
FI	2302	2.2	2335	1.7	2492	1.9	2492	2
SE	4291	2.5	4125	1.8	4516	2.2	4541	2.5
UK	27477	1.2	27185	0.9	29219	0.7	28441	0.4
CY	315	1.7	294	5.2	385	3.2	378	5.8
CZ	4825	-0.1	4681	-0.7	4987	1.8	4922	1.9
EE	575	-1.3	572	-1.3	657	1.4	655	1.4
HU	3844	1.3	3829	1	3899	-0.1	3926	-0.1
LT	1399	-4	1398	-4	1515	1.9	1534	2.3
LV	944	-2.9	941	-2.8	1111	3.5	1118	2.8
MT	146	2.3	143	:	158	2.7	156	2.1
PL	14526	-1.6	14526	-2.8	15240	4.5	15240	4.4
SK	2102	-1.4	2102	-1.4	2357	2.4	2358	2.4
SI	905	1.3	901	2	960	2.7	985	2.5
BG	3239	4.9	2795	:	3714	2.8	3253	4.6
RO	9919	2.5	10653	0	9645	1.3	9353	0.7

Source: Commission services.

The main differences between National Accounts and LFS concern the geographical coverage, age boundary, population covered, definition of employment/self-employment.

Geographical coverage

National Accounts recognise two employment concepts: resident persons employed (i.e. the national concept) and employment in resident production units irrespective of the place of residence of the employed (i.e. domestic concept). LFS is a survey based on resident households. As such it gives

1 For the pros and cons of LFS as source for the National Accounts estimates see de la Fuente, A. and Lequiller, F. (2006) "Measuring employment in National Accounts" Eighth Meeting of the Group of experts on National Accounts http://www.unece.org/stats/documents/2006.04.sna.htm .

information on the major part of the national concept, but national households abroad are not covered (e.g. staff of national embassies working abroad and/or crews in national fishing boats). The National Accounts employment measure is based on the domestic concept which is a more appropriate measure of the labour input for gross domestic product. This means that LFS data must be adjusted, mainly for cross-border workers, to be consistent with the NA concept of employment. LFS gives information on the national concept (i.e. resident workers). To change over from the resident concept to the domestic concept, non-residents working in the country are added and residents working abroad are subtracted.

Age boundary

LFS usually excludes from the definition of employment those persons of age below 15 (in some countries below 16) and above 75, while National Accounts register all persons engaged in some productive activity irrespective of age.

Employment definition

There are two ways of looking at employment: the number of people with jobs, or the number of jobs. The two concepts are not the same because some employed may hold more than one job. The NA concept of employment is based on persons engaged in economic activity, which includes all persons engaged in some production activity, hence more than one job is registered. This means that persons performing several jobs at the same time are covered many times in National Accounts but only once in the LFS, namely according to their main job. Thus, the average annual number of jobs exceeds the annual number of person employed by the average annual number of second, third etc. jobs. There is one minor difference between a job as defined in NA and the category of persons "with a job but not at work" who are considered as employed according to the LFS (ILO definition), which usually is adopted by the LFS. In the ILO definition, the employed may include persons who are not being paid but have a "formal attachment to their job" in the form of "an assurance of return to work ... or an agreement as to the date of return". Such an understanding between an employer and a person on layoff or away on training is not counted as a job in the NA. This difference seems to be relevant in some countries such as Denmark.

The number of people with jobs is measured by the LFS and includes people aged 15 or over who do paid work (as an employee or self-employed), those who have a job but are temporarily away from, those on government-supported training and employment programmes, and those doing unpaid family work. To be counted as employed in the LFS one person should

- have worked at least one hour in exchange of some monetary or in kind compensation;
- have worked at least one hour with no compensation for one member of the family;
- be absent from work for holidays or sickness (for not more than three months) or receive, while not working, at least 50% of the salary;
- self-employed persons absent from work are regarded as in employment only if they can be said to have a business, farm or professional practice.

In many countries, the LFS does not inquire persons living in institutional collective households (e.g. members of the armed forces living in military quarters, detainees in prisons, religious in monasteries etc.). In LFS, conscripts, unpaid apprentices and trainees, and persons in extended parental leave are not included in employment, while they are in National Accounts. The difference between the level of employment based on NA and that based on the LFS accounted by conscripts and people living in institutional households is of second order. Contrary to the NA, no adjustment is done in LFS for the underground economy. Finally, there are other differences that affect the borderline between employees and self-employed, while not influencing the total employment levels. For instance, sometimes owners of quasi-corporations are re-allocated from self-employed (in LFS) to employees (in National Accounts).

Business surveys as source of employment data

Finally, employment figures produced by business surveys and used sometime in NA may differ from the LFS for a series of reasons. Business surveys (BS) gather information on production units operating in the territory whereas LFS gathers information on people living in the country. Cross-border workers, or seasonal workers, are correspondingly recorded in different countries. LFS does not cover people living in collective households. BS typically do not gather information on certain economic activities, like agriculture or some services. Business surveys estimate the number of jobs whereas LFS counts jobholders. BS are based on business registers that may not include small enterprises below a certain threshold. As business surveys inquire employment simultaneously to other variables like turnover or profits, they are more exposed to underreporting of employment than household surveys. In addition, employment not included in the payroll or in the accounting books, like trainees or family aids, could be left out.

All in all, National Accounts are judged more suitable to measure employment levels, employment growth and industry breakdowns. LFS is more adequate to measure participation in the labour market (i.e. employment rates, activity rates, flows between employment and unemployment, etc.), demographic or social breakdowns (e.g. by age, gender or educational level).

As expected when the economic recovery is at an advanced stage of the economic cycle, the bulk of employment growth in 2007 was accounted for by full-time positions (about 80% of total growth in employment), especially of males (Graph 3). Part-time work, accounting for 18.2% of total employment in the EU27 (19.6% in the euro area), is largely dominated by women (accounting for more than 30% of total female employment in the EU and about 35% in the euro area) and people with upper secondary education (about 55% of employees with part-time contracts).

The share of temporary contracts went further up, reaching 14.5% of overall employment in the EU27 and almost 17% in the euro area. People of age below 39 are overrepresented in the group of those employed with a temporary contract (3 out of 4 employed with a temporary contract are aged below 39). But the strong momentum in the labour market gave also impulse to the creation of more stable jobs. Permanent employment picked up sharply in 2005 and 2006 and continued at about that brisk pace also in 2007. Yet, the number of persons that declared themselves involuntarily employed with a temporary contract increased significantly. Among those working with temporary contracts, there is a rising number of persons who would like a permanent position but could not find one (about 60% in both the EU and the Euro area in 2007, against an average of 52.5% in 2005). A cross-country comparison showhs that this percentage tends to be higher in the countries with more regulated labour markets (Graph 4). Almost one quarter of the cross-country variability in the share of people with involuntary temporary contracts is accounted for by differences in the tightness of employment protection regulation.[8] Thus, the dual character of the labour market appears more prevalent with more regulated labour markets.

However, involuntarily temporary employment is not only the result of a dual labour market with an inner core of permanent workers and an external group of peripheral work. Indeed, there is a distinctive pro-cyclical pattern in the proportion of those declaring themselves involuntarily in temporary payrolls (Graph 4), which appears to be inversely related to the deviations of consumers' from employers' expectations on the short-term labour market developments.

At the member state level, the highest share of temporary positions is observed in Spain (32%), below the decade-peak of 34% reached in 2006 (Graph 5). While largely below the EU average, the share of temporary jobs more than doubled in Ireland to reach 7.3%, reversing the falling trend of the previous years. Conversely, it increased further in Portugal (to 22.4%, the highest share since 1986), Slovenia and Poland,

8 For the sample of euro-area countries, differences in the tightness of the employment protection legislation account for about 2/5th of the differences in the share of involuntary temporary contracts.

were about 30% of the payroll employment in 2007 was made of temporary contracts.

Perceived labour market developments and involuntary temporary employment

In adjusting their workforce, employers must decide how many workers to hire relative to changes in production. When uncertainties about the strength and duration of the expansion prevail, the use of less stable employment to save on hiring and firing costs would prevail on the demand side. Thus, temporary employment would pick up at the early stages of the recovery

Following this hiring strategy, firms would save the hiring and firing costs that they would incur if a permanent job had been instead offered. On the supply side, in an environment of expanding economic activity, workers may expect a permanent rather than a temporary job offer. Thus, a cyclical pattern in those declaring to be involuntarily in a temporary job may reflect a mismatch between job seekers' and employers' perceptions about the state of the economy, which arise as the expansion reaches its mature expansion stage.

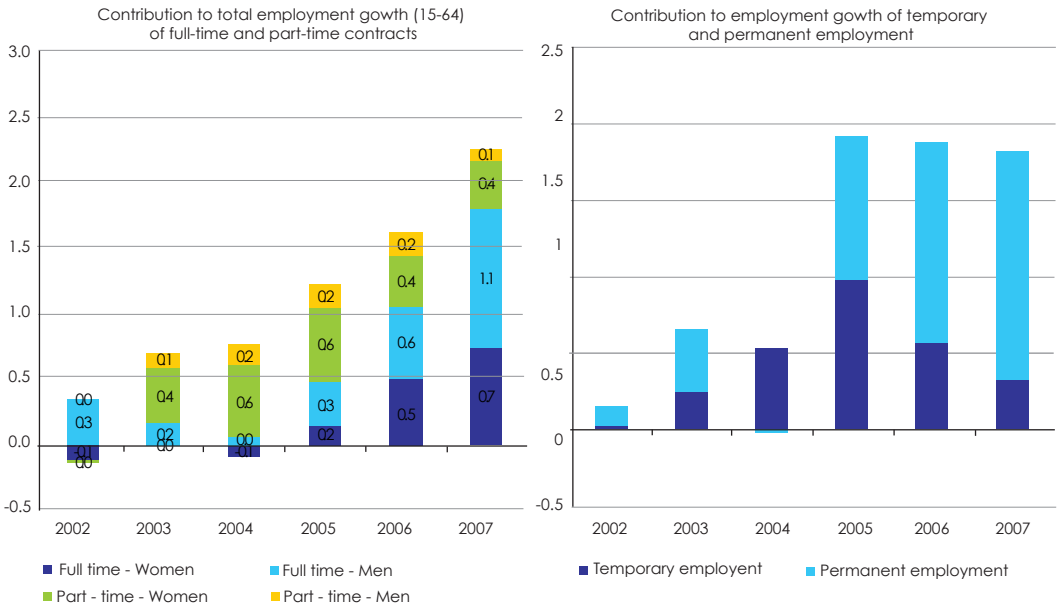
To test the role played by the consumers' and employers' perceptions, the proportion of those involuntarily in temporary employment is regressed on a variable measuring the divergence between consumers and employers' expectations on labour market developments (Mismatch). An increase in Mismatch means that consumers expect a deterioration of the labour market conditions relative to the employers'. The result in Table 4 suggests that, indeed, households' assessment of their position in temporary payrolls as involuntary is partly explained by the mismatch between employers and households' expectations about the labour market conditions.

Table 4 – Determinants of involuntary temporary employment: the role of consumers' and employers expectations

Mismatch between consumers' and employers' expectations about labour market status	-0,07**
	(-2.29)
Involuntary temporary employment (-1)	-0.46
	(-2.44)
MA(1)	0.91
	-26.6
R^2	0.15
	2.8
Heteroskedasticity-consistent standard errors	
The Mismatch variable is the difference between the consumers' unemployment expectations over the next 12 months and the employment expectations on the months ahead in industry. Variables are standardised to have zero mean and variance 1	

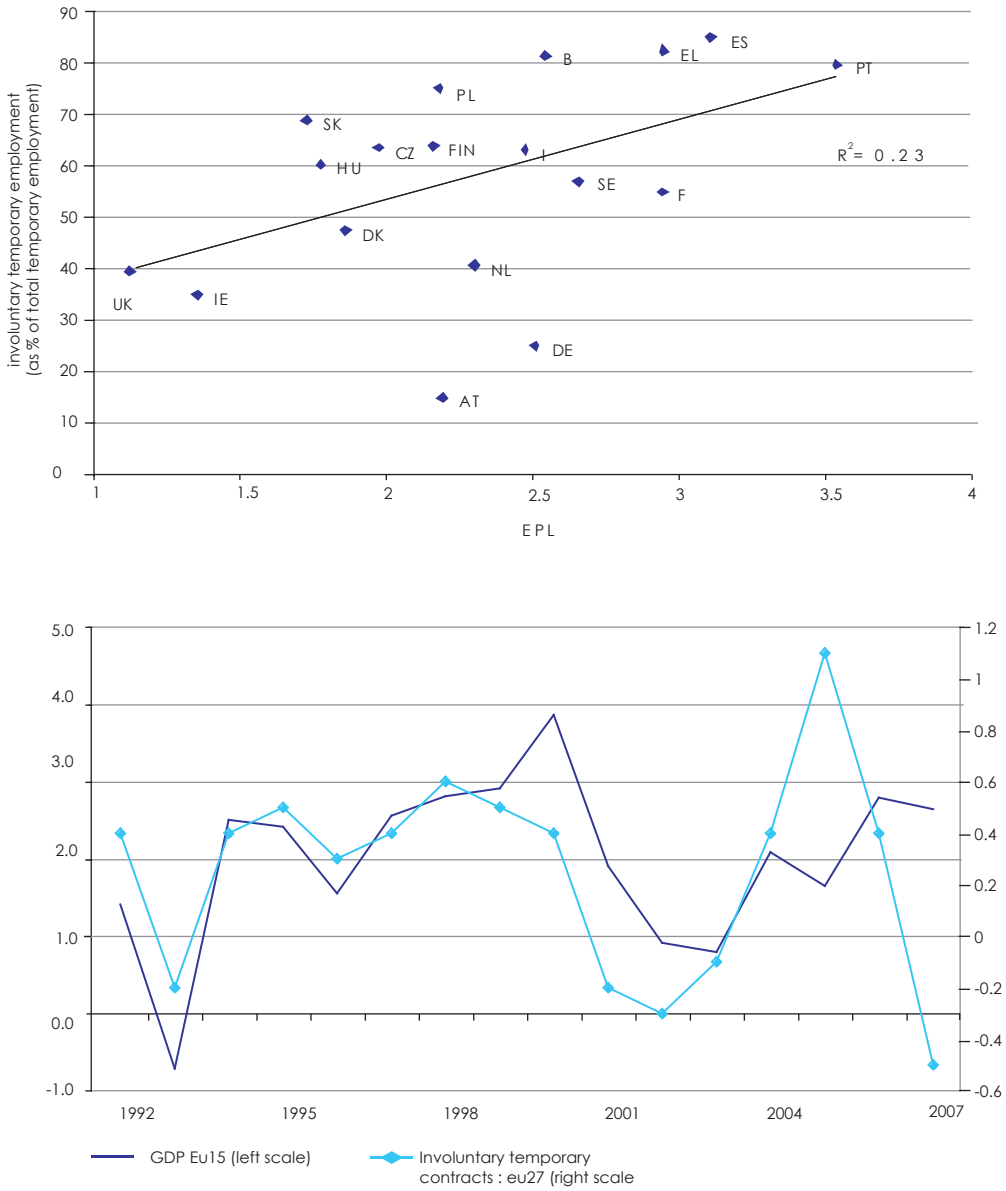
Source: Commission services.

Graph 3 – Contribution of full-time and permanent employment to total employment growth – EU27



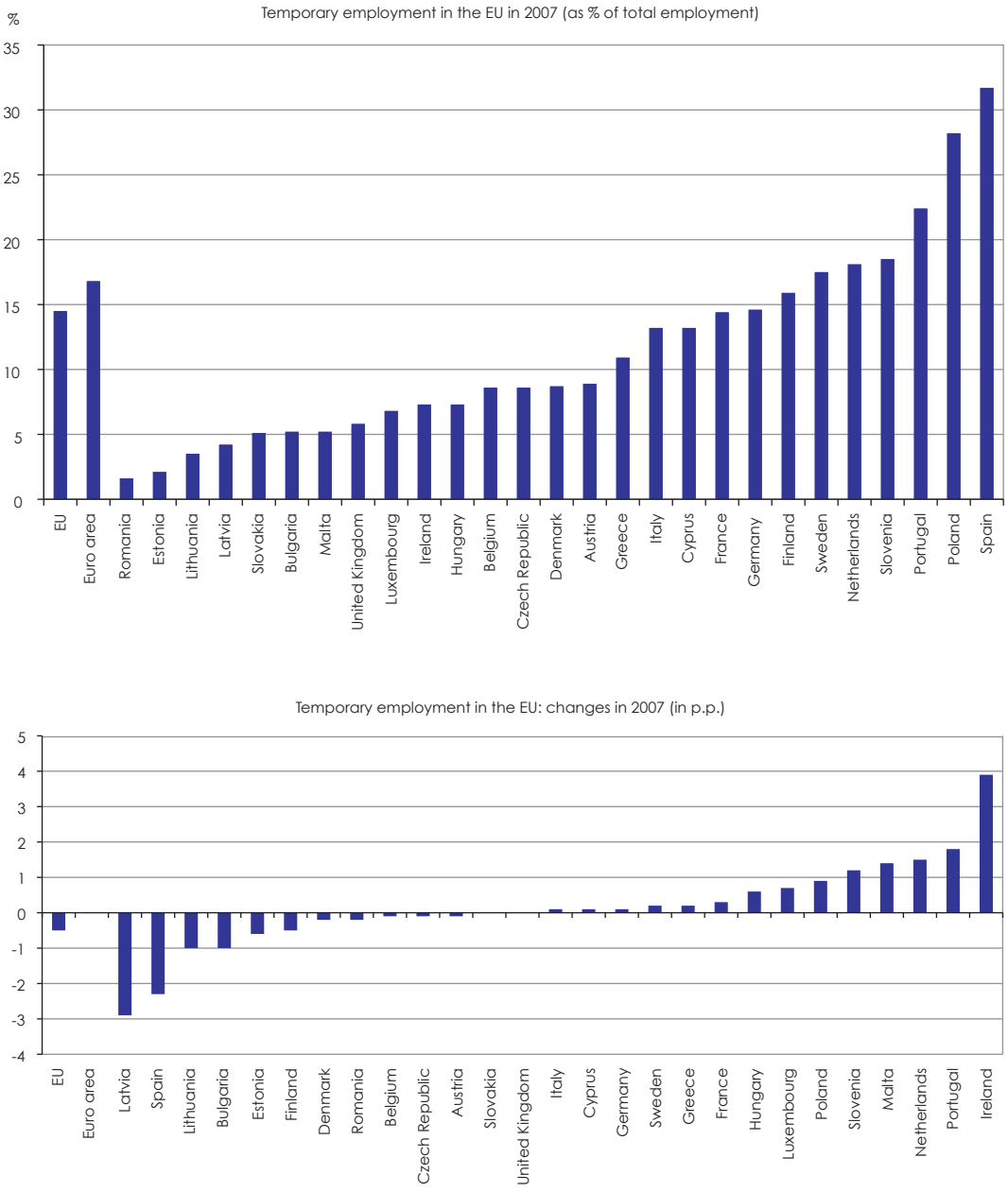
Source: Commission services.

Graph 4 – Involuntary temporary contracts



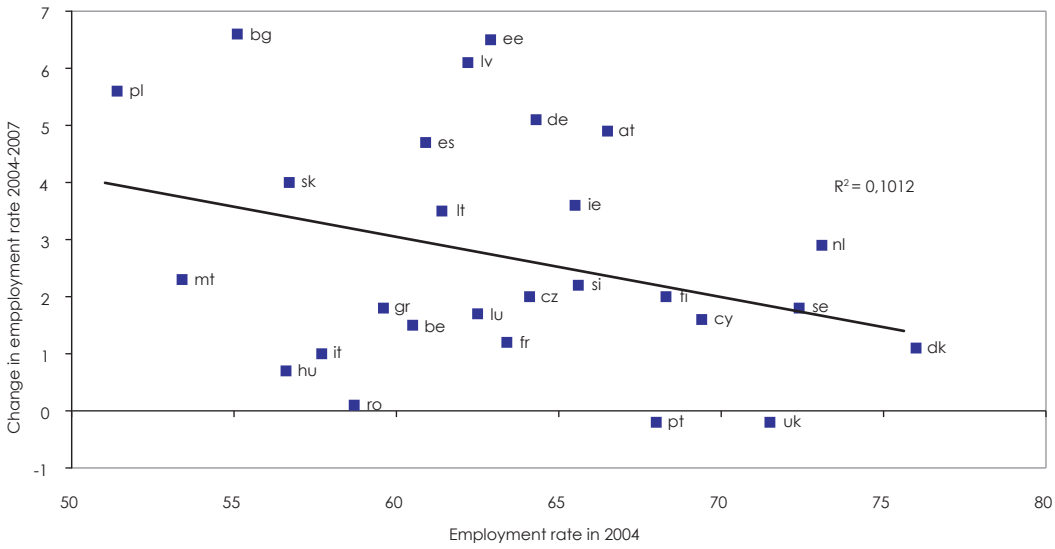
Source: Commission services.

Graph 5 – Temporary employment



Source: Commission services.

Graph 6 – Convergence between the employment rates: 2004-2007



Source: Commission services.

Still significant increases in the female and older workers employment rate in 2007

The large increase in the employment of older and female workers has been one of the most remarkable developments of the last decade. The job creation for older workers (both men and women) accounted for more than three fifth of the EU27 total employment growth during the period 2000-2007. The female component accounted for about the same proportion (73%) of total employment growth. With rates hovering around 45 and 58% for the EU as a whole, the female and the older workers employment remained the most dynamic components also in 2007.

A closer look at the developments at national level reveals sizeable differences in the employment rates in some countries in 2007 both with respect to 2006 and the 2000-2006 average (Graph 7). The overall employment rate has dropped in Denmark and the UK by 0.2pp and in Portugal by 0.1pp. In Denmark, this fall was driven by a drop in the employment rate of those aged between 49 and 64 (down in 2007 by about 1.9 pp, to 95 percent),[9] due to both an increase in the population and a decline in employment. This decline might be a symptom of a "Nordic disease", a referring to the weak incentives for workers to remain in the labour market because of the generosity of the welfare system, e.g. sickness and disability benefits being an alternative pathway to early retirement.[10] In contrast, the decline of employment in the UK reflects both a fall in the employment of the young - that may have decided to pursue further education in a period of cyclical uncertainties - and an increase below that of population of employment of individuals aged between 45 and 49. Finally, the decline in the Portuguese employment rate derives from a fall in employment higher than that in population for the young and from an increase in employment insufficient to offset the increase in population for all other age classes except the 40-44 group. A significant drop in the older workers' employment rate was also observed in Hungary, where the female employment rate fell by 0.9 pp to 26.2%, and Spain, where the male employment rate fell by -0.4 pp to 60% whereas the female rate went up by 1.4 pp to 30%. In countries such as Finland, France, and the Czech Republic the increase in the older workers' employment rate remained below the 2000-2006 average. Both the

9 For those at the higher end of the age distribution, namely between 60 and 64 one should go back to 1991 to find a drop in employment rate of the same size (-2.7pp).

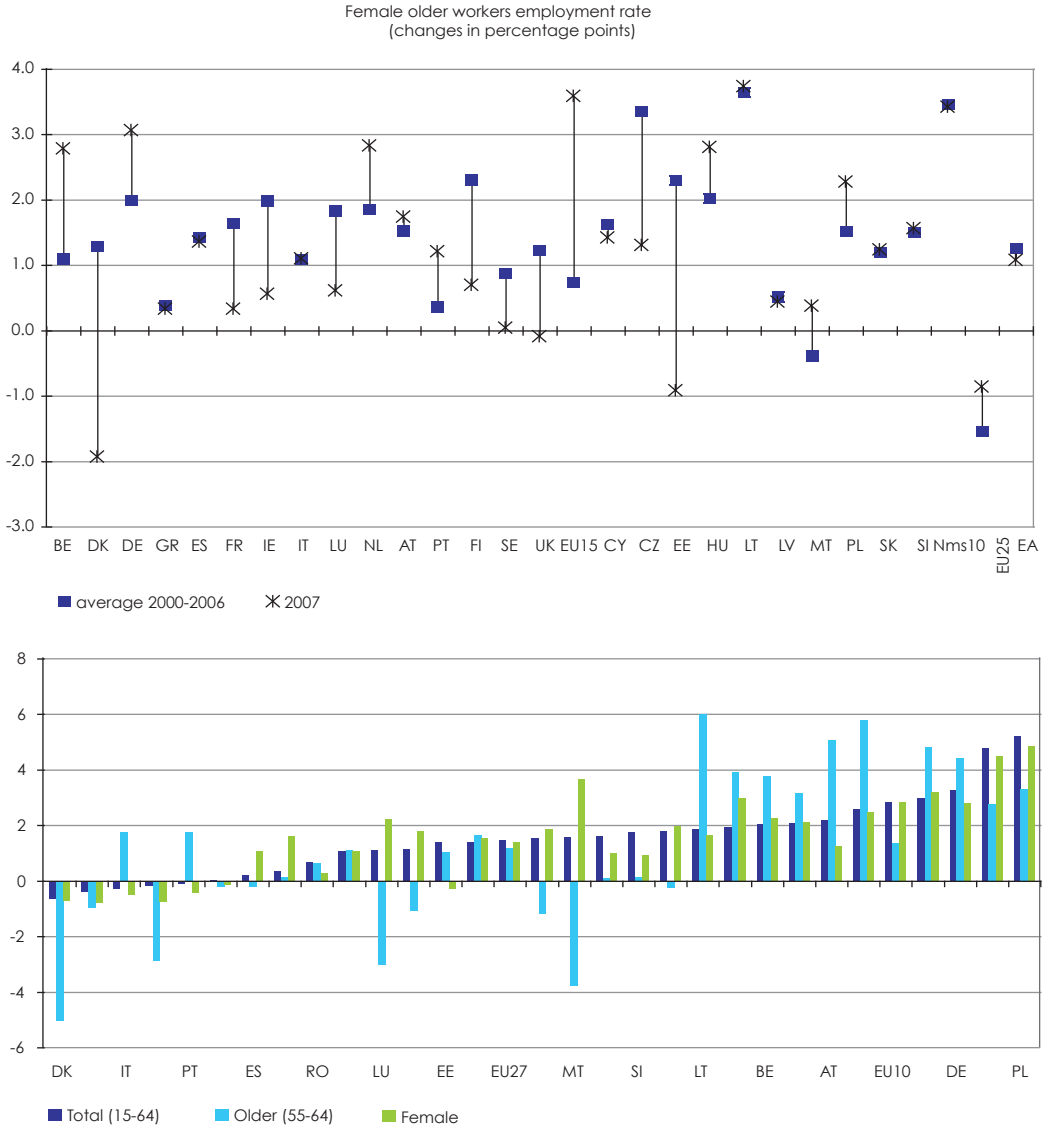
10 For Denmark, Larsen and Pedersen (2005) show that the availability and/or generosity of retirement programs explain the access to early retirement through employment and unemployment insurance benefits, while individual characteristics are of minor importance. This result applies in particular to women. Conversely, the probability of early retirement achieved through social welfare a benefit (i.e. not work-related benefits) is explained by both individual characteristics and the access to retirement programs.

female and the older workers' employment rates accelerated remarkably in Poland, the Netherlands, Germany and Rumania. In other countries the pick up in employment rate was limited either to women (e.g. Bulgaria and Sweden) or to the older workers (e.g. Austria, Belgium, Lithuania and Italy).

As far as the employment rate by nationality is concerned, no clear pattern can be identified (Graph 8). For the recently acceded Member States, the employment rate of nationals rises with that of the foreign population. In the Southern countries the proportion of foreigners in employment is higher than that in the national population. The opposite is observed in the Nordic countries while less clear is the pattern for the other continental European countries. This difference across countries in the employment rates of non-natives might be related to the qualifications of foreign workers, to different legal settings and requirements for the asylum seekers[11] and to the generosity of the welfare state. For example, in countries where there is a large flux of refugees, labour market participation may be initially limited by their status.

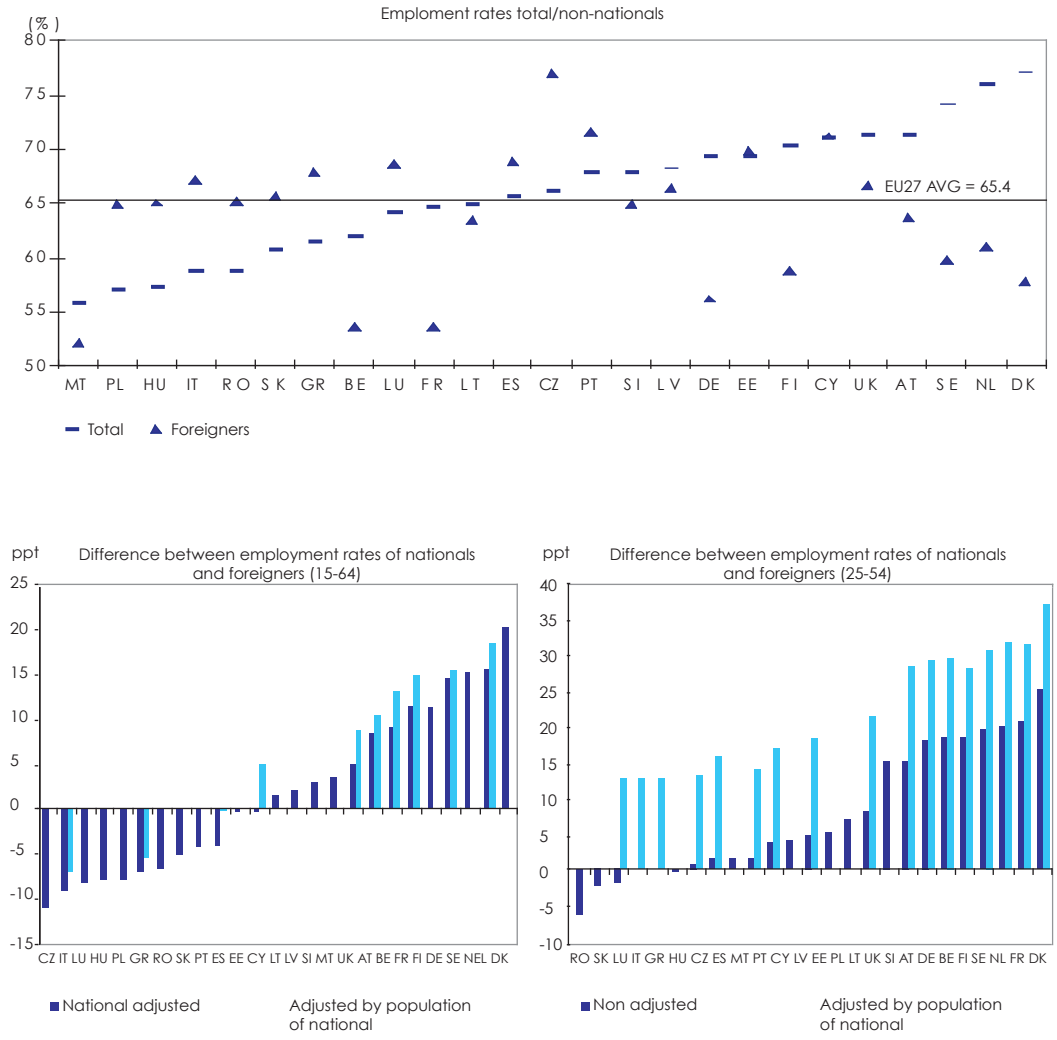
11 Asylum seekers are usually not allowed to work while their application is processed.

Graph 7 – Changes in the employment rate relative to the average changes in 2000-2006 (in p.p.)



Source: Commission services.

Graph 8 – Employment rates of nationals and foreigners



Source: LFS.

The impact of population and participationrate effects on the dynamic of employment rates

The contribution of different gender and age groups to the changes in the employment rates and the participation rates is shown in Table 5, along with the contribution provided by the demographic component (for detailed country figures see Annex 1). Between 2000 and 2006, the older and the prime age female workers were the main sources of increases in the employment and the participation rates. After being negative for the all period, the contribution of the young and the prime aged male population turned out positive in 2007, mirroring a period of very strong labour demand. The contribution of female employment rate to the overall employment growth increased by 0.2pp, while that of the older workers remained the same as the 2000-2006 period. The impact of the demographic effect (that is the shift in the relative share of different age and gender groups) on the overall employment can be relevant and will be discussed in a next section. Between 2000 and 2006 more than half of the improvement in the EU employment and participation rates were due to older workers. In 2007 this contribution was relatively muted.

Table 5 – Employment rate and participation rate contribution to changes by gender and age groups

	Employment rate								
	EU27					Euro area			
Rate in:	2007		2006			2007		2006	
	65.4		64.5			65.7		64.8	
	p.p. change in					p.p. change in			
	2006-2007		2000-2006			2006-2007		2000-2006	
0.5	0.9	100%	0.4	100%		1.0	100%	0.6	1.0
	due to shifts in employment rates of:								
Young	0.1	15.0%	0.0	-5%		0.1	13.7%	0.0	0.0
Prime age	0.6	66.0%	0.2	61%		0.6	61.2%	0.3	0.5
Older	0.2	21.5%	0.2	47%		0.3	26.4%	0.2	0.4
MALE:	0.4	46.5%	0.1	22%		0.4	38.2%	0.1	0.2
Young	0.1	7.9%	0.0	-3%		0.1	5.4%	0.0	0.0
Prime age	0.3	27.2%	0.0	6%		0.2	20.5%	0.0	0.0
Older	0.1	11.3%	0.1	20%		0.1	12.3%	0.1	0.2
FEMALE:	0.5	56.0%	0.3	80%	0.1	0.6	63.0%	0.4	0.8
Young	0.1	7.0%	0.0	-2%		0.1	8.2%	0.0	0.0
Prime age	0.4	38.8%	0.2	55%		0.4	40.6%	0.3	0.5
Older	0.1	10.3%	0.1	27%		0.1	14.1%	0.1	0.2
	due to demographic effect:								
TOTAL:	0.0	-2.6%	0.0	-6%		0.0	-1.4%	0.0	0.0
Young	-0.1	-7.0%	0.0	-9%		-0.1	-6.9%	0.0	-0.1
Prime age	-0.1	-8.9%	0.0	-11%		0.0	-4.8%	0.0	0.1
Older	0.1	13.3%	0.1	14%		0.1	10.3%	0.0	0.0
	due to interaction effect:								
	0.0	0.1%	0.0	0.0		0.0	0.1%	0.0	0.0

	Participation rate								
	EU27					Euro area			
Rate in:	2007		2006			2007		2006	
	70.5		70.3			71.1		70.7	
	p.p. change in					p.p. change in			
	2006-2007		2000 - 2006			2006-2007		2000 - 2006	
	0.2	100%	0.3	100%	0.1	0.4	100%	0.5	100%
	due to shifts in participation rates of:								
Young	0.0	-5%	0.0	-13%	0.0	0.0	6%	0.0	0%
Prime age	0.1	47%	0.2	57%	0.0	0.2	47%	0.3	53%
Older	0.2	74%	0.2	63%	0.0	0.2	52%	0.2	44%
MALE:	0.1	25%	0.1	18%	0.01	0.1	15%	0.1	19%
Young	0.0	-4%	0.0	-7%	0.0	0.0	-2%	0.0	0%
Prime age	0.0	-7%	0.0	0%	0.0	0.0	-4%	0.0	2%
Older	0.1	36%	0.1	26%	0.0	0.1	21%	0.1	18%
FEMALE:	0.2	91%	0.3	88%	0.1	0.3	90%	0.4	76%
Young	0.00	-2%	0.0	-7%	0.00	0.0	8%	0.0	-1%
Prime age	0.11	54%	0.2	57%	0.04	0.2	51%	0.3	51%
Older	0.08	38%	0.1	37%	0.03	0.1	31%	0.1	26%
	due to demographic effect:								
TOTAL:	0.0	-17%	0.0	-10%	0.0	0.0	-6%	0.0	3%
Young	-0.1	-37%	0.0	-15%	0.0	-0.1	-20%	0.0	-9%
Prime age	-0.1	-42%	0.0	-16%	0.0	-0.1	-14%	0.0	8%
Older	0.1	63%	0.1	21%	0.0	0.1	28%	0.0	4%
	due to interaction effect:								
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Commission services.

1.2. UNEMPLOYMENT AND LABOUR SUPPLY

Should one lose his or her job, (s)he may either actively seek work, and be ready to accept one if it is offered, or give up search and leave the labour force. Thus, the unemployment rate falls if either joblessness falls or if the labour supply gets smaller. During the 80s and 90s reductions in the labour supply were advocated by many as a way to solve the unemployment problem. This was based on the assumption that the number of jobs is fixed - the so-called lump-of-labour fallacy - so that a reduction in the competition among job seekers, e.g. through early retirement of aged workers, would have been sufficient to improve the functioning of the labour market.[12] Yet, the empirical evidence does not support the view that unemployment can be reduced through early retirement or that natives perform better in countries that allow fewer immigrants. In addition, countries that attempted to reduce unemployment via early labour market exit experienced the highest natural rate of unemployment. For these reasons, developments in the unemployment rate should be analysed jointly with the changes in the labour supply, an approach followed in this section.

In the EU, the labour force expanded by almost 1.8 millions or 0.8% compared to 2006 (+1.6 millions of additional persons or 1.1% in the euro area), of which almost 1/4 were non-nationals but citizen of other EU countries and 40% citizen of countries outside the EU (for the euro area the figures are respectively 14% and 40%). For both the EU and the euro area, the increase in the labour supply was mainly due to the increase in the resident population (respectively by 1.2 millions and 950 thousands) and in the overall participation rate, by 0.2 pp to 70.5% (for the euro area by 0.4 pp to 71.1). The female participation rate continued to be the most dynamic component, especially for women aged between 55 and 64 (+0.9 pp and +1.3 for the EU and Euro area). On the contrary, the male participation rate remained mainly flat, owing to the declining rate of the young and to the unchanged rate of prime-age workers.

Taking advantage of the positive growth momentum in 2007, the number of people economically inactive aged between 15 and 64 (i.e. those not in employment and unemployed according to the ILO definition) continued to fall (-0.3pp) but less than in 2006 (-0.5%). In 2007, about 30% of the working age population was inactive, almost all nationals (95%). Individuals with less than secondary education and with secondary education account for respectively 50% and about 38% of all inactive. Noticeable is the difference between the two sexes. The number of inactive women dropped for all age groups other than the women aged between 55 and 64, for which the number of inactive increased by about 0.6%. In contrast, the number of men out of the labour force remained unchanged, owing to a decline of inactivity for the young and older individuals and to an increase for those aged between 25 and 54. According to the LFS, about 50% of the inactive declare to be in education, training or retirement, while 18% is out of the labour force, either because looking after children, because of incapacitated adults or because involved in other family responsibilities.

Table 6 – Main reasons for not seeking employment

Inactive population - Main reasons for not seeking employment (as % of total inactive)		
	EU	Euro area
Other reasons	12.2	13.4
Awaiting recall to work (on lay-off)	0.3	0.4
Own illness or disability	12.3	10.2
Other family or personal responsibilities	9.7	11.6
Looking after children or incapacitated adults	8.1	8.8
In education or training	32.5	30.2
Retired	20.6	21.2
Think no work is available	4.3	4.2
	100	100

* Source: Eurostat (LFS); preliminary figures 2006

12 The lump-of-labour thesis is a false assumption that takes no account of the dynamics of the labour market. For example, an influx of immigrants may force down the level of wages employers are willing to pay which in turn may make many employers demand more labour or workers at that price. The lump-of-labour theory also overlooks the facts that some people wish to work longer hours, that older workers may be more productive and that migrants are also consumers, supporting the creation of new jobs. For its endogeneity, the unemployment rate per se is not an adequate stand alone indicator of the state of the labour market.

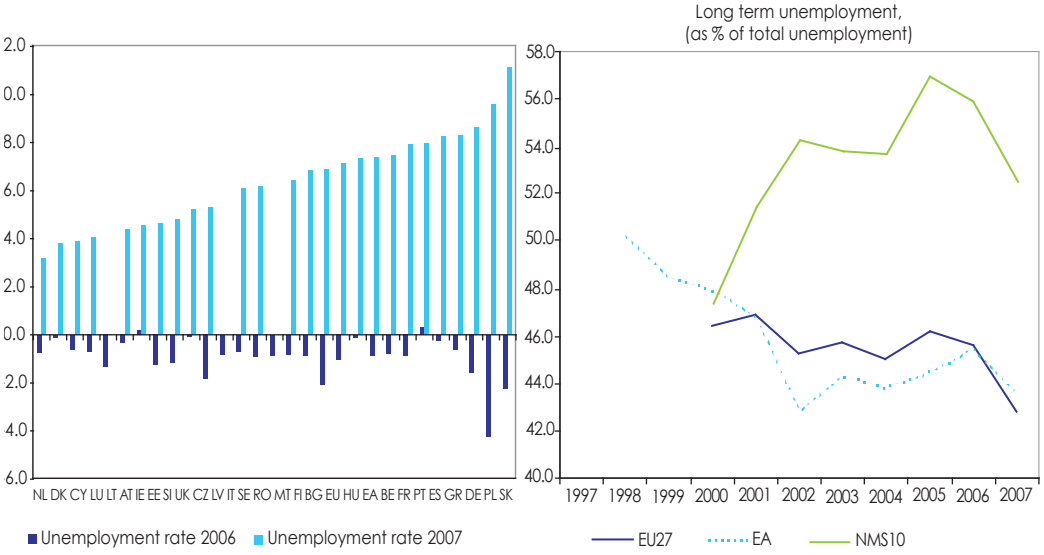
Unemployment edged downward in 2007, continuing the pattern of improvement exhibited in the previous years. The number of job-seekers fell respectively by 2.3 millions in the EU, or 12%, to 16.7 millions. The unemployment rate dropped by 1.1 pp to the historically low level of 7.2% - down by about 1 pp in the euro area to 7.5% - with no difference by gender or nationality. Most age groups reflected the overall pattern, although the largest drop was that of the young (-1.8 pp to 15.5%).

In 2007, the decline in the unemployment rate involved all Member States except Ireland (+0.2 to 4.6%) and Portugal (+0.3 to 8%) - Graph 9. The largest reduction was observed in the RAMS, especially Poland (down by 4.3 pp to 9.7%), Slovakia (down by 2.2 pp to 11.2), Bulgaria (down by 2.1 pp 6.9%) and Germany (down by 1.6 pp to 8.7%, the third largest rate after Slovakia and Poland). As a consequence of these patterns, the cross-country dispersion of the unemployment rates continued to narrow, especially for the non-EMU countries (Graph 10). The dispersion went up slightly in the first three months of 2008, owing to the increase in the unemployment rate at the higher end of the cross-country distribution - namely in Spain. Even so, there is a remarkable convergence of the EU Member States unemployment rates to a lower average.

The length of time persons remain unemployed and the reasons for their unemployment are important variables in assessing the functioning of the job market. The proportion of unemployed persons who remained jobless for more than 12 months (the long term unemployed) edged down both in the EU and the Euro area, respectively to 42.8 and 43.5% from more than 45% in 2006 (Graph 9 right panel). In line with this decline, the mean duration of unemployment - at 11.6 months both for the EU and the euro area - was slightly below the figure for 2006. The recent decline in the mean duration follows a much larger decrease since the late 1990s and early 2000s – from 12.8 months for the EU in 1998 (13.2 for the euro-area) to 11 month, both for the EU and the euro area.[13] In contrast, in the RAMS the long-term unemployment picked up until 2005. Afterwards, it started to decline, to reach in 2007 a rate that is still well above the one prevailing in 2000, an indication of the difficulties faced by the job seekers in these countries.

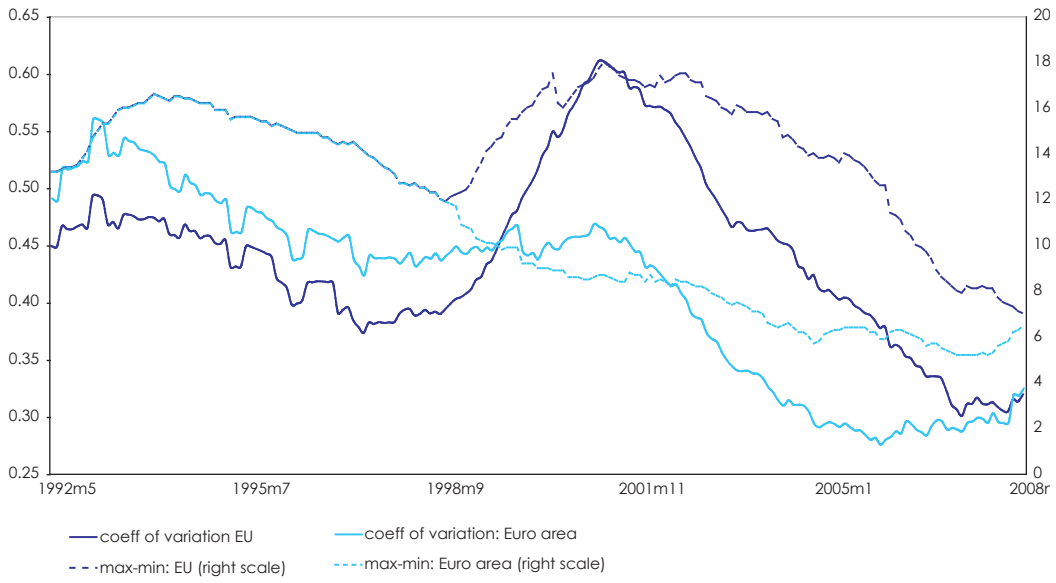
13 The mean unemployment duration is calculated as the weighted average of the central values of the intervals of unemployment spells (i.e. the classes "less than 1 month"; "between 1 and 2";"between 3 and 5";"between 6 and 11;"between 12 and 17;"between 18 and 23"; "between 24 and 47"; "48 months or more") with weights the number of unemployed in each class. For the central value of the last open class it is assumed that the class is closed and of the same width as the previous one (i.e. "between 24 and 47"). Excluding unemployed with a duration of more than 48 months shifts mean duration downward, but does not change its time evolution.

Graph 9 – Unemployment rates



Source: Commission services.

Graph 10 – Dispersion of unemployment rates in the EU27 and in the Euro area



Source: Commission services. Seasonally adjusted data.

1.2.1. Why unemployment has trended downwards?

Three explanations have been given for the fall in the unemployment rate in the EU. Firstly, the drop reflects a decline of the equilibrium rate of unemployment (see box 2 *Structural rate, equilibrium rate of unemployment and NAIRU*). This has made the fall in the actual unemployment rate possible without significant inflationary pressures. A second reason for the declining unemployment rate is the increase in the "grey area" consisting of jobless people not classified as active in the LFS (and therefore not unemployed), while actually searching for a job in a way not dissimilar from that of the unemployed. Finally, a third explanation relates the fall in the unemployment rate due to changes in the composition of the labour force. This section reviews these three explanations of the recent decline in the unemployment rate.

Reforms have started to pay off

The labour market has been improving significantly since the mid-1990s. After having reached a peak in 1994, the unemployment rate started to decline gradually. In all countries the decline in the overall unemployment rate was achieved through a joint increase in employment and participation rates. In cross-countries comparisons, the positive and high correlation between employment and participation rates (both levels and changes), implying that countries with low inactivity rates also have high employment rates, challenges the view that labour market problems can be solved through early labour market exit (the so-called *lump-of-labour fallacy*).

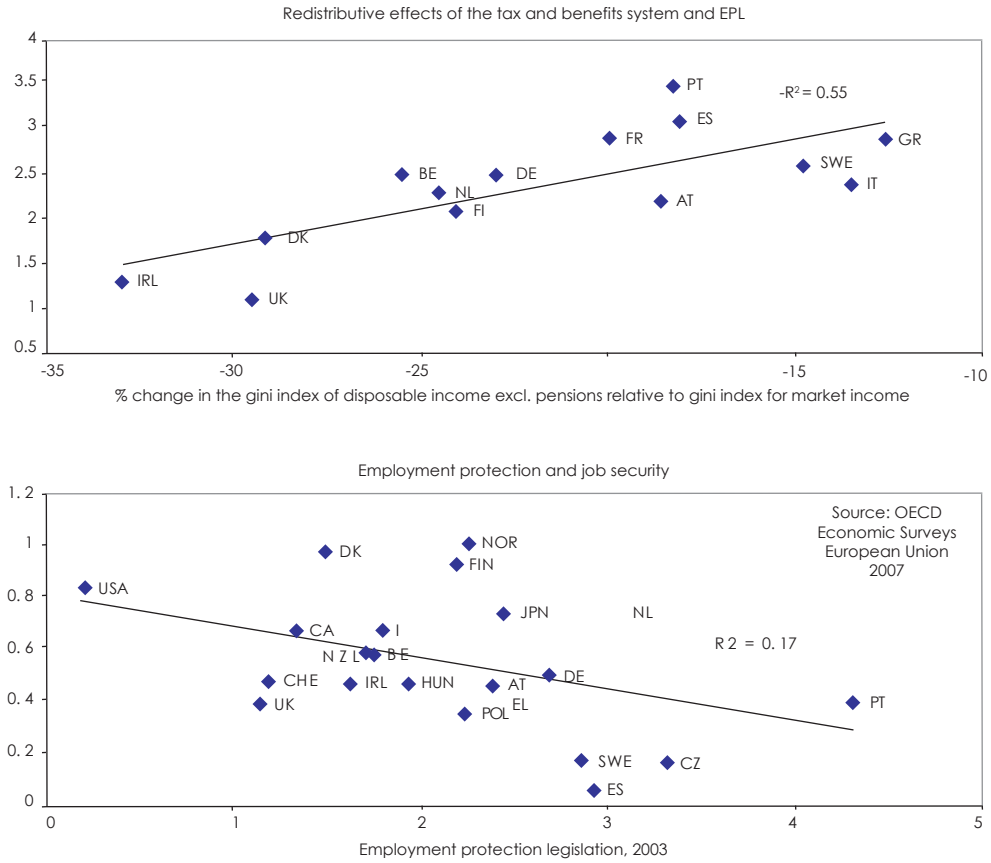
The perception that labour market problems could be cured through early exits led to a loose access to early retirement and other welfare benefits in the 1980s. The transfers from those at work to those out of the labour force distorted the balance between social assistance (i.e. the assistance toward those at high risks of poverty and social exclusion) and social security (unemployment and welfare related benefits), blurring their relative different roles. In some countries, government intervention played an important role in the regulation of economic interactions. The trade-off between the generosity (levels and coverage) of unemployment insurance and the stringency of employment protection legislation (EPL) is a well-known example (e.g. Boeri et al, Buti et al.).[14]

14 Some countries relied on work sharing and reduction of effective labour supply as a way to deal with adverse shocks (Kramarz et al.). This strategy was accompanied by exogenous hourly wage increases, which ultimately worsened the effect of the shocks.

As governments became progressively more aware of the weaknesses of the *lump of labour fallacy*, they increasingly made efforts to develop activation policies explicitly designed to influence job-search and strengthen the incentive structure of the tax and benefit systems. The experience of Nordic countries drew attention as it entailed flexible hiring and firing rules that improve the adjustments to sector or country specific shocks, and generous welfare institutions that lessen the opposition to this adjustment by reducing individual labour market risks through forms of collective risk sharing (Andersen, 2007). If agents are risk adverse, both risk-pooling and risk- taking improve welfare and incentives enhancing efficiency. Thus, one would expect more flexibility in countries with more efficient redistributive welfare state policies. This is shown in Graph 11 (left panel), which displays on the horizontal axis the reduction in the Gini index for market income due to redistribution through tax and benefits and on the vertical axis the EPL index. The graph suggests that tight employment legislation is associated with low reduction in income inequality through the tax and benefit system. As suggested by Graph 11 (right panel), EPL is also not a very effective way to improve perceived job security. The role of incentives - particularly in delaying early retirement decisions and welfare benefits dependency - and individualised active labour market policies, preventing that short-term unemployment spells are transformed in long-term non-employment status, have been highlighted in countries where reforms appear to have led to improved labour market performance (OECD 2006).[15]

15 Yet, the experience of the wage formation in Scandinavian countries has been less stresed in the debate about the reform of the welfare state. Contrary to the experience of some continental countries, a coordinated wage restraint turned out to be a successful response with little attempt to reduce the labour supply (Faggio and Nickell, 2007).

Graph 11 – Job protection, job security and redistribution



Source: Commission services based on Immevol et al (2005).

The introduction of more flexible working arrangements, mainly achieved by easing access to part-time and/or temporary work, has been the main feature of partial labour market reforms, especially in the euro-area. Table 7 reports for EMU and non EMU countries the contribution of temporary and permanent contracts to total employment growth. The table suggests that the introduction of the common currency may have changed significantly the pattern of job-creation in participating countries compared to non-participating countries. Before EMU, the contribution of temporary employment to total employment growth was higher in countries that would have shared the common currencies than in the rest of the EU15. After 1998, the difference between the contribution of EMU and non-EMU countries became three times as much. Reforms of EPL have rarely addressed the whole set of provisions and mainly aimed at activating groups with low labour market attachment. Partial labour market reforms have been paying out in terms of faster employment growth and better employability of these groups, according to a recent DG ECFIN research[16]. Even so, piecemeal reforms have increased the duality of the labour market. Because of the rigid wages of the insiders, the burden of the non-adjustment of government-mandated employment protection has been transferred onto the outsiders, which ended up to be less protected and with lower entry wages.[17]

Table 7 – Contribution of temporary and permanent employment to total employment growth

	1991-1998	1999-2006
	(1)	(2)
Temporary employment		
EMU	4.07	3.27
Non-EMU	2.93	-0.37
z-test : same mean changes	5.72***	26.19***
Permanent employment		
EMU	4.72	7.21
Non-EMU	10.8	5.44
z-test : same mean changes	-12.2***	6.42***

Source : Author's calculation on LFS; non-EMU includes Denmark Sweden and the UK. Columns (1) and (1) reports for the EMU and non-EMU countries the contribution of temporary and permanent contracts tot total employment growth. The z-test is the statistics for the comparing to average changes. The sum of the contributions of temporary and permanent employment for respectively EMU and non-EMU group gives the cumulated average employment growth over each sub-period based on LFS. This can differ from the growth rate based on National Accounts.

Source: Commission services based on LFS, Eurostat.

In addition to an admittedly imperfect liberalisation of the labour market, other factors have contributed to the structural improvement in the functioning of the labour market: the reduction of disincentives to work and to hire (especially for the low-skilled) embedded in tax and benefit systems, a greater link with activation policies, the stronger reliance on preventive and targeted active labour market policies (ALMPs) as well as widespread wage moderation.

The last decade also witnessed important changes in the pension system. Up to 1995 only few countries implemented pension reforms. By 2006 almost every European country reformed the pension system. Reforms in pension systems that have postponed the statutory retirement age and cut incentives for early retirement have reversed the structural decrease in participation and employment rates of older workers in many

16 For econometric evidence see "Recent Labour Market Reforms in the Euro-area: characteristics and estimated impact" in "Quarterly Report of the euro area Vol 7 N°1 (2008)" Directorate General for Economic and Financial Affairs; http://ec.europa.eu/economy_finance/publications/publication12331_en.pdf. For the euro area as a whole, the reform process in the early years of the euro was characterised by a sequence of gradual reforms rather than by a few radical changes. However, data also shows an encouraging shift in the pattern of reforms in the Member State in the early years of the euro with more reforms being introduced by those countries that need them most. For a discussion of the effects of euro-area participation on the reform path see "Labour Market Reforms in the euro-area" in "Quarterly Report of the euro area Vol 6 N°4 (2007)" Directorate General for Economic and Financial Affairs http://ec.europa.eu/economy_finance/publications/publication10549_en.pdf. The effect of reforms improving the employability of groups with low labour market attachment on the employment and productivity trade-off is discussed and assessed in "The EU Economy 2007 Review" Moving Europe's productivity frontier http://ec.europa.eu/economy_finance/publications/publication10130_en.pdf .

17 In the case of Italy, Rosolia and Torrini (2006) found that the wage gap between old and young workers went up from 20 percent in the late 80s to 35 percent in the early 2000s… this decay is not accounted for by developments in relative supplies of skill-age groups overtime and reflects almost entirely falling entry wages." Rosolia, A. and R. Torrini (2006), The generation gap: an analysis of the decline in the relative earnings of young male workers in Italy, mimeo, Bank of Italy.

Member States. The measures adopted involved stronger actuarial links between contributions and pension benefits, the possibility for workers to retire later while incentives to early-retire were discontinued and the eligibility conditions tightened. The retirement age was increased in Germany, Austria, and Finland. Some countries increased the statutory retirement age for female or both male and females. Others have changed only some provisions of social security programmes (and sometimes of other transfer programmes used as alternative early retirement paths) that provided strong incentives to leave the labour force at an early age. Recent analysis by DG ECFIN concluded that the participation behaviour of those that are approaching the retirement age changes after the reforms are enacted[18]. As shown by the analysis of the labour market flows (see Box 3 on Labour market flows and transitions rates), the labour market improvements of the late 1990s were mainly due to increases in the flows from inactivity to employment, especially for women, and to strong increases in the flows from unemployment to employment for prime age workers.

All things considered, the labour market improvements cannot be considered as just an aspect of the movement of the economy from recession to boom. The remarkable thing is that the fall in unemployment was not accompanied by any notable acceleration in inflation, implying that the level of unemployment at which labour shortages start to emerge along with rising inflation has declined. According to estimates, the NAIRU declined from 8.8% in 1997 to below 8% in 2007 (for the euro area from 9.2 to 7.7). However, these structural rates are still high, and without further reduction they represent a serious limitation to the speed of recovery. Indeed, for several countries most of the remaining unemployment appears to be structural in nature already at this juncture (Graph 13). For 2007, the comparison between the equilibrium and the actual unemployment (7.1% for the EU and 7.4 for the euro-area) implies a tight labour market.

18 European Economy 2/2008 "EMU@10 Successes and Challenges after 10 years of Economic and Monetary Union", European Commission.

Box 2 : Structural rate, equilibrium rate of unemployment and NAIRU

In the economic literature, structural unemployment is usually analysed in terms of equilibrium rate of unemployment. As such, it is a concept which is not tied to short-term economic fluctuations and, therefore, does not disappear in cyclical booms. Rather, it results from the institutional set up of the economy, the structure of markets, demography, laws and regulations. These elements shape the relationships between wage and price setters, affect the interplay of demand and supply of labour and involve the efficiency of the search and matching process in the labour market. When unemployment is determined by mechanisms that lead to persistency, the distinction between cyclical and structural unemployment become more complex[1].

In any case the identification of structural unemployment with the concept of equilibrium is not clear cut. Indeed, it may refer either to a situation where for some reason the economy does not clear existing excess of labour supply, or to a state of excess supply which tends to perpetuate over time regardless of the market clearing properties. Two different, but not independent, concepts of equilibrium are identified in economic literature: a stock and a flow equilibrium. Stock approaches focus on the difference at a given point in time between the workforce desired by firms (aggregate stock demand for labour) and the number of workers willing to work (aggregate stock supply of labour). Flow approaches deal with the difference between the flows in and out of the unemployment pool during a certain period.

The NAIRU is a stock equilibrium concept defined as the level of unemployment rate compatible with a stable inflation rate in the absence of shocks, (i.e. when current and expected inflation coincide). It is based on an expectations-augmented Phillips curve which can be derived from models of wage and price setting in monopolistic product and labour markets (Layard et al. (1991)). It is a structural concept in the sense that economic agents have no incentives to change prices and wages when the economy is

1 A. Lindbeck (2001), Unemployment Structural, in N. J. Smelser and P. B. Baltes eds., International Encyclopedia of the Social and Behavioral Sciences Oxford: Pergamon.

stuck at its level (i.e. the level of unemployment required to hold inflation in check). The NAIRU is an equilibrium concept based on supply-side considerations and on the assumptions that expectations are fulfilled and wages rise in line with prices after taking account for productivity changes.

Theoretical models of flow unemployment focus on the flow of workers in and out of unemployment (Phelps et al. 1970, Hall 1979, Diamond 1982). These models emphasise the heterogeneity of jobs and workers and, as a consequence, explain structural unemployment in connection with job search and matching. The equilibrium rate of unemployment emerges when the number of individuals finding a job equals the number of individuals who are separated from a job, and it is related to the efficiency of the search and matching process. The Beveridge curve depicts the combinations of vacancies and unemployment coherent with equilibrium in the labour market. Along the curve unemployment is stable as inflows into unemployment equal outflows out of it. Therefore, movements along the Beveridge curve reflect transitory shocks while shifts in the curve mirror structural demand shifts or reduction in the efficiency of job matching activities. The stock and the flow concepts of structural unemployment are related. Indeed, when the match between vacancies and unemployed is far from being perfect, firms may offer higher wages than otherwise to hire workers. By contrast, improvements in the efficiency of matching and increases in the search effort may induce an inward shift of the Beveridge curve (the relationship between vacancies and unemployment) and reduce the equilibrium unemployment rate.

The NAIRU may not be constant over time. Indeed, there are good reasons for the estimates of the NAIRU to follow actual unemployment. This occurs, for example, when there is hysteresis in unemployment, i.e. when the path of unemployment influences the position of the equilibrium unemployment rate, and so unemployment has persistent effects. This may happen for example when the duration of unemployment reduces the probability of a worker of finding a new job via its effects on job search; workers' skill; motivation and morale; job screening and employer perceptions.

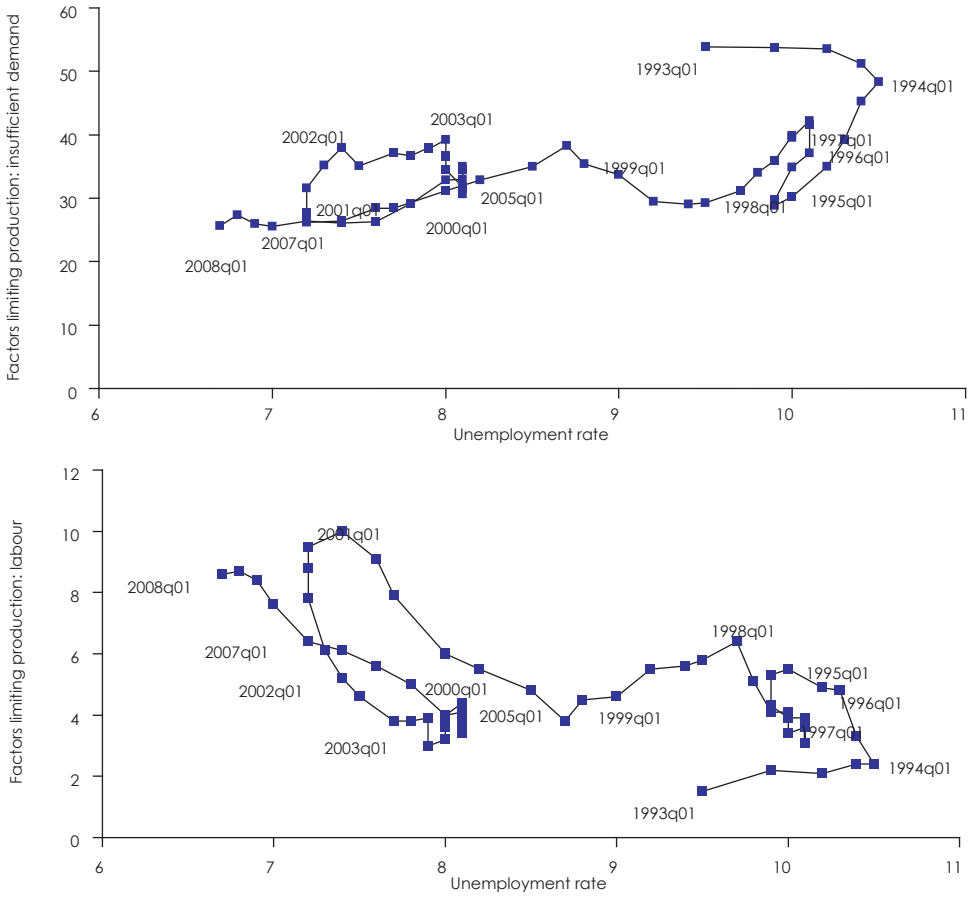
Further evidence of these improvements is provided by the Beveridge curve (Graph 12). Shifts along the curve represent cyclical changes in the excess demand for labour, whereas shifts of the curve are indicative of long-run changes. Graph 6 reports the Beveridge curve[19] for the period 1993q1 2008q2. Over time the curve has shifted inwards, suggesting an improvement in the process of job reallocation, i.e. a lower unemployment rate associated to a given rate of vacancies. Although it is too early to dub a further shift of the curve as structural, data for 2008 point towards a gradual improvement in the matching of unemployed workers and job vacancies.

Evidence of structural improvements in the labour market is also provided by the relation between the employers' perceptions of the limits to production due to insufficient demand and the unemployment rate. Over the cycle one should expect a positive relationship between these two variables. As the economy improves, both the unemployment rate and the perceived constraints to production from insufficient demand should decline. Since the mid-1990s, the curve has shifted downward suggesting a structural improvement in the labour market as any given perceptions of constraints on the demand side occurs at a lower unemployment rate.

The continuous improvements in the older workers' employment rates, and, if confirmed the pick up in young employment are an indication of an improved functioning of the labour market. Even so, they warrant further analysis, especially as regards the sustainability of high employment rates for the older workers, without changes in early retirement or disability and sickness schemes, in the pension systems or in the deep-rooted attitudes of enterprises towards older workers. Indeed, the low increase, in some countries even declines, of female older workers' participation rates should warn against the risks of falling female labour force.

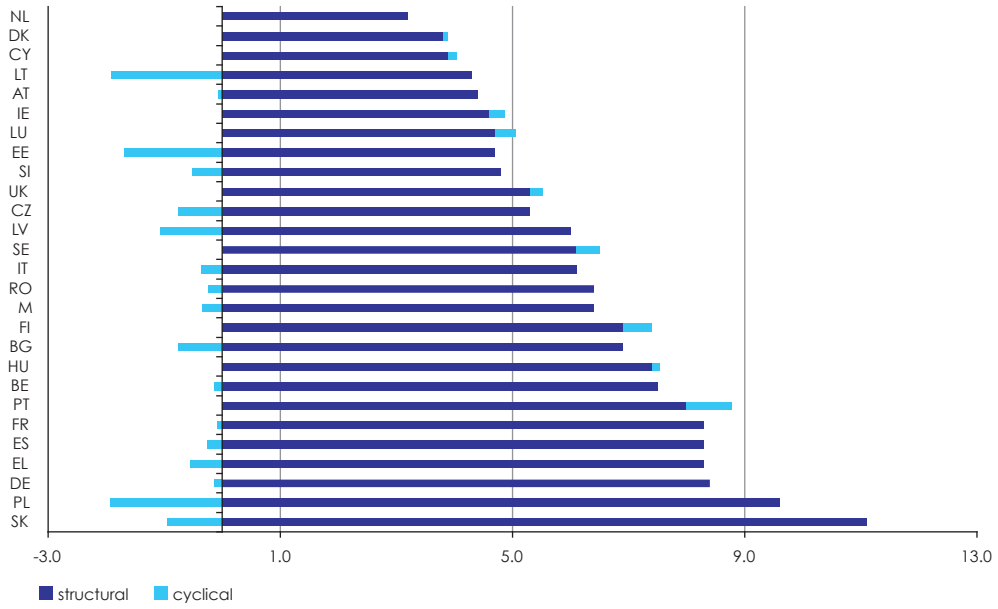
19 Data on job vacancies and occupied posts area available only for some countries and starting form 2000. The graph is based on the information from DG ECFIN Business and Consumers' Survey which asks about various factors including labour shortages that limit production. Data used are balances of respondents giving positive and negative answers.

Graph 12 – Beveridge curve and aggregate demand constraints in the euro area



Source: Commission services.

Graph 13 – Estimates of structural and cyclical unemployment rates in 2007



Source: Commission services.
* *Structural* unemployment is referred to the NAWRU estimated by DG ECFIN (*Source*: Ameco database).

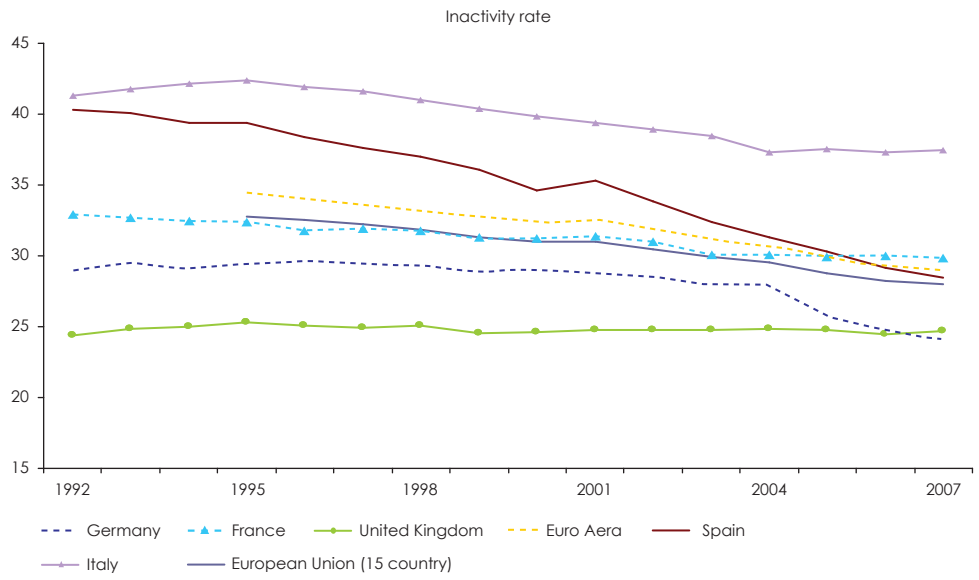
The borderline between inactivity and unemployment

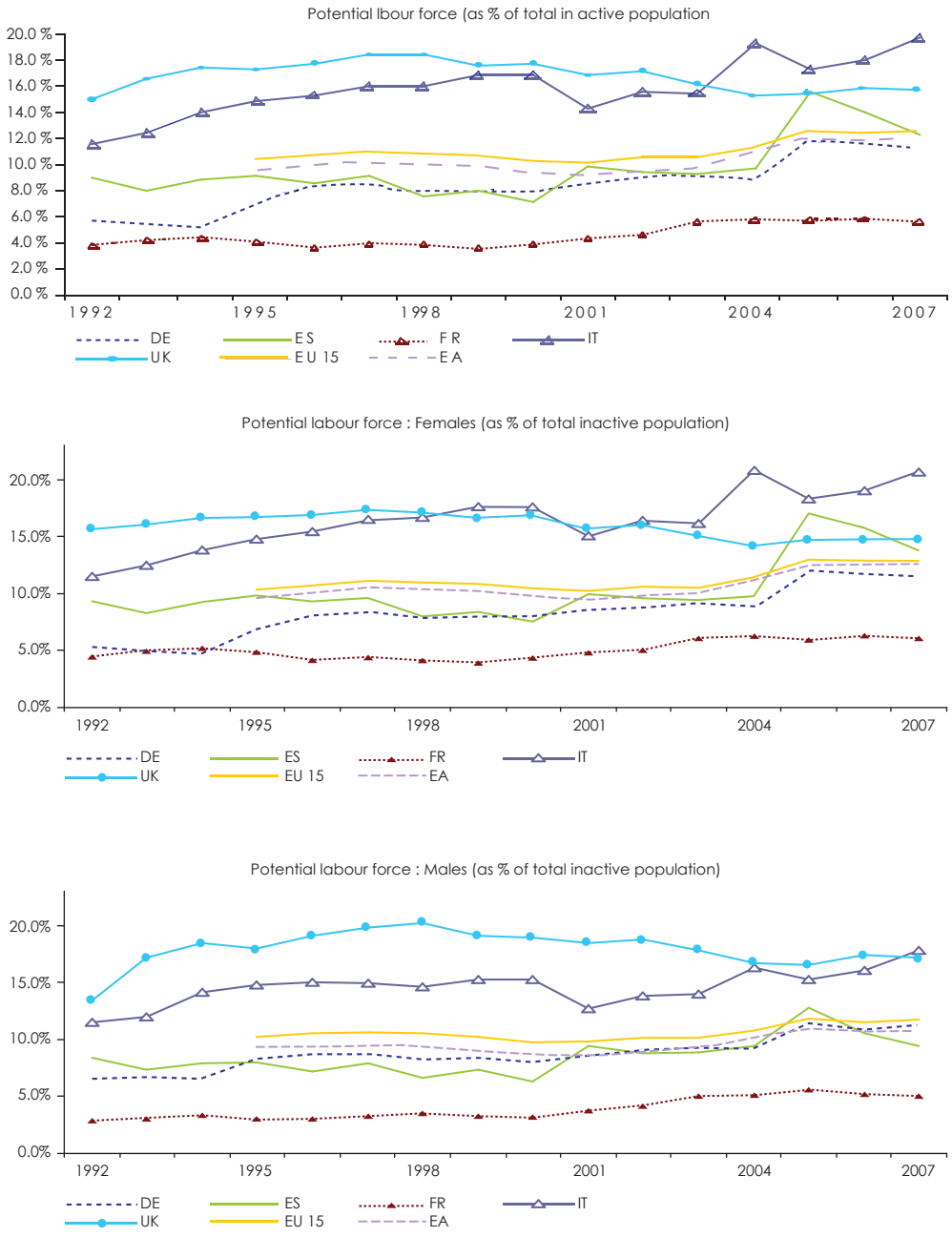
According to the LFS, the vast majority of persons out of the labour force (about 80% of the inactive) declare that they do not want to work. However, while some of them want a job, they do not actually seek for it due to a number of reasons, including health problems, family responsibilities, and school enrolment. Thus, the decline in unemployment may partly reflect an increase in the population registered as inactive that, in practice behaves like unemployed, and thus are "potentially" in the labour force.[20] If the potential labour force and the unemployment are behaviourally two indistinct labour market states, then the level and the dynamics of the unemployment rate should be modified to account for patterns in the potential labour force.

Another group of inactive persons are those ready to work but do not look for a job because they think they cannot find one. Such persons are typically referred to as "discouraged workers" and have been continuously rising since 2000, to reach 15% of the total inactive population in 2007. While not included among the unemployed because they are not actively seeking work, these persons provide an indication of labour market difficulty. Graph 14 (left panel) shows the inactivity rate for selected countries. There is a clear downward trend in all of them but Italy, the country with the highest inactivity rate in 2007 (37.5% of working age population or about 8 pp above the EU average). The right panel focuses only on that part of the inactive population at the boundary between inactivity and unemployment (the potential labour supply). In this case, the potential labour force, and in particular the female component, is rising in all countries but the UK. The two panels suggest that among a falling number of inactive, there is a rising proportion of the population which could potentially be in the labour supply.

20 Brandolini et al (2004) have shown that the transition rates for the potential labour force are different from those observed for other inactive and to some extent similar to those of the unemployed. This implies that the labour market would be better described by four distinct states (employed, unemployed, potential labour force and other inactive population) rather than by the ILO categories of employed, unemployed and inactive. Thus, the distinction between those "really" wanting a job and those who would like a job but are searching less intensively or not at all does not characterise the observed dynamics. Brandolini, P. Cipollone and A. E. Viviano (2006), "Does the ILO definition captures all unemployment?" Journal of the European Economic Association , 4,1, pp.153-179.

Graph 14 – Inactivity rate and the borderline between inactivity and unemployed





Source: Commission services.

The impact of demographic changes on employment, unemployment and participation rates

Demographic changes can play an important role in explaining labour market developments. Changes in the composition of the labour force and working age population combined with slow changing rates for specific groups may have influenced the overall aggregate patterns, in particular driving the observed fall in the equilibrium rate of unemployment. As different age groups have different age-specific unemployment rates, demographic shifts towards an older and more experienced workforce affect both their overall level and the time evolution of the overall unemployment rate. Ageing may, therefore, be an "automatic" but transitory source

of labour markets improvements even when the age specific rates are changing slowly, the only conditions being that more numerous groups have also the highest employment, participation or unemployment rates and their distribution by age does not change overtime.[21] Thus, these improvements would be only temporary and the evaluation of the sustainability of the recent good performance potentially distorted by such exogenous shifts. Thus, the shift of the age distribution in the population may change the expectation of what constitutes a low unemployment rate.

The effect of demographic changes is more than a theoretical possibility as it is suggested by Graph 15, showing for the last 20 years the evolution over time of relevant labour market variables by age groups with their age profile. Three features of this graph are important. First, the employment and the participation rates went up for prime age workers while they declined for young people and started to go up, but only recently, for the older workers. Second, despite the recent increase of young workers' employment rate, it never went back to the level prevailing before the 1993 recession, while their participation rate declined steadily over time. Third, this pattern of participation implied a fall in the unemployment rate of young individuals greater than that observed for other age groups. The aggregate evidence hides important gender specific heterogeneities (Graph 15). For both men and women the employment and participation rates decline with age. Yet, during the last two decades the age profile for women changes dramatically, especially for the oldest. In 2007, the age profile of the employment and participation rates is higher at any age and start to decline at age between 50 and 54. Twenty years earlier the age profile of the female rates implied that the likelihood of labour market participation declined already age within the 45-49 age bracket.

Together with the changes occurred in the composition of the workforce, the significant changes in the distribution of employment, participation and unemployment rates by age groups rises the question of the contribution of demographic shifts to the resurgence of the labour market of the late 1990s-early 2000s. The potential relevance of the demographic effect is illustrated by the movements in the age composition of both the labour force and the working age population. Due to a declining birth rate, the share of young people (15-24) in the working age population (15-64) fell from about 23% in 1987 to about 18% in 2007 in the EU15. The share of those aged 25-54 went up from 60% to slightly above 65%, while the population in the age bracket 55-64 rose from 17% to 18%.[22] Similar developments can be observed for the labour force, which is also influenced by the increased participation of young people in education and of women in the labour market.

To identify the role of changes in the structure of the population, the employment rate is calculated assuming that the composition of the working age population by age groups is invariant over time. The comparison between the actual and the simulated rates provides indirect evidence of the role played by exogenous demographic shifts.[23] Graph 16 shows the path of the age constant employment, participation and unemployment rates. They track all the actual rates quite closely until the early 1990s. Thereafter, however, the actual rates deviate from the age constant rates, making larger the fall in employment and participation (and the increase in unemployment)

21 In the case of the US, R. Murphy (1999) finds that in 1998 the unemployment rate was 0.6 percentage points lower than it would have been if the age structure had remained unchanged. However, most of this demographically induced decline already occurred in 1989; about only 0.2 percentage points of the decline occurred in the 1990s. Katz and Krueger show that change in the age composition of the labour force explains about 0.4 percentage points of the decline in the unemployment rate since 1980s. Finally, Shimer (1998) finds that changes in the US age structure account for a substantial part of lower unemployment in the 1990s more than in the 1980s.

22 Due to data limitation, the 2007 figures cover only the 15 countries of the European Union; 1987 data excludes Austria, Finland and Sweden.

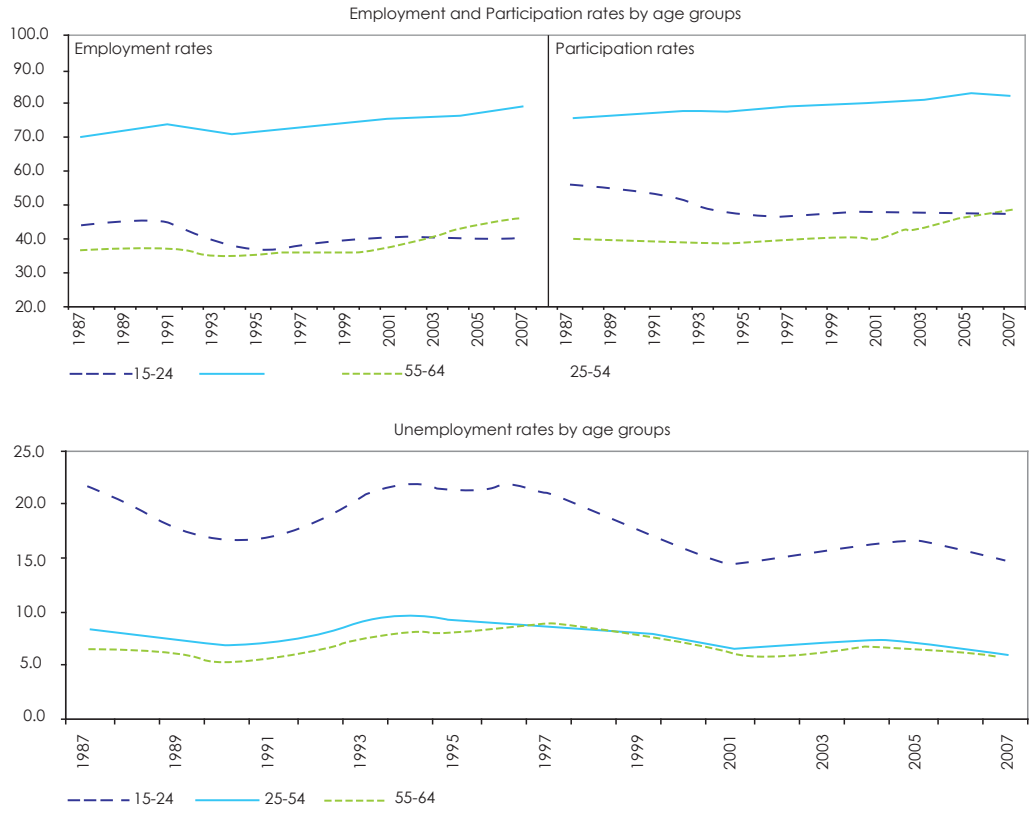
23 The calculations are based on Shimer (1998) "Why is the U.S. Unemployment Rate So Much Lower", which makes the counterfactual exercise of simulating the unemployment rate assuming that the unemployment rate for each age group is unaffected by demographics. This assumption is theoretically sounded if the age-specific unemployment rates do not depend on the age distribution, which requires that changes in the labour supply are accommodated by changes in the labour demand. The employment rate is a weighted average of the employment rates for each age group. Then it can be corrected for changes in the age structure of the working population by keeping constant the weights. In symbols $et=\Sigma\omega t(i)*et(i)$ where $\omega t(i)$ is the fraction of the working age population in group i and et(i) the employment rate of the i-th age group. The demographic adjusted employment rate is calculated under the assumption that $\omega t(i)$ is kept constant at 1987 value. The 15-64 working age population is divided in 10 age groups of 5 years each. The group specific employment rates are computed before the aggregation with unchanged population structure.

that followed the slump of the early 1990s and smaller the improvements observed ever since. Without changes in the composition of the workforce, the employment and participation rates would have been in 2007 about 2 percentage points below the actual rates, while the unemployment rate about 1 pp larger. Thus, the ageing of the population contributed for about 10% to the increase of the employment rate between 1994 and 2007. A similar conclusion holds for the participation rate.

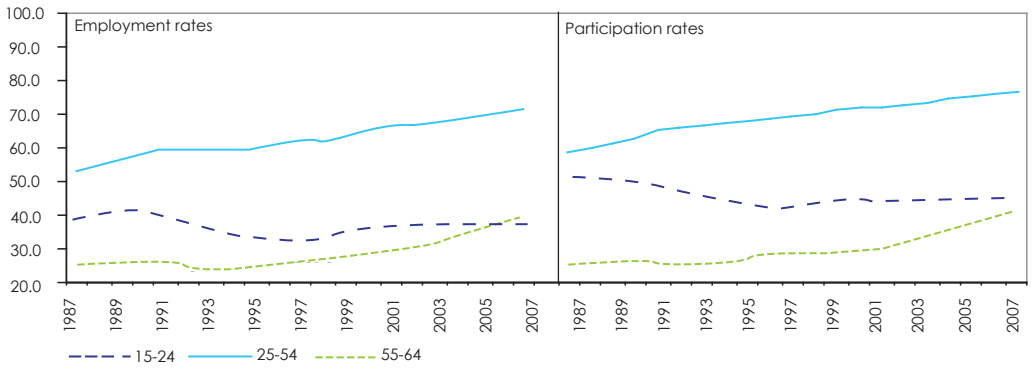
The role played by ageing in the increase of EU employment and participation rates varies across countries. Graph 17 shows for selected countries the age adjusted employment and participation rates. Clearly, ageing has positively contributed to the increase in the employment and participation rates in Italy, France and Spain while more muted is the role of demographics in Germany, the Netherlands or the UK.

Nevertheless, the evidence provided so far suggests that the improvements in labour market indicators of the 1995-2004 period do not disappear when data are depurated from pure demographic factors. The ageing of the population contributed to the increase in the employment and participation rates and to the decline in the unemployment rate. Without further improvements in the long-term growth prospects, ageing will become the main drivers of employment and participation rate trends. With unchanged age-specific employment and participation rates, the positive drifts deriving from ageing will soon turn into a negative trend. The improvements of the 2nd half of the 1990s would be partly a statistical artefact and not entirely the outcome of a change in the labour market functioning. Indeed, unless the employment rates for the older worker keep rising, the ageing of the population will depress the overall employment rate. Increasing the employment rates for the older workers remains therefore a significant challenge.

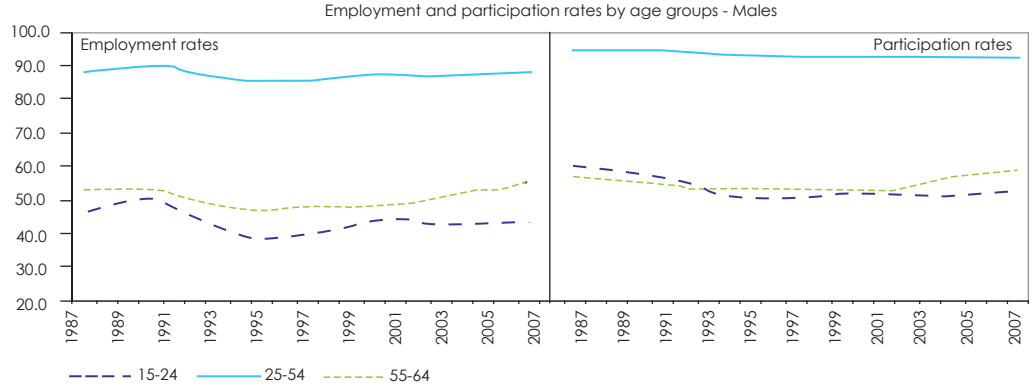
Graph 15 – Age specifics employment, participation and unemployment rates in the EU



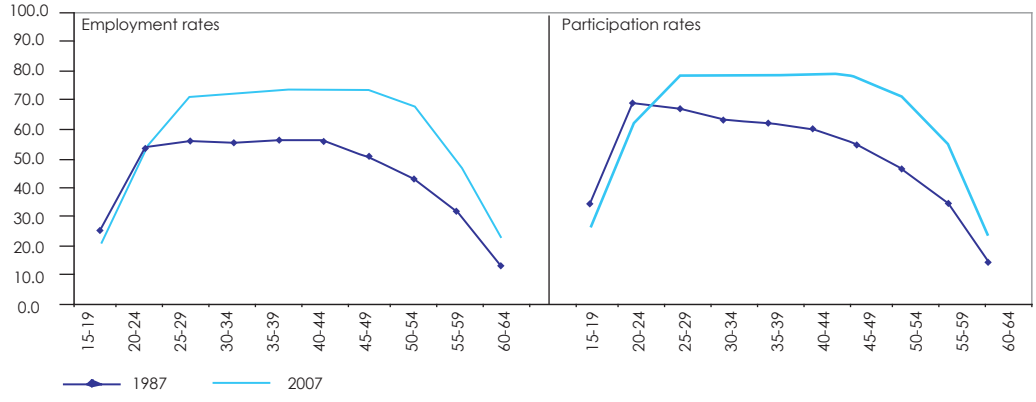
Employment and participation rates by age groups - Females



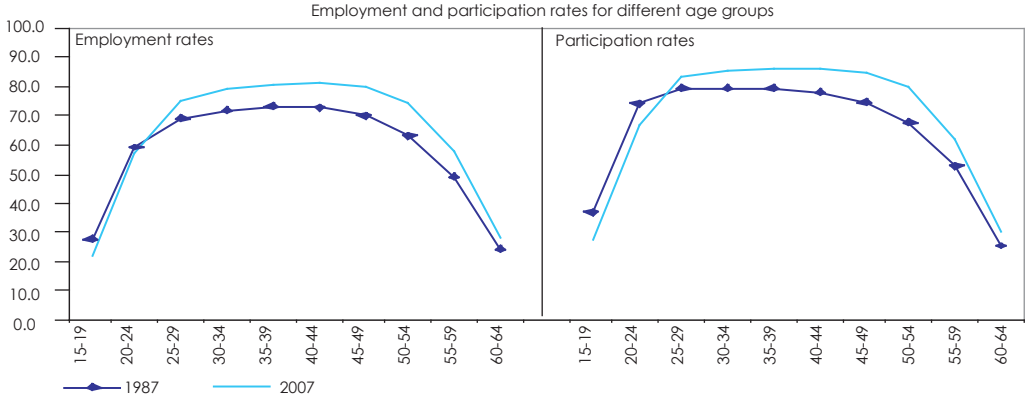
Employment and participation rates by age groups - Males



Employment and participation rates for different age groups : Female

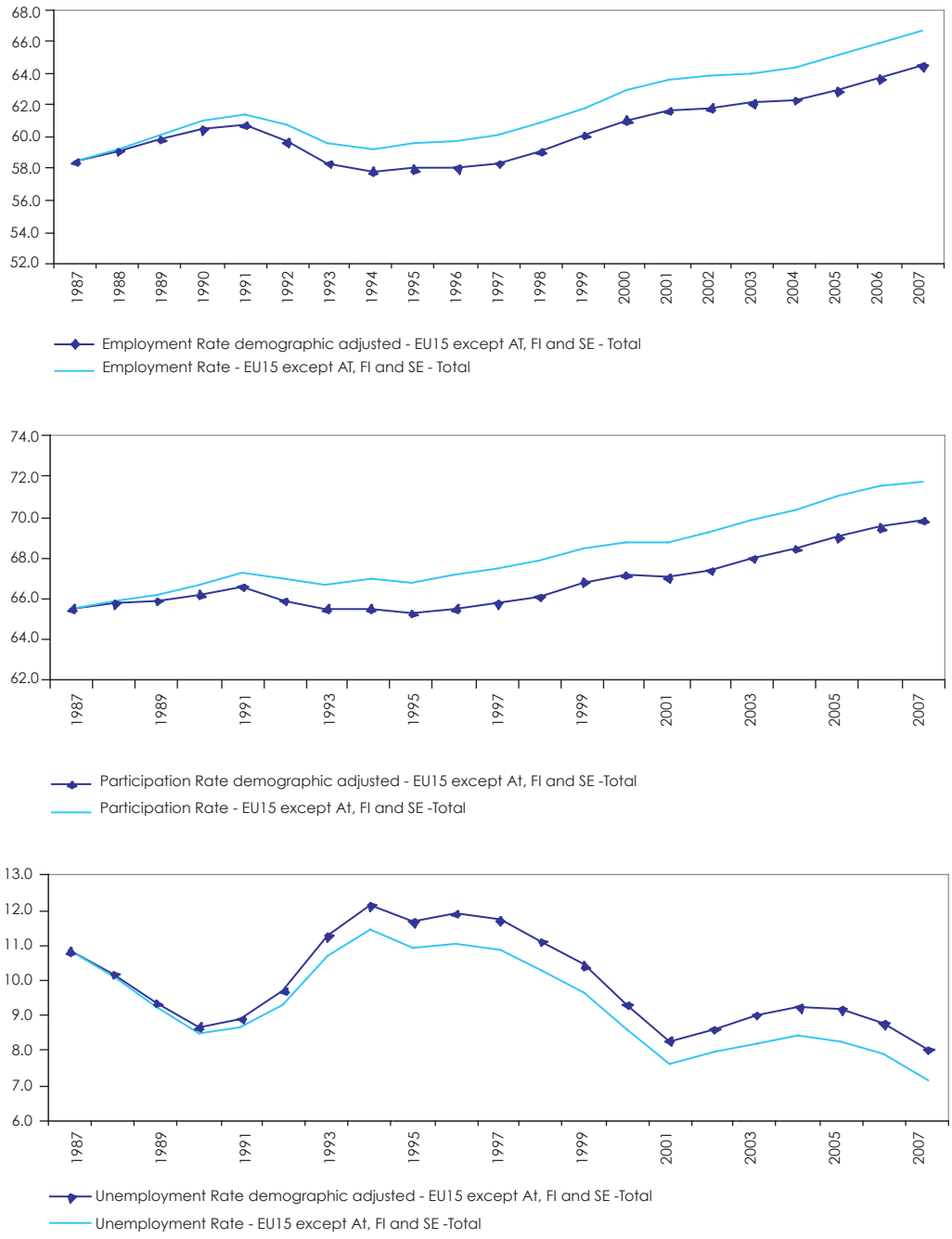


Employment and participation rates for different age groups



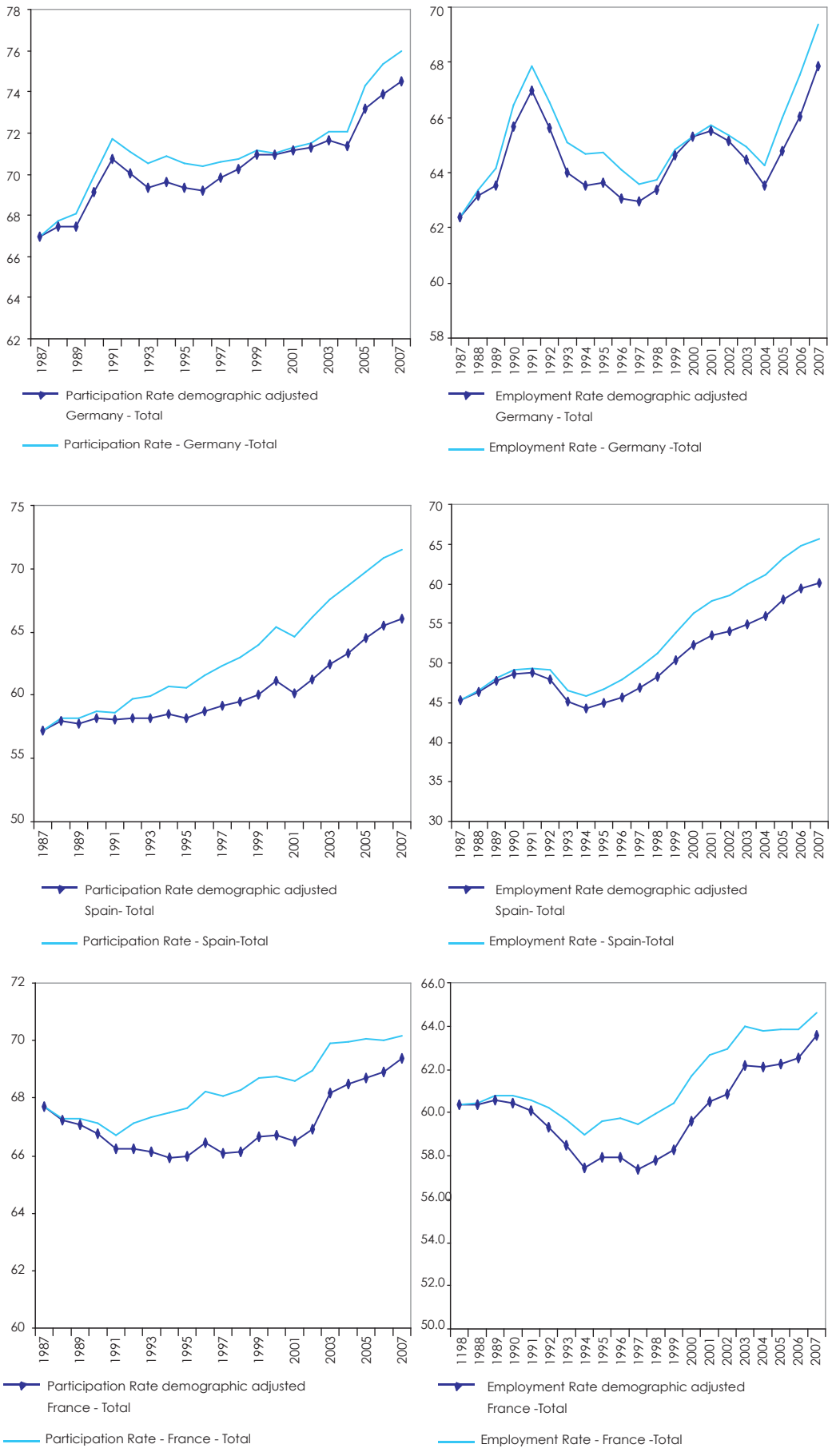
Source: Commission services. Data refer to an EU aggregate that covers the following countries: Belgium, Denmark, Germany, Greece, Spain, France, Ireland, Italy, Luxembourg, Netherlands, United Kingdom.

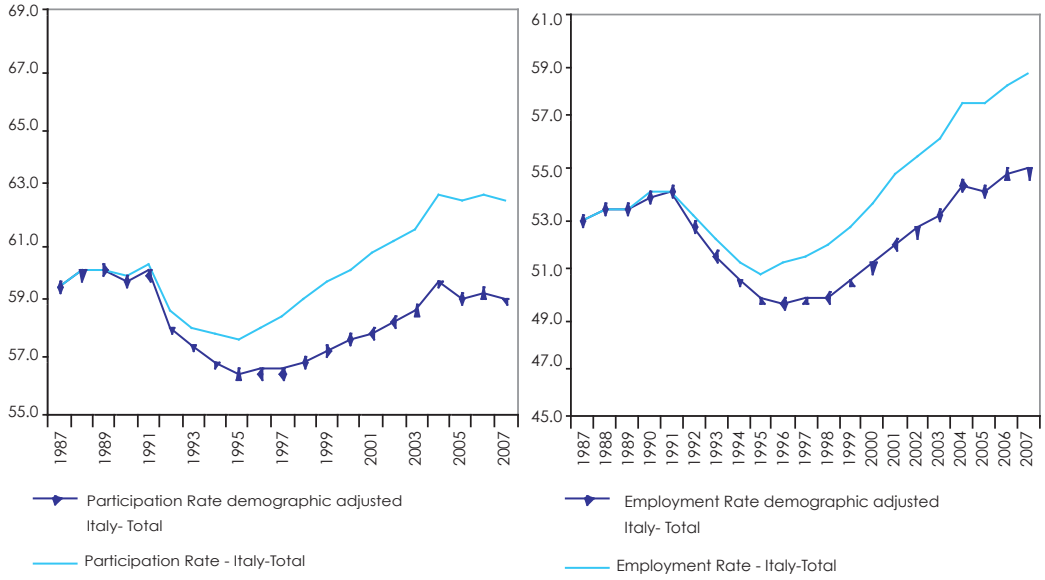
Graph 16 – The effect of demographic changes on labour market outcomes

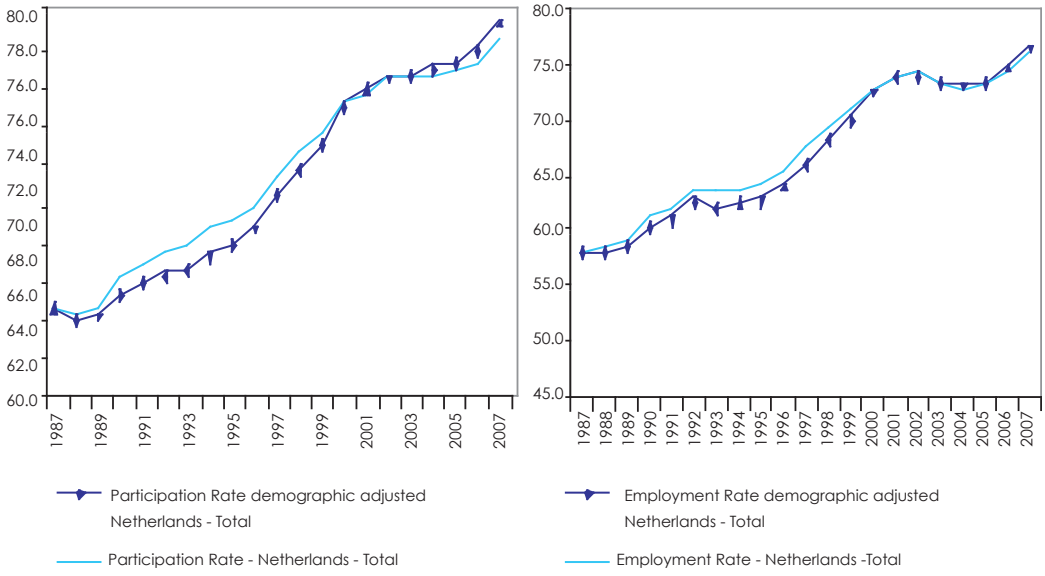


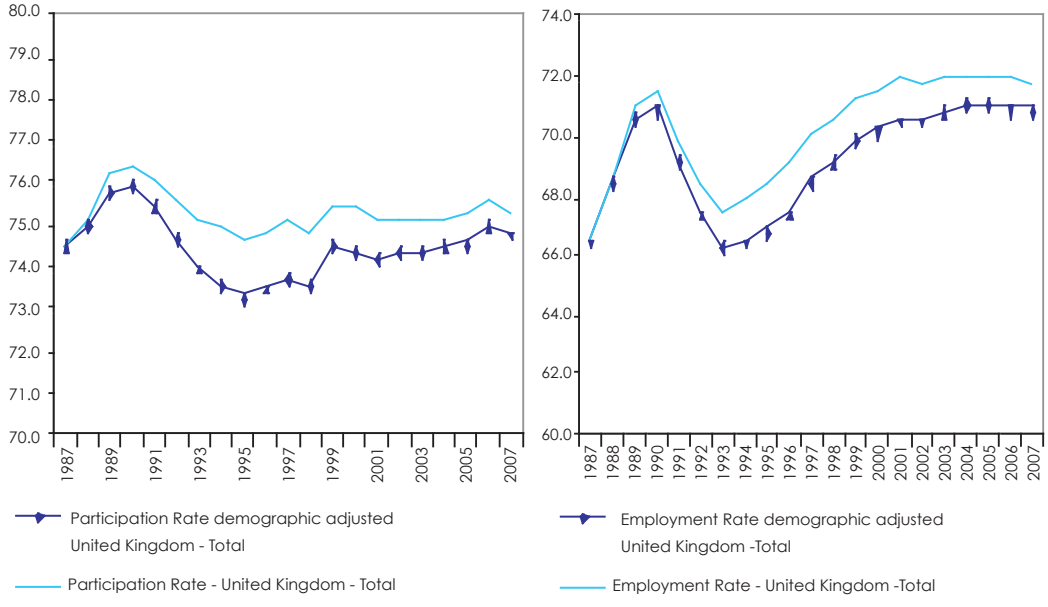
Source: Commission services.

Graph 17 – The effect of demographic changes on labour market outcomes: Selected countries









Source: Commission services.

1.2.2. Driving forces of unemployment developments

In Table 8, changes in the unemployment rates are disaggregated into changes in the working-age population, participation rate and employment growth[24]. This decomposition shows that the reduction of the EU27 unemployment rate to 7.1%[25] in 2007 was due to the increase in employment (1.8%), more than offsetting the increase in labour supply, that is the combined increase in both the size of the working-age population (+0.4%) and the participation rate (+0.3%).

The overall positive trend observed at the aggregate EU level masks quite diverging developments across Member States. The decline in the unemployment reflects generally an increase in employment growth, especially in Poland, Germany and Lithuania. However, for some countries it is also explained by a fall in labour supply (Denmark, UK, Italy, and Poland), or by the decline in the working age population (e.g. as in Germany, Bulgaria, Latvia, and Estonia). In Ireland and Portugal the increase in employment did not keep pace with the increasing number of people respectively in the labour force and in the working age population.

The contrasting trends as regards developments in employment and unemployment rates in the euro area between 2000 and 2007 are shown in Graph 18. As a consequence of the 2001-2003 economic downturn, the number of unemployed increased until 2004 (about 20 millions). The parallel increase in employment and unemployment occurred because the of the structural increase in the female labour supply was faster than the creation of additional jobs. Since 2004 the fall in unemployment was associated with an increase in the number of employed.

24 The following calculation has been used: U=(Popwa * Pr) – E, where U: unemployed persons, Popwa: working age population (15-64); Pr: participation rate; UR: unemployment rate; E: employment. This can be re-arranged as U/ (Popwa * Pr)=1-E/(Popwa * Pr) and (1-UR) = E /(Popwa * Pr). Thus, by taking the logarithm of the expression and differentiating, it gives a decomposition that approximates the changes in the unemployment rate (in percentage point) as : dUR= dPopwa/Popwa + dPr/Pr - dE/E, that is as the sum of the % change in the working age population and the participation rate minus the % change in employment.

25 Calculations are based on LFS. The aggregate unemployment from LFS differs from the harmonised unemployment rate in table 1 due to the different nature of the two data sets, but some of the differences occur just because the transition period that uses the most recent quarterly data is not yet completed. For a summary of the methodology http://europa.eu.int/estatref/info/sdds/en/une/une_sm.htm

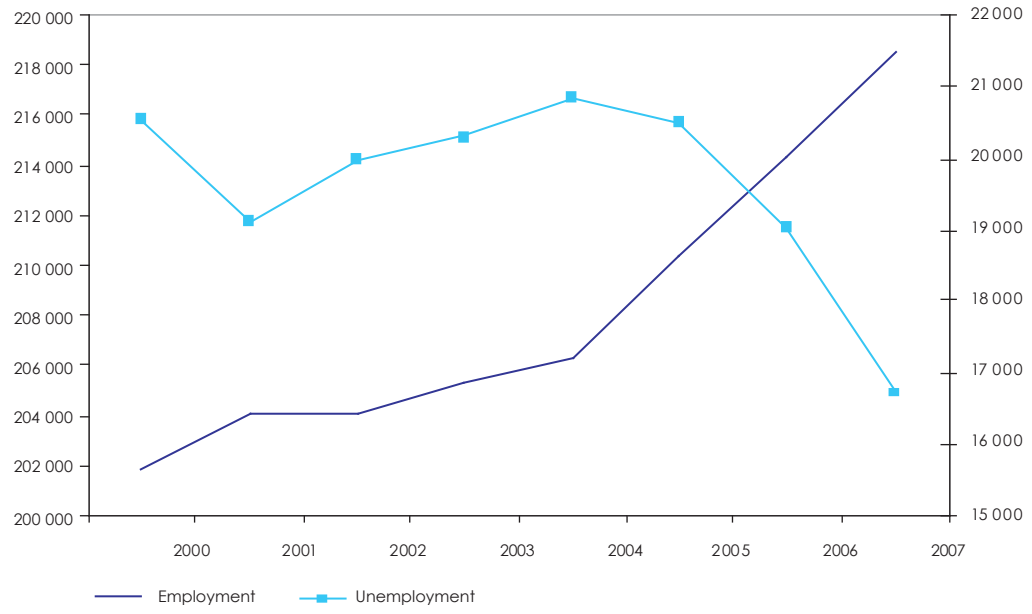
Table 8 – Decomposing changes in the EU unemployment rate in 2007

	Unemployment rate (age 15-64)						
		Change since		is~ equal to			
	(age 15-64) Level in 2007	2006	=	% Change in working age population	+	% Change in participation rate	-	% Change in employment
BE	7.5	-0.8		1		0.9		2.7
DK	3.8	-0.1		0.1		-0.4		-0.2
DE	8.7	-1.6		-0.6		0.9		2.1
GR	8.4	-0.6		0.7		-0.1		1.3
ES	8.3	-0.2		1.8		1		3.1
FR	8	-0.9		0.6		0.2		1.8
IE	4.6	0.2		2.7		0.9		3.4
IT	6.2	-0.7		0.6		-0.3		1
LU	4.1	-0.7		2.9		0.3		3.9
NL	3.2	-0.7		0.2		1.4		2.4
AT	4.5	-0.3		0.3		1.4		2.1
PT	8.5	0.3		0.3		0.2		0.1
FI	6.9	-0.9		0.4		0.5		1.8
SE	6.2	-0.9		0.9		0.5		2.3
UK	5.3	-0.1		0.6		-0.3		0.3
EA	7.5	-0.9		1.1		0.5		2.7
EU15	7.1	-0.7		0.5		0.4		1.7
CY	4	-0.6		3.6		1.3		5.6
CZ	5.4	-1.8		0.5		-0.7		1.8
EE	4.8	-1.2		-0.4		0.6		1.6
HU	7.4	-0.1		-0.2		-0.1		-0.2
LT	4.4	-1.3		-0.1		0.7		2

LV	6.1	-0.8	-0.4	2.2	2.7
MT	6.5	-0.8	0.6	0.6	2.1
PL	9.7	-4.3	-0.1	-0.3	4.6
SK	11.2	-2.2	0.3	-0.5	2.4
SI	5	-1.1	0.4	0.6	2.2
EU25	7.2	-1	0.4	0.3	1.9
BG	6.9	-2.1	-0.8	2.9	4.5
RO	6.8	-0.9	0.1	-0.9	0.1
EU27	7.1	-1.1	0.4	0.3	1.8

Source: Commission services, based on Eurostat LFS data.

Graph 18 – Employed and unemployed persons (age 15-64), Euro area



Source: Commission services.

Box 3 : Labour Market flows and transition rates

Flows between different labour market states provide valuable information about labour market dynamics therefore enriching the standard analysis of stock variables such as employment and unemployment. The analysis of flows in Europe indicates that they have considerably changed the composition of working age population over the past 25 years. The changing role of women in society, ageing populations, pension reforms and labour market reforms, including targeting of marginally-attached groups, have shaped overall unemployment rate and participation rates. The following analysis based on the Labour Force Survey (LFS) focuses on structural features of the labour market, by gender and age; however it also comments some basic business cycle properties of labour market variables.[1]

In order to disentangle structural trends from cyclical movements, this analysis uses annual data (as they are available for a longer time span) for a sample of 9 EU countries.[2] The annual series suffer from the

1 The LFS was launched in 12 countries in 1983 and provides data on an annual (since 1983) and quarterly basis (for most countries since 1998). For several countries and until 2005, annual series are based on the spring sample, in particular on data collected in the second quarter, due to the limited availability of the quarterly data. From 2005, data are constructed as annual averages of quarterly data. This transition from the spring sample to an annual sample introduces a break in 2006. http://circa.europa.eu/irc/dsis/employment/info/data/eu_lfs/index.htm).
2 The following country are excluded due to missing observations: Italy (from 1984-1991), Ireland (1998-2006) and the Netherlands (2000-2006).

so called "time-aggregation error" since they capture only year-to-year persons' flows and they do not account for flows that occurred within a year between two subsequent surveys.[3] Therefore, annual series underestimate the flows between different labour market states (and derived transition rates). For this reason, the following analysis does not attempt to interpret the absolute size of flows and transition rates; it rather tries to inspect some trends and basic business cycle features, as well as to provide some broad comparisons across gender and age. The section analyses firstly the flows between different labour market states and secondly the transition rates between different labour market states.

Labour Market flows

Labour market is described by stocks (employment - E, unemployment - U and inactive population - I) and flows between different labour market states that could be denoted by EU (from employment to unemployment), UE (from unemployment to employment), EI (from employment to inactivity), IE (from inactivity to employment), UI (from unemployment to inactivity) and IU (from inactivity to unemployment). Graph 19 to Graph 23 provide the basic description of stocks and flows between different labour market states in the last 24 years divided into four six-year periods (1983-88, 1989-94, 1995-2000 and 2001-2006). Furthermore, Graph 24 to Graph 27 display yearly flows between different labour market states by each age group, Graph 28 to Graph 31 display the 6-year averages of these labour market flows while Graph 32 to Graph 35 present their net contributions to stocks (unemployment, employment and inactivity).

The flows between employment and inactivity are the largest followed by the flows between employment and unemployment and between unemployment and inactivity. The size of labour market flows, however, depends also on gender. For males, the flows between employment and inactivity are of similar size to flows between employment and unemployment, with a considerably lower importance of flows between unemployment and inactivity. On the contrary, for females, the flows between employment and inactivity are by far the most important flows, which may reflect their more irregular work pattern and their increasing labour market participation. Furthermore, females' flows between employment and unemployment and between unemployment and inactivity were of similar size before 90s, with a somewhat greater importance of flows between employment and unemployment since then.

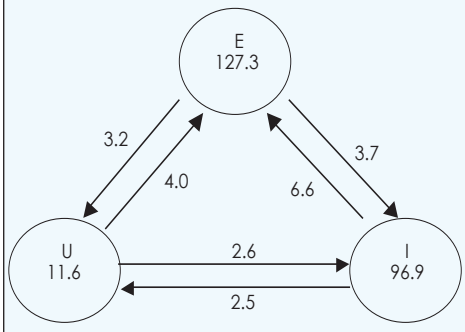
The importance of labour market flows was different across different periods, in line with business cycle conditions and structural shifts. The largest changes in yearly average labour market flows occurred in the periods 1989-1994 and 1995-2000 (Graph 19 to Graph 23). The period 1989-1994 around the recession saw a large increase in average yearly EU flows coupled with the increased average yearly EI and UI flows, thus indicating an increased withdrawal from the labour market. The subsequent period 1995-2000, however, conveys an improved labour market performance, in particular a large increase into employment from both unemployment and inactivity. Besides cyclical fluctuations, labour market flows suggest also some structural changes, in particular the IE flows (indicating a higher participation on the labour market), UE flows (suggesting a beneficial impact of structural reforms) and UI flows (of relative importance in particular for older persons that were withdrawing from the labour market using early retirement schemes).

A strong increase in flows from inactivity to employment is in line with a higher participation and provides the largest positive contribution to employment. For total working age population the IE flows tended to increase over the whole period (Graph 24 to Graph 27). A structural component in these flows reflects a higher participation, in particular of females. Over the business cycle, however, these flows tend to move pro-cyclically, declining in a recession (indicating lower job opportunities faced by new entrants – in particular of young persons – and potential re-entrants) and rebounding in an expansion (indicating greater job opportunities for new entrants as well as potential re-entrants enabling them to join the labour market directly from inactivity to employment). On the other hand, EI flows do not display any clear trend but they rather appear to be dominated by counter-cyclical movements, regardless of the age group and gender. A large increase in EI flows occurred in the recession at the beginning of the 90s and was driven by both prime-age and older persons. This increase has been exceptional and very persistent in particular for older persons that used early retirement on a large scale to avoid unemployment. Overall, for total working age population flows between inactivity and employment provided the largest positive boost to employment (Graph 32 to Graph 35).

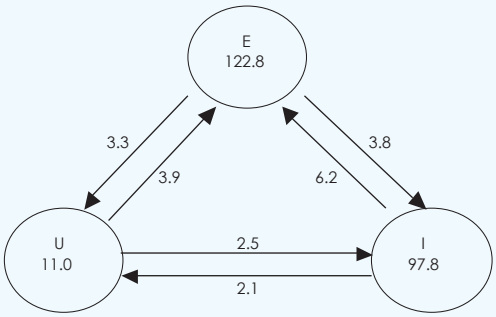
3 See Fujita, Ramey, 2006 to correct for the "time aggregation error".

Average 1983-2006 yearly gross flows and stocks in the Labour Force Survey, EU9, age group: 15+, in Millions

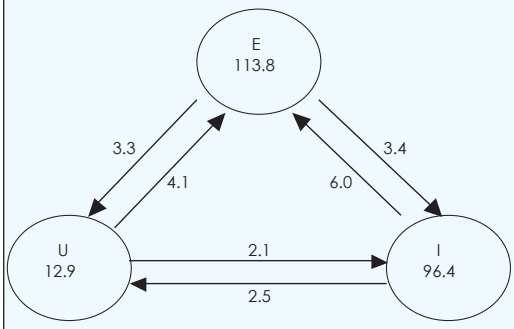
Graph 19 – 2006



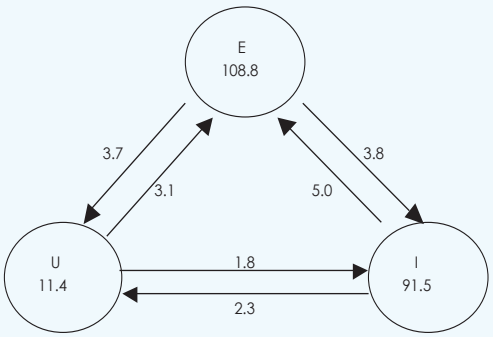
Graph 20 – 2001-2006



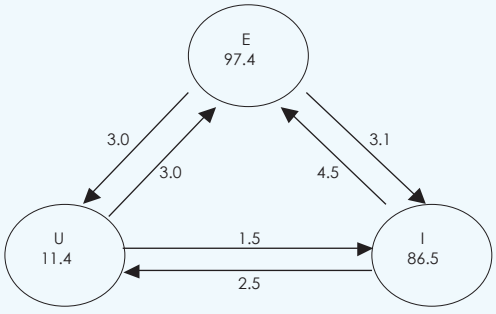
Graph 21 – 1995-2000



Graph 22 – 1989-1994



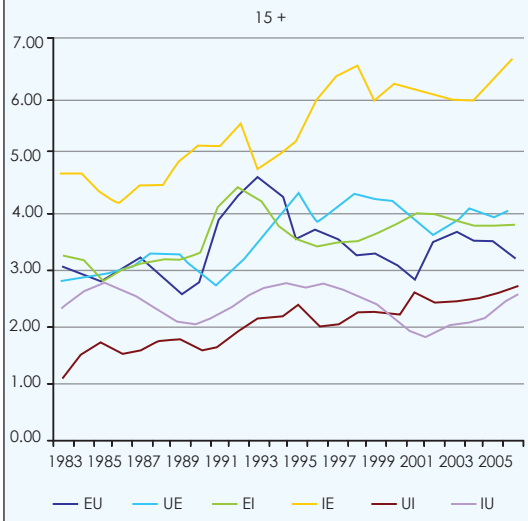
Graph 23 – 1983-88



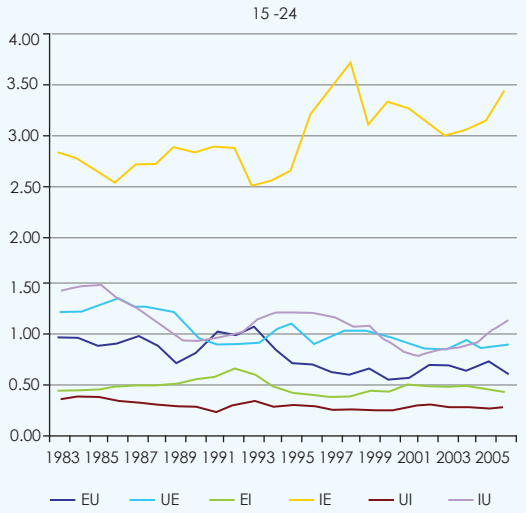
Source: Commission services.

Flows between different labour market states, by age group, in Millions

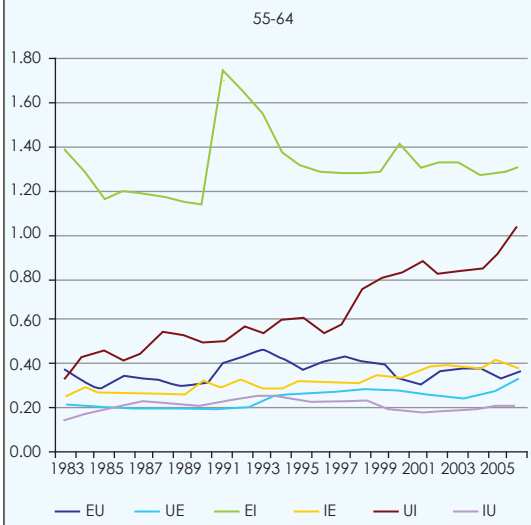
Graph 24



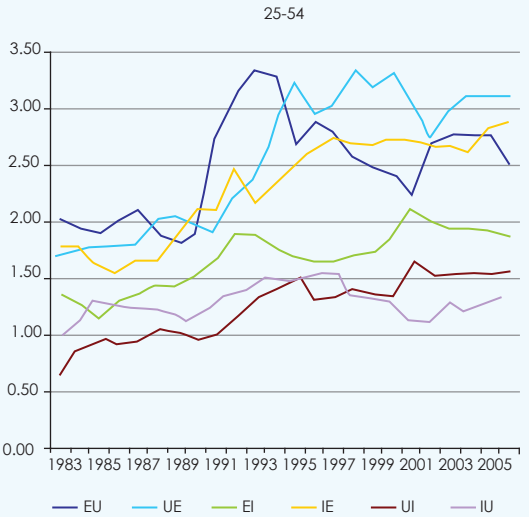
Graph 25



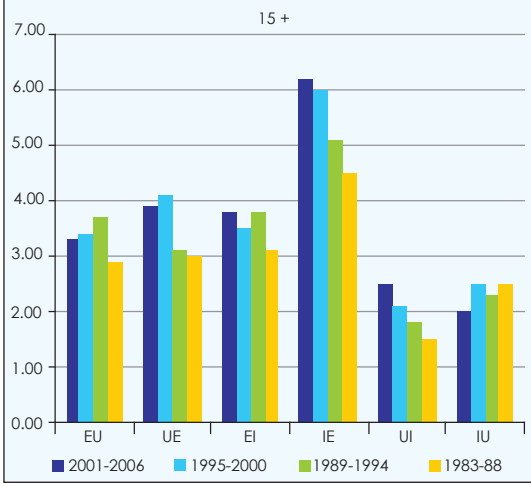
Graph 26



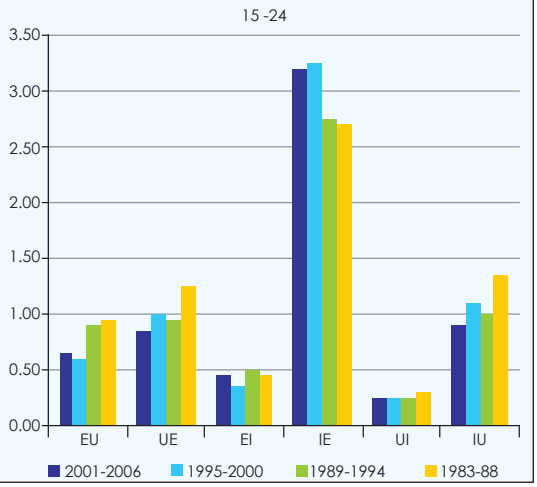
Graph 27



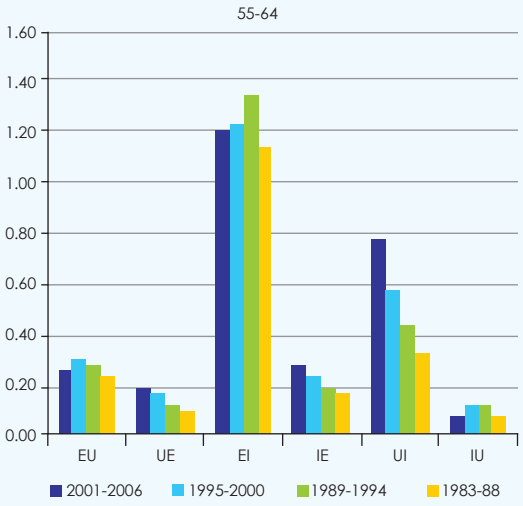
Graph 28



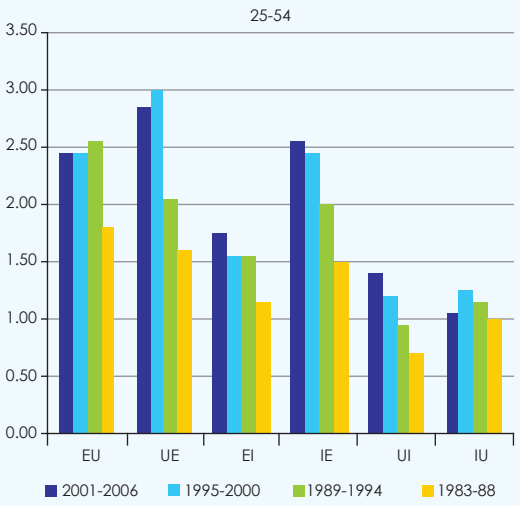
Graph 29



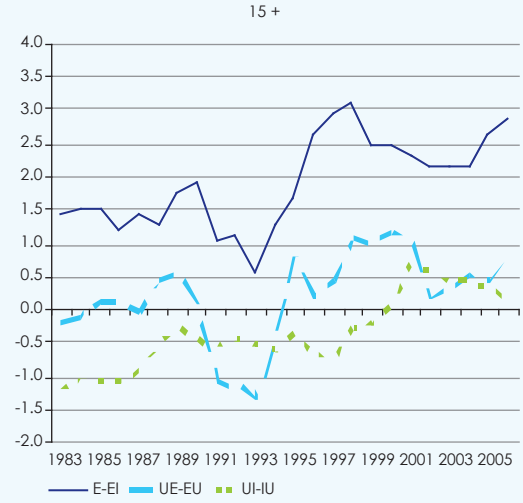
Graph 30



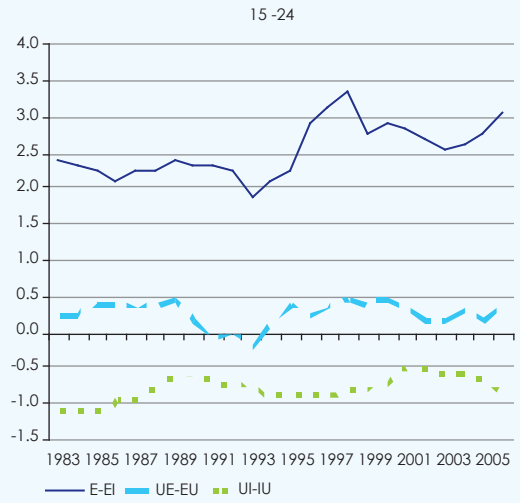
Graph 31



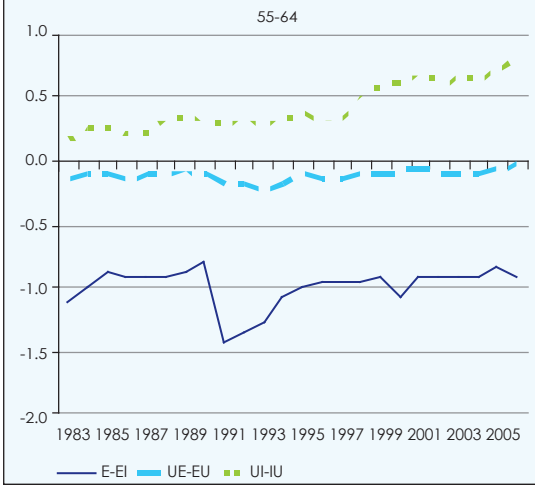
Graph 32



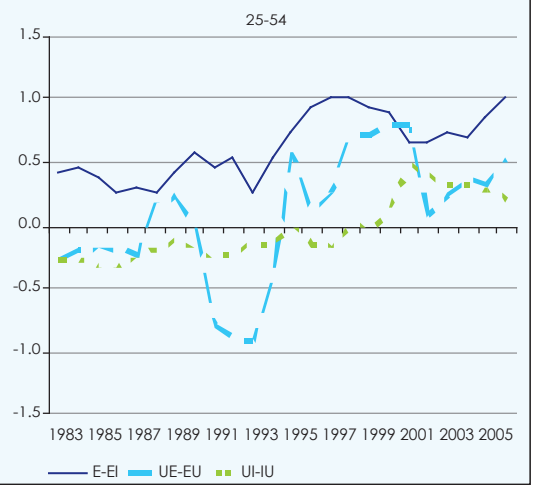
Graph 33



Graph 34



Graph 35



Flows between unemployment and employment were the main source of the decline in unemployment since the mid-90s, thus contributing positively also to higher employment. Following the recession of the early 1990s, the EU flows increased substantially and prevailed over the UE flows until the mid-1990s Graph 24 to Graph 27).[4] However, the EU flows declined substantially after the mid 1990s, while the UE flows remained relatively high (mainly owing to the prima age group and female component), which contributed to a large extent to the large decline in unemployment, in particular in the second half of the 90s. For young persons, EU and UE flows decreased over the period, though UE flows kept above EU flow implying a decline in the youth unemployment, with an exception in the period of recession in the beginning of the 90s Graph 33). On the contrary, older persons had EU flows always above UE flows, though the later have been increasing (Graph 34).

Since 2000 a decline in unemployment was supported also by flows between unemployment and inactivity. A steady increase in UI flows was driven by both older and prime-age persons, though they were of greater relative importance for older persons (Graph 24 to Graph 27). On the contrary, IU flows displayed counter-cyclical movements increasing in recession (indicating lower job opportunities faced by new entrants and re-entrants in the labour force that are unsuccessful at their job search) and decreasing in expansion (indicating the bypassing of IU flows by IE flows since new entrants and re-entrants can find a job immediately). However, counter-cyclical features of IU flows were possibly dampened to the extent that a larger fraction of inactive persons may decide to search for a job in an expansion but may not find a job immediately (thereby boosting IU flows) while in a recession a smaller fraction of people may decide to search actively for a job (e.g. due to belief of scarce job opportunities). For older persons, UI flows were always above IU flows (Graph 34). For them a decline in their unemployment was driven in particular by withdrawing from the labour market using retirement schemes.

Transition rates

Besides observing data on flows, it is of policy interest to look at average individual probabilities of moving from one labour market state (pool) to another. These probabilities can be described by transition (or hazard) rates[5] that provide additional information to the data on flows. Namely, besides considering data on flows they take into account also changes in the stock variables which are shaped (directly) by different (four) labour market flows. Therefore, labour market properties of flows and transition rates may differ. Furthermore, transition rates enable a comparison of cyclical and structural labour market properties across different groups, e.g. by gender, age, country etc. The following analysis focuses on transition rates from and to unemployment, from and to employment (or separation rate and hiring rate, respectively) as well as from and to inactive population, that are calculated in the following way:

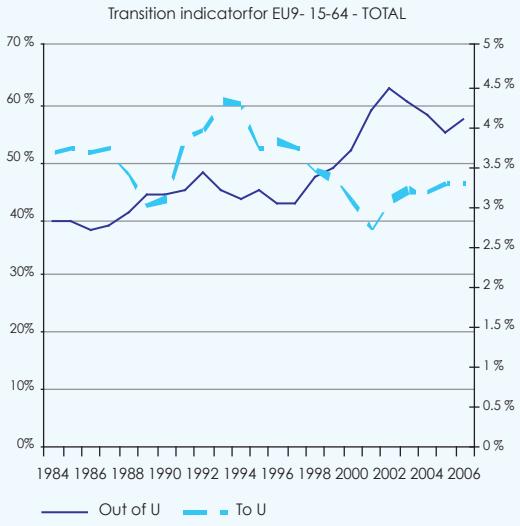
Transition rate "to U" = $\frac{EU_t + IU_t}{(E+I)_{t-1}}$	**Transition rate "out of U"** = $\frac{UE_t + UI_t}{U_{t-1}}$
Transition rate "EU" = $\frac{EU_t}{E_{t-1}}$	Transition rate "UE" = $\frac{UE_t}{U_{t-1}}$
Transition rate "IU" = $\frac{IU_t}{I_{t-1}}$	Transition rate "UI" = $\frac{UI_t}{U_{t-1}}$
Hiring rate = $\frac{UE_t + IE_t}{(U+I)_{t-1}}$	**Separation rate** = $\frac{EU_t + EI_t}{E_{t-1}}$
Transition rate "to I" = $\frac{UI_t + EI_t}{(U+E)_{t-1}}$	**Transition rate "out of I"** = $\frac{IU_t + IE_t}{I_{t-1}}$

4 The counter-cyclical feature of the Unemployment-Employment flows that appears to be counter-intuitive has been discussed in the literature. See e.g. Fujita and Ramey, 2006; Burda and Wyplosz, 1994.
5 Transition rate is a probability that a person is in a certain labour market state (unemployed, employed or inactive) at the end of a period t given that he/she was in other than initial labour market state at the beginning of a period t. It is calculated as a ratio of a flow(s) in a period t over the relevant population in period t-1.

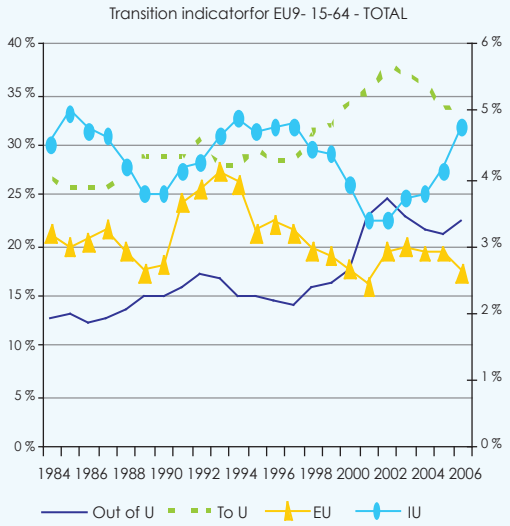
The analysis of transition rates from and to unemployment is pivotal for the analysis of the unemployment rate Graph 36 to Graph 39). Their comparison across age groups presents also structural differences in the behaviour of labour market participants (Graph 40 to Graph 45). Furthermore, the analysis of hiring rate and separation rate provides an insightful view into different (though converging) labour market behaviour by gender over time Graph 46 to Graph 50) that is complemented by the analysis of transition rates to and out of inactivity Graph 51 to Graph 55).

Transition rates to and out of unemployment, by gender

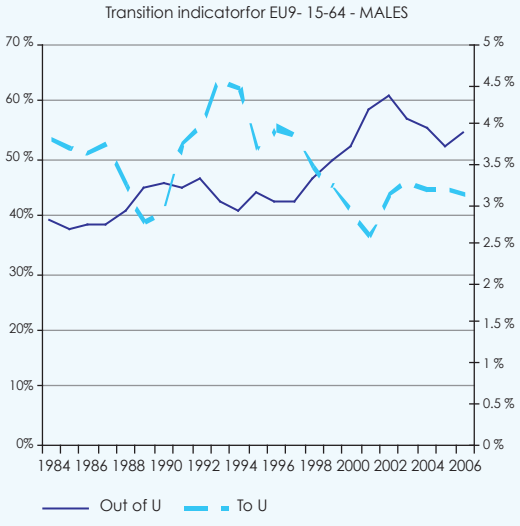
Graph 36



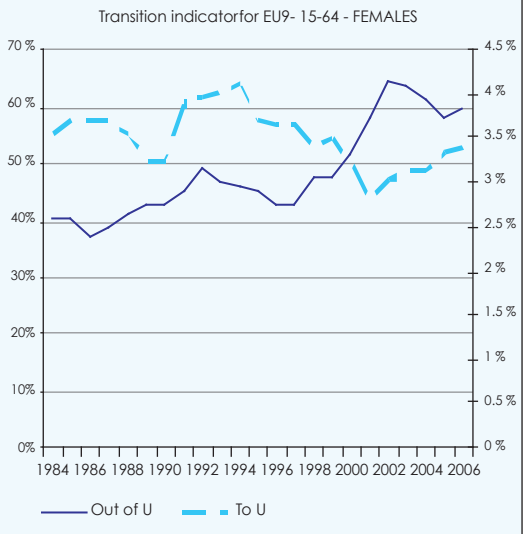
Graph 37



Graph 38



Graph 39



Source: Commission services.

Transition rates to unemployment display a cyclical pattern over the period (Graph 36 to Graph 39). They tend to behave counter-cyclically, picking up strongly in the period of economic contraction at the beginning of the 90s, afterwards steadily decreasing for almost a decade of economic expansion before moderately increasing again during a period of economic weakness at the beginning of 2000. A more detailed look at transition rates to unemployment from employment (EU) and from inactivity (IU) reveals that both series tend to display counter-cyclical movements with no visible structural trend. Older persons face the lowest transition rates to unemployment, both from employment and from inactivity; therefore a demographic effect (via ageing populations) has possibly exerted a downward pressure on transition rates to unemployment.

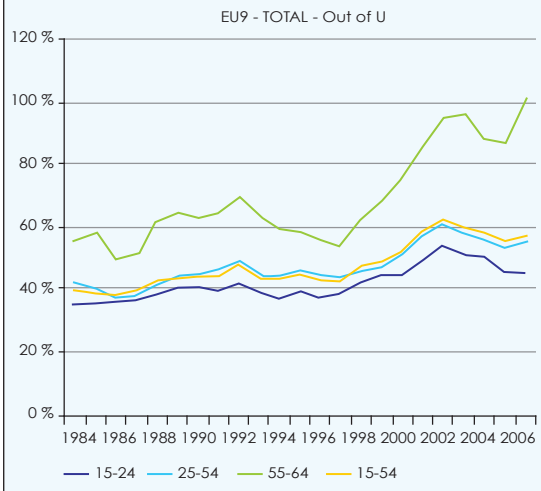
Transition rates out of unemployment display a strong, possibly structural increase in particular since 1997 (Graph 36 to Graph 39). The transition rates out of unemployment are characterized by two distinct periods. Before 1997 they tended to fluctuate within a narrow band for almost 15 years. After 1997 they increased sharply until 2002 with a slight reverse afterwards in line with a weaker economic activity. This pattern was driven by both transition rates UE and UI indicating a greater employability of unemployed persons, however, also a lower participation of unemployed older persons, including unemployed prime-age persons since 2000.

Both, transition rates to unemployment and out of unemployment shape the unemployment rate over time[6] However, transition rates out of unemployment seemed to be a driving force behind a decline in the structural unemployment rate over time. The unemployment rate in EU12[7] strongly decreased in the period since the mid-90s until 2001. It reversed somewhat from 2001 to 2004 before declining again since then. A decrease in the unemployment rate in the second half of the 90s was driven by both, a decline in transition rates to unemployment and an increase in transition rates out of unemployment (see Graph 36). However, while cyclical properties of transition rates to and out of unemployment were driving cyclical movements in the unemployment rate, a sharp increase in transition rates out of unemployment since the mid-90s and its persistence at a relatively high level in the first half of 2000 suggests a structural decline in the unemployment rate. Indeed, estimates of the NAIRU for the euro area suggest a decline in the NAIRU from a peak of 9.2% in 1997 to 7.7% in 2007. Furthermore, an inward shift of the Beveridge curve occurred largely over the period from 1997 to beginning of 2000 suggesting that a decline in unemployment rate may to some extent be structural (Graph 13). Finally, this timing coincides with an introduction of reforms in several countries targeting labour demand (e.g. via reducing employment protection and easing the access to part-time and temporary contracts, decreasing the tax burden on labour, in particular of low-skilled labour) and labour supply (e.g. via increasing financial and non-financial incentives to work to combat the unemployment (and inactivity trap), therefore raising the employability of unemployed (and inactive) persons and the incentives to take up work.

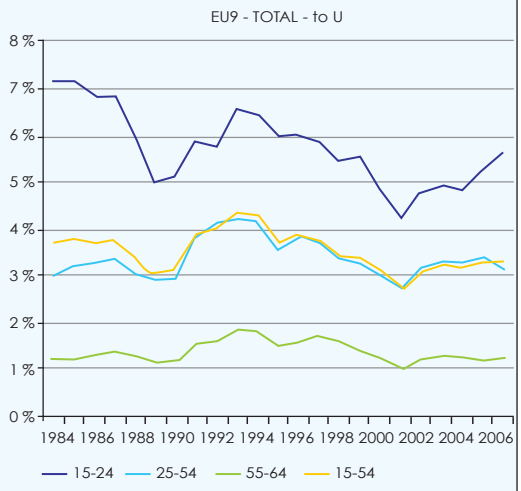
6 The contemporaneous correlation between the transition rate to unemployment and the unemployment rate is 80% while between the transition rate out of unemployment and the unemployment rate is -76%.
7 EU12 captures Italy, Ireland, the Netherlands and EU9 countries that are subject of this analysis.

Transition rates to and out of unemployment, by age group

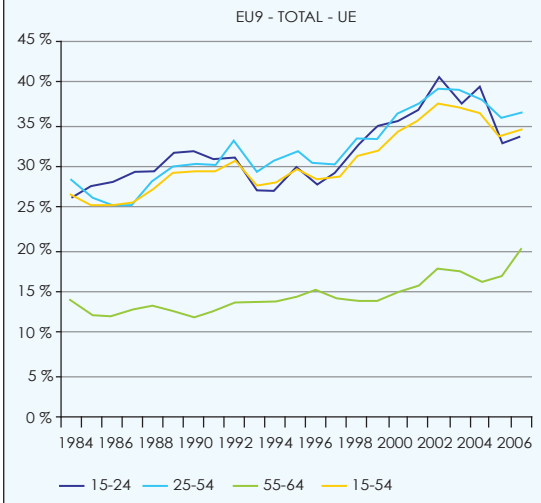
Graph 40



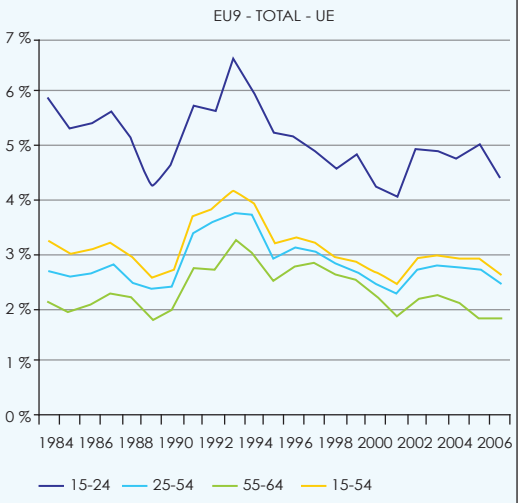
Graph 41



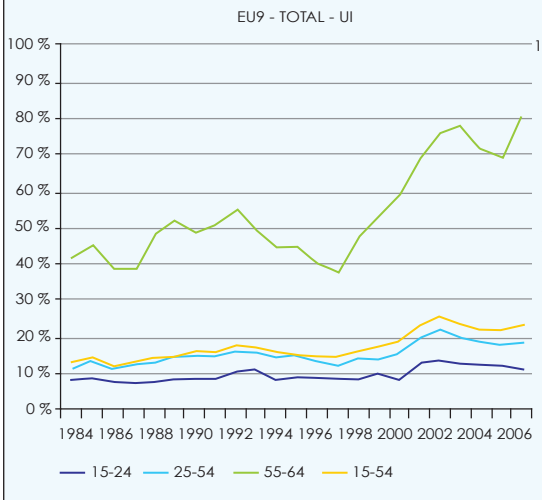
Graph 42



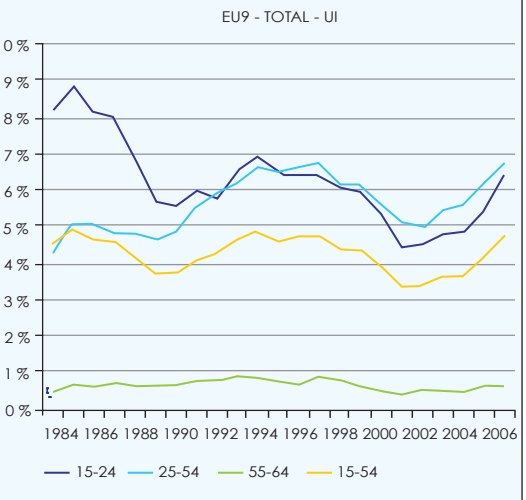
Graph 43



Graph 44



Graph 45



Source: Commission services.

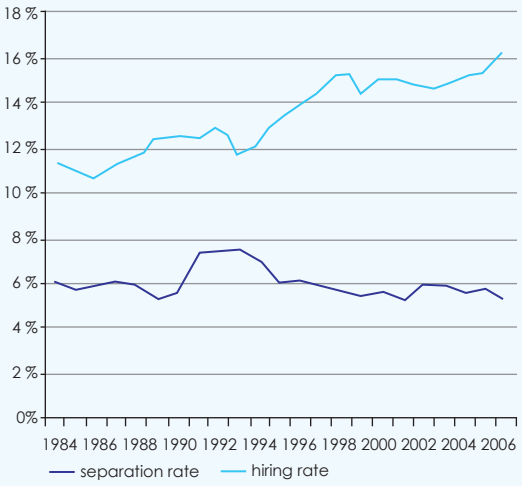
Unemployed older persons face considerably higher probabilities to withdraw from the labour market than to get employed (Graph 40 to Graph 45). Older persons display the lowest transition rates EU. Moreover, those older workers that in fact get unemployed encounter difficulties to get employed again and, therefore, tend to withdraw from the labour market. This follows from the observation that older persons face the lowest transition rates UE and the highest transition rates UI as compared to young and prime-age persons. A low employability of unemployed older persons may hint on their problem of structural unemployment that has been often tackled with early retirement.

Young persons face the highest transition rates from employment to unemployment which is in line with their search for a preferable job and with firms' adjustments of labour, in particular of young persons, to negative shocks. Firms tend to adjust labour input of young persons to smoothen their production to negative shocks due to several reasons. Young persons tend to be the least experienced and with fixed-term contracts (the proportion of young persons in overall temporary contracts was about 35% in 2007). Therefore, they are the first to be dismissed or their contracts are not extended. Furthermore, young persons tend to be less costly to dismiss, in particular if severance pay increases with tenure. Finally, young persons may themselves quit since they tend to change many jobs before finding the preferable one. All these factors contribute to their relatively high transition rates EU, which account for a large proportion of the gap between the unemployment rates of the young and prime-age individuals. Nevertheless, young persons have considerably reduced their unemployment rate, in particular over the period since the mid-90s to 2001 when they also greatly reduced their gap with respect to the overall unemployment rate.

Separation rate and hiring rate, by gender and age group

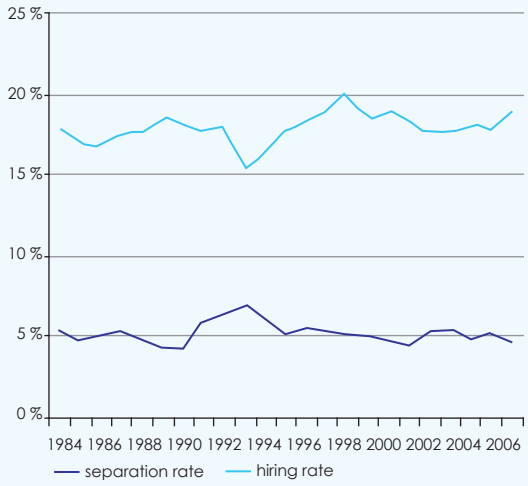
Graph 46

15-64 - TOTAL - EU9



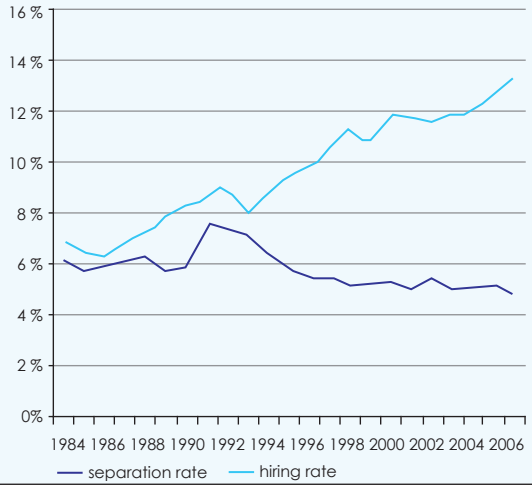
Graph 47

15-64 - MALES - EU9

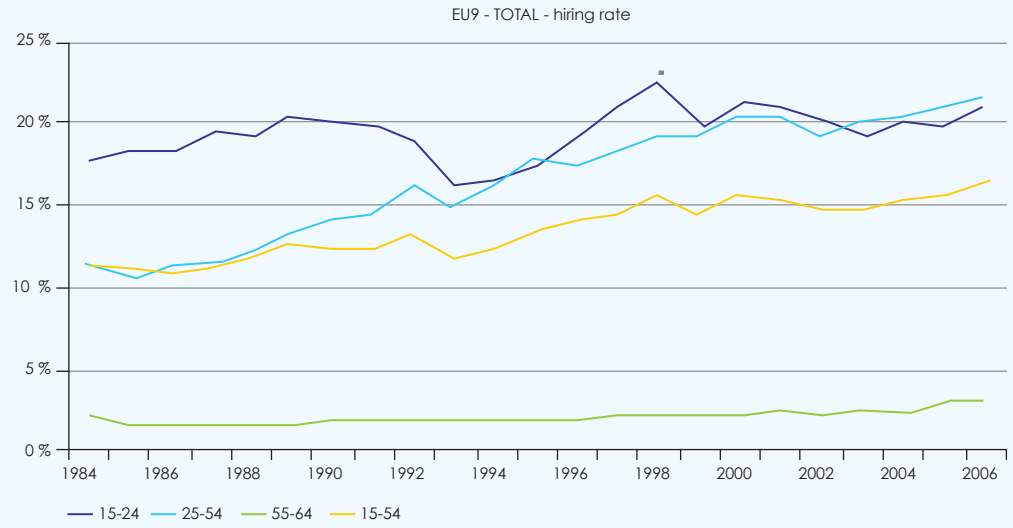


Graph 48

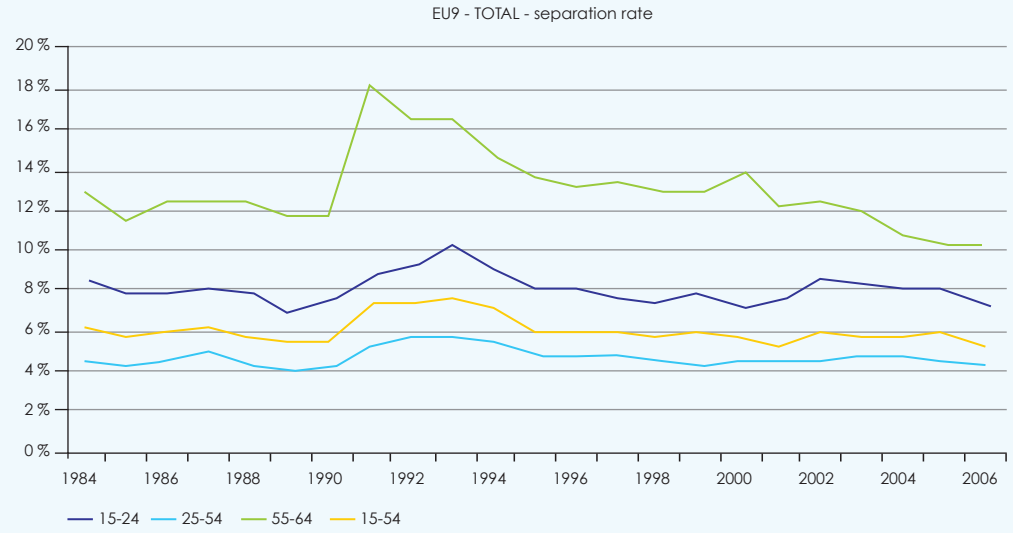
15-64 - FEMALES - EU9



Graph 49



Graph 50



Source: Commission services.

The gap between hiring rate and separation rate tended to increase since 1983. An increase in hiring rate (driven by females) has more than offset a downward pressure on hiring rate due to ageing populations (as older persons face the lowest hiring rates) and a greater labour market attachment of females. On the contrary, a demographic effect due to ageing populations has possibly exerted an upward pressure on the separation rate, however decreasingly so since the separation rate of older workers has steadily declined since the beginning of the 90s.[8]

8 Note that the separation rate of older persons is the highest due to their retirement.

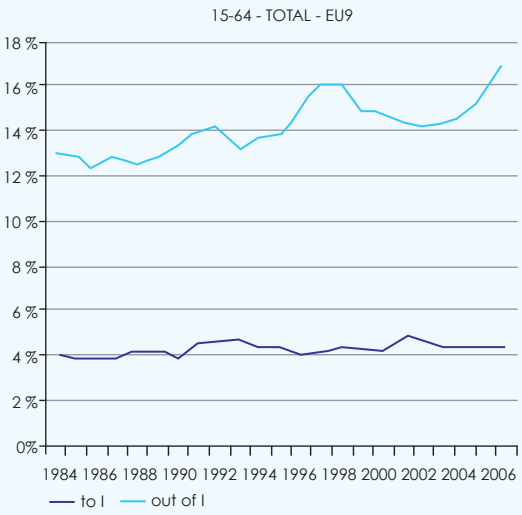
Males perform better on the labour market: they face a higher hiring rate and a lower separation rate. This applies for all age groups. A breakdown of separation rate shows that for both genders, older persons have the highest separation rate followed by young and prime-age persons. However, a breakdown of hiring rate reveals that while prime-age men face the highest hiring rate, prime-age women face a lower hiring rate than young women.

However, females improved their labour market performance considerably over the period, in particular prime-age females. Their hiring and separation rate almost completely converged to the levels observed by males. Females' hiring rate almost doubled (it almost tripled for prime-age females) while males' hiring rate displayed only cyclical movements around a constant value. Females also reduced their separation rate to the level slightly above the level observed by males. Overall, the widening gap between the hiring and separation rate indicates better labour market performance for females, in particular an increase in their participation and employment rate.

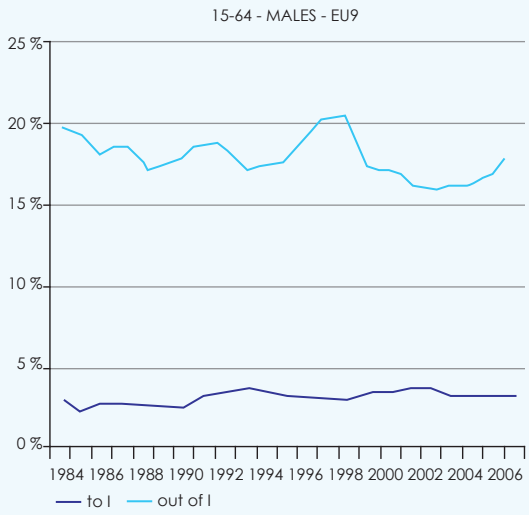
Recent reforms in pensions reduced the separation rate from employment to inactivity of older persons. Older persons have the highest separation rate from employment to inactivity (due to retirement) that peaked in the recession period at the beginning of the 90s and declined afterwards, in particular in the first half of 2000. This timing is consistent with the introduction of pension reforms in several EU countries that have postponed the statutory retirement age and cut incentives for early retirement.

Transition rates to and out of inactivity, by gender and age group

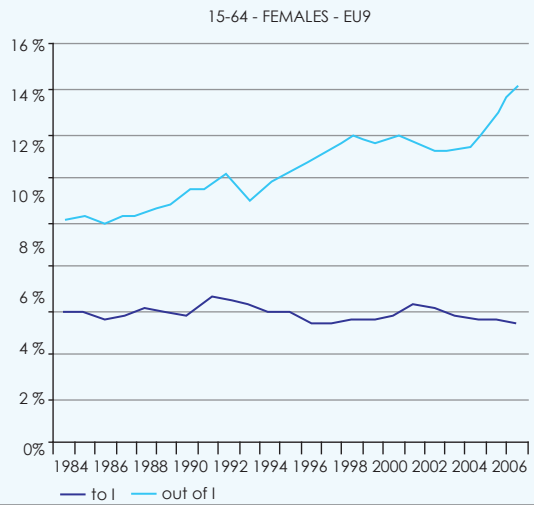
Graph 51



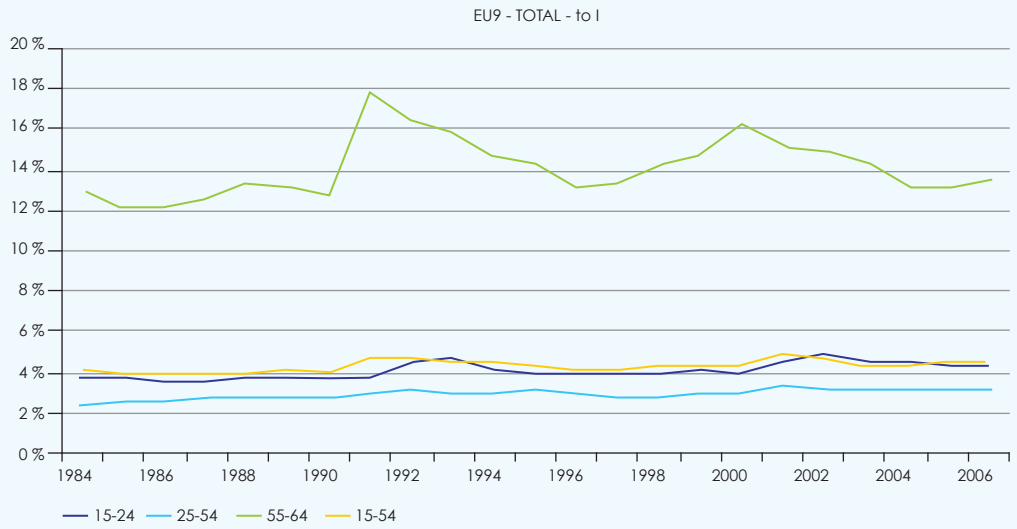
Graph 52



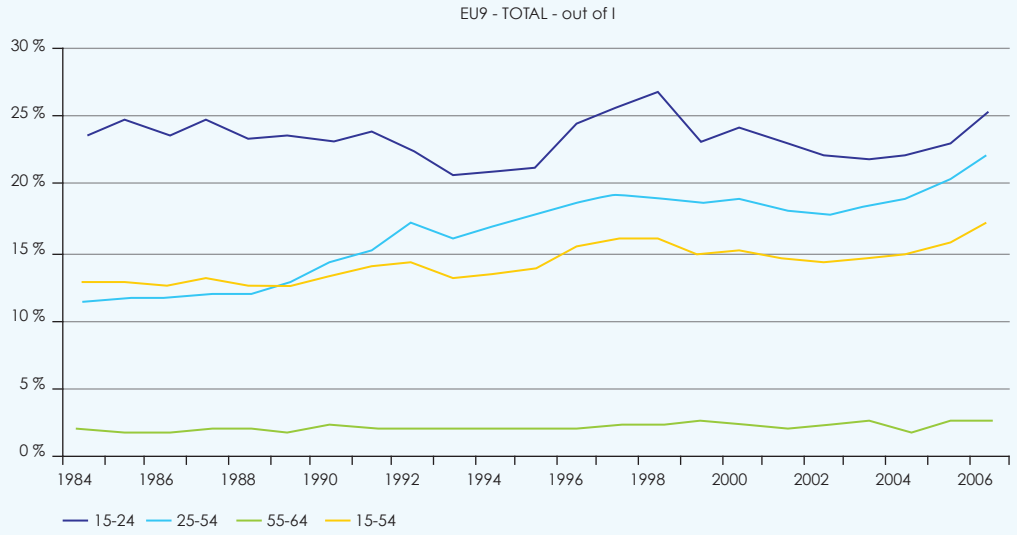
Graph 53



Graph 54



Graph 55



Source: Commission services.

A driving force behind an increased hiring rate of females is a steady increase in their transition rates from inactivity to employment. Increased participation rate of females, in particular of prime-age females, contributed to females' widening gap between the transition rates to and out of inactivity. At the beginning of the period females faced considerably lower transition rates out of inactivity than males. However, over time females have steadily increased their transition rates out of inactivity and at the end of the period have almost entirely converged to the males' transition rates out of inactivity. On the contrary, females' transition rates to inactivity remained fairly unchanged and considerably above males' transition rates to inactivity.

1.3. MONITORING THE GAP WITH THE LISBON EMPLOYMENT TARGETS

Because of the weakness in employment growth over the first half of this decade, reaching the Lisbon employment targets for the EU27 would require an acceleration of employment in the few remaining years up to 2010. Progress towards the Lisbon employment rate targets since 2001 is shown in Table 9.

The overall EU employment rate has risen since 2001 by about 3 percentage points to reach 65.4% in 2007. Reaching the 70% employment rate target by 2010 would require almost doubling the increase in the rate observed between 2006 and 2007 over the next 3 years. This, in turn, implies that about 20 millions additional jobs would need to be created – equivalent to an employment growth between 2008-2010 of 3% per year, far above the growth of both the most recent period and the historical average.

The contribution provided by each Member State to the fulfilment of the Lisbon targets (which are targets set for the overall EU economy) varies substantially (Graph 9 and Graph 10). There are only three countries (Denmark, Sweden and United Kingdom) which already exceed all three targets (for the overall, female and older workers employment rate of respectively 70%, 60% and 50%), while five countries stand out as being particularly far from the three targets (Hungary, Italy, Greece, Poland and Malta).

Table 9 – Lisbon employment targets: required job performance

LISBON PROJECTIONS		2001	2007	2010	Required		Pro memoria	
					2008-2010	Annual	Employment growth	
Total (15-64)					New Jobs	Employment growth	1998-2000	2001-2007
Employees (15-64)	(000)	200385	214673	234491	19818	3.0%	1.4%	1.2%
Employment rate	(%)	62.5	65.4	70				
Population (15-64)	(000)	320435	328307	334987				
Older workers (55-64)		**2001**	**2007**	**2010**	**New Jobs**	Employment growth		
Employees (55-64)	(000)	19597	25795	30375	4580	5.6%	1.8%	5.3%
Employment rate	(%)	37.5	44.7	50				
Population (55-64)	(000)	52312	57721	60750				
Female		**2001**	**2007**	**2010**	**New Jobs**	Employment growth		
Employees (15-64)	(000)	87407	96009	100294	4285	1.5%	2.2%	1.6%
Employment rate	(%)	54.3	58.3	60				
Population (15-64)	(000)	160935	164596	167157				

Source: Commission services, DG ECFIN calculation using Eurostat figures (Europop2004 demographic projections).

Looking at the employment target for specific groups, the most feasible seems to be the one set for females (60%). Women from younger generations show higher participation than women from older generations. This cohort effect, fostered by changes in cultural attitudes and the increasing average level of female education, is bringing female employment closer to the Lisbon target. Since 2001, the employment rate of women has increased by 4 percentage points in the EU27 (and almost 6 percentage points in the euro area) to reach 58.3% in 2006. In order to fulfil the target, an average annual growth of 1.5% in 2007-2010 compared with an average rate of 2.2% over the period 1998-2000 and about the same order of that recorded between 2001 and 2007 is required. The female target is already achieved by fourteen Member States (Denmark, Germany Ireland, the Netherlands, Austria, Portugal, Finland, Sweden, United Kingdom, Cyprus, Estonia, Lithuania, Latvia and Slovenia). Among the countries with low female employment rates, Italy and Poland strongly impinges upon the achievement of the target.

Despite considerable recent improvements, the older workers' employment rate (44.7% in 2007) is far from the 50% target established by the Stockholm European Council in 2001. To achieve this target by 2010, almost 4.6 million additional jobs should be created. This would require an annual growth rate of employment of about 5.6% per year, slightly higher than the exceptional average registered the period 2001-2006. The older workers' target is already exceeded by 12 Member States (Denmark, Germany Ireland, the Netherlands, Portugal, Finland, Sweden, the United Kingdom, Cyprus, Estonia, Lithuania and Latvia).

The road ahead to reach national employment rate targets for 2010

In order to identify what could be feasible national targets for the year 2010 under different employment performances, and to see whether and how these national targets would lead to the fulfilment of the overall EU27 targets, a set of simulations is run taking into account the most recent Eurostat demographic projections for the year 2010. For each Member State, Table 11 reports the national employment rates under the hypothesis of job creation rates over the remaining 3 years (2008-2010) as those observed under four different scenarios (Table 10):

1) the employment growth scored in 2007.

2) the years since the 2001 slowdown;

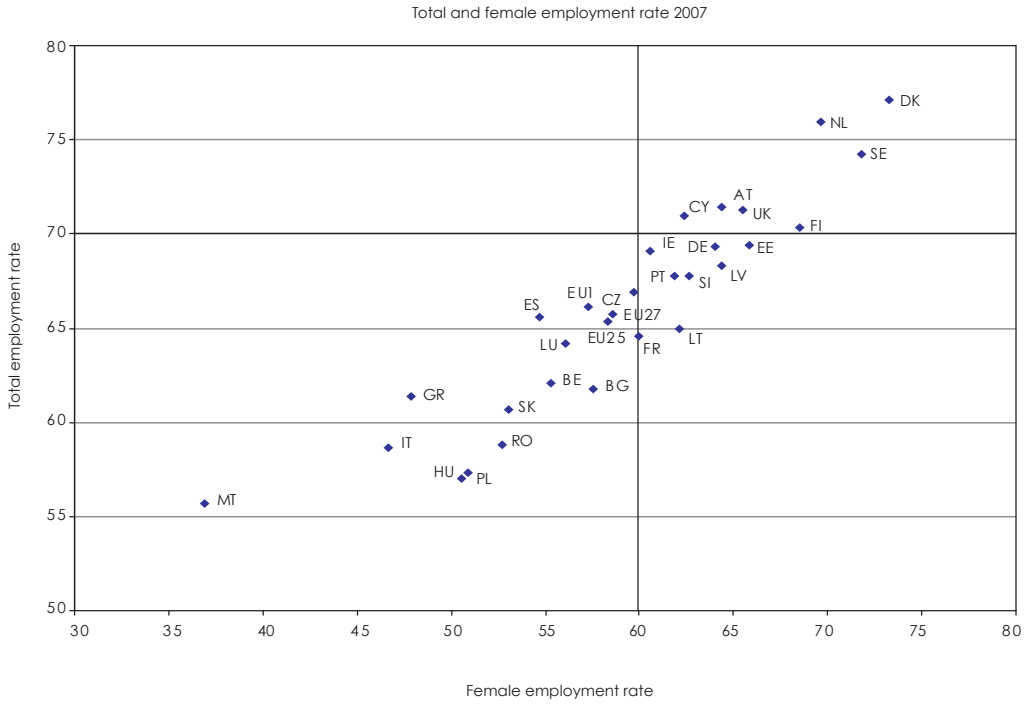
3) the period of buoyant economic growth (1997-2000);

4) the overall period 1997-2007;

In the best possible scenario, the EU employment rate would still stay below the 70% target. Thus, if the overall target is to be achieved, some of the laggard countries should contribute substantially more than what has been done so far. For the female target, the situation is less challenging, as the 60% target could be hit with an employment growth close to that recorded for 2007. The result for the older workers deserves attention. If the strong acceleration in the employment growth of older workers over the most recent period were maintained over the remaining 3 years, the older workers' employment rate would be just below the 50% target. To sum up, the Lisbon employment targets remain very ambitious, especially in view of the fact that achieving the Lisbon strategy involves efforts both to improve labour market performance and to raise growth. This implies a need for a substantial acceleration in the medium-term labour productivity growth.[26]

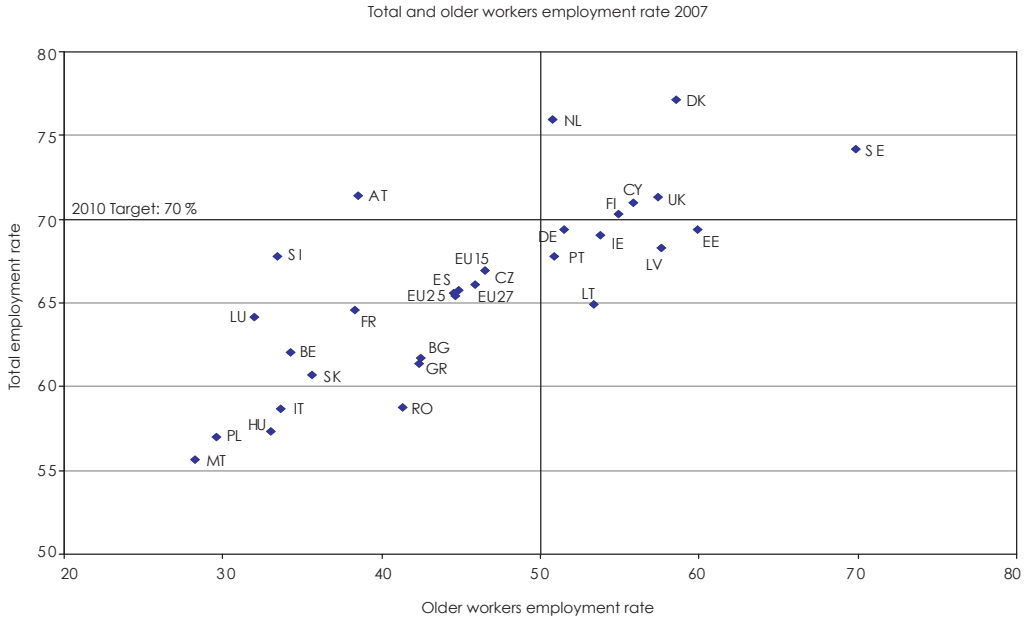
26 For a detailed analysis of the linkages between employment and productivity growth see European Commission (2007) "Moving Europe's productivity frontier" The EU economy: 2007 review; "Is there a trade-off between productivity and employment.

Graph 56 – Progress towards the Lisbon targets: total and female employment rate, 2007



Note: EU objective 2010: 70% for total employment rate, 60% for female employment rate.
Source: Commission services.

Graph 57 – Progress towards the Lisbon targets: total and older workers employment rate, 2007



Note: EU objective 2010: 70% for total employment rate, 50% for older workers employment rate.
Source: Commission services.

Table 10 – Employment growth rate used in the simulation

	Total				Female				Older			
Country	2006 - 2007	2001 - 2007	1997 - 2000	1997 - 2007	2006 - 2007	2001 - 2007	1997 - 2000	1997 - 2007	2006 - 2007	2001 - 2007	1997 - 2000	1997 - 2007
BE	2.7	1.3	2.1	1.3	3.5	2.1	3.4	2.2	2.7	1.3	2.1	1.3
DK	-0.2	0.3	0.6	0.4	-0.1	0.5	1.3	0.7	-1.8	2.8	7.5	4.7
DE	2.1	0.7	1.0	0.7	2.4	1.2	1.7	1.4	6.9	3.2	-0.5	1.5
GR	**1.3**	**1.7**	2.4	**1.7**	**1.3**	2.5	2.6	2.3	3.2	2.9	-5.2	-0.1
ES	3.1	3.9	5.1	4.3	4.6	5.7	6.7	6.0	3.6	5.0	2.8	4.6
FR	1.8	1.3	1.8	1.6	2.6	2.1	2.0	2.1	4.4	8.6	0.4	5.8
IE	3.4	3.2	7.4	4.4	4.8	4.0	8.9	5.4	4.5	6.2	8.1	6.9
IT	1.0	1.3	1.4	1.4	1.3	2.2	2.5	2.4	4.9	4.0	-0.6	2.3
LU	**3.9**	**1.5**	2.3	**1.9**	**5.8**	3.2	4.0	3.5	-4.3	6.4	5.4	4.4
NL	2.4	0.7	3.1	1.6	3.2	1.5	4.3	2.5	9.3	8.4	9.8	8.5
AT	2.1	1.2	1.0	1.0	1.8	1.6	1.1	1.4	7.8	5.4	2.5	3.9
PT	0.1	0.1	3.6	1.3	0.1	0.5	3.4	1.5	4.5	1.9	-0.5	1.0
FI	1.8	0.8	3.3	1.6	2.1	1.0	3.2	1.7	3.5	7.3	7.2	8.0
SE	2.3	0.8	1.6	1.4	2.3	0.6	1.7	1.3	0.9	3.2	5.6	4.6
UK	0.3	0.5	0.5	0.6	0.2	0.7	1.4	0.9	1.5	4.1	3.6	4.1
EU15	1.7	1.2	1.8	1.4	2.1	1.9	2.4	2.1	4.5	4.8	1.6	3.5
CY	5.6	3.4	3.4	3.4	7.4	4.0	4.0	4.0	12.0	6.1	6.1	6.1
CZ	1.8	0.8	-1.5	0.0	1.3	0.5	-1.5	-0.2	4.5	7.8	1.2	5.6
EE	1.6	2.0	-2.0	0.7	0.4	2.2	-2.0	0.8	1.8	2.8	-5.0	0.5
HU	-0.2	0.2	2.2	0.9	-0.7	0.2	3.0	1.2	-0.9	7.3	7.1	7.5
LT	2.0	2.2	2.2	2.2	1.7	1.7	1.7	1.7	7.3	4.5	4.5	4.5
LV	2.7	2.3	2.3	2.3	2.5	2.0	2.0	2.0	6.6	5.6	5.6	5.6
MT	2.1	1.0	1.0	1.0	6.3	2.7	2.7	2.7	-5.4	0.8	0.8	0.8
PL	4.6	1.3	-1.1	0.2	5.1	1.2	-0.7	0.3	11.9	5.8	-8.8	0.3
SK	2.4	1.8	1.8	1.8	2.4	0.9	0.9	0.9	10.4	11.6	11.6	11.6
SI	2.2	1.2	0.3	1.0	1.3	1.1	0.2	0.8	7.9	6.9	0.9	5.4
EU25	1.9	1.3	2.4	1.6	2.2	1.7	3.0	2.1	4.8	5.0	1.7	3.7
EA	2.7	1.6	2.1	2.1	3.3	2.3	2.8	2.8	6.2	5.2	0.8	3.8
BG	4.5	3.1	3.1	3.1	4.3	2.8	2.8	2.8	7.9	10.0	10.0	10.0
RO	0.1	-1.2	-2.0	-1.4	-0.6	-1.7	-2.0	-1.7	1.8	-1.8	-6.2	-3.5
EU27	1.8	1.2	1.2	1.2	2.2	1.6	1.6	1.6	4.7	4.7	4.7	4.7

Source: Commission services, DG ECFIN.

Table 11 – Employment rates in 2010, alternative simulation

EMPLOYMENT RATE in 2010							
Alternative country-targets							
Target:	Overall Employment rate in 2010						
	Rates in 2010 using employment growth rate in:					**Employment rate targets set by Member States**	
Country	**2007**	**2006 - 2007**	**2001 - 2007**	**1997 - 2000**	**1997 - 2007**	(from NRPs)	
BE	63.0	66.2	63.4	65.1	63.5	70	
DK	76.8	75.9	77.1	77.6	77.2	50000/60000 extra jobs	
DE	63.8	68.8	65.9	66.5	66.1		
GR	59.2	60.9	61.6	62.8	61.7	64.1	(projections)
ES	67.1	69.5	71.2	73.7	72.0	66	
FR	62.1	66.2	65.4	66.3	65.8		
IE	71.8	72.9	72.4	81.5	75.0		
IT	58.8	59.8	60.2	60.4	60.4		
LU	58.8	62.4	58.1	59.5	58.8		
NL	75.7	80.8	76.9	82.6	78.9		
AT	70.9	74.4	72.3	71.9	72.0		
PT	68.0	67.7	67.7	75.0	70.1	70	
FI	70.1	73.1	71.0	76.5	72.7	75	"(2011)
SE	75.2	78.5	75.0	76.9	76.5	80	(age 20-64)
UK	69.5	68.3	68.7	68.7	68.8	80	(national definition)
EU15	65.3	67.8	67.0	68.4	67.5		
CY	69.0	75.1	70.5		71.3*	71	
CZ	66.6	69.9	67.9	63.4	66.3	66.4	
EE	68.8	72.9	73.9	65.5	71.1	67.2	(projections)
HU	56.2	56.3	57.0	60.6	58.3	63	
LT	64.9	69.2	69.5		66.5*	68.8	
LV	68.0	75.0	74.3		73*	67	
MT	55.3	57.3	55.3		55.7*	57	
PL	55.8	63.0	57.3	53.3	55.5		
SK	60.9	64.4	63.2		62.2*	yearly increase	1-2 pp
SI	68.0	72.1	70.0	68.3	69.6	67	"(2008)
EU25	64.3	67.2	66.0		66.1*		
BG	60.1	70.0	67.3		65.4*		
RO	58.7	59.3	57.1	55.8	56.8		
EU27	64.7	67.7	66.3		66.3*		

Target:	**Employment rate of female in 2010**						
	Rates in 2010 using employment growth rate in:					**Employment rate targets set by Member States**	
Country	**2007**	**2006 - 2007**	**2001 - 2007**	**1997 - 2000**	**1997 - 2007**	(from NRPs)	
BE	56.1	60.4	57.9	60.1	58.1	60	asap
DK	73.0	72.3	73.4	75.2	74.0		
DE	58.3	63.3	61.2	62.1	61.5		
GR	46.7	48.1	49.8	49.9	49.5	51	
ES	55.9	60.5	62.5	64.3	63.0	57	
FR	58.0	63.4	62.4	62.3	62.4		
IE	63.0	66.6	65.1	74.7	67.8		
IT	46.8	47.9	49.3	49.7	49.6		
LU	48.7	54.4	50.4	51.6	50.9		
NL	69.6	75.9	72.2	78.4	74.5	65	>12 hours week
AT	64.3	66.9	66.5	65.5	66.2		
PT	62.0	61.9	62.5	68.3	64.4	63	(2008)
FI	68.7	72.2	70.0	74.8	71.6		
SE	72.8	76.0	72.3	74.5	73.8		
UK	64.7	63.4	64.3	65.6	64.7		
EU15	58.2	61.3	61.0	62.4	61.5		

CY	61.8	70.7	64.2		66.2*	63	
CZ	57.6	59.7	58.3	55.0	57.2	57.6	(2008)
EE	65.4	67.2	70.8	62.5	67.9	65	
HU	50.2	49.8	51.2	55.5	52.7	57	
LT	62.1	65.6	65.7		63.4*	61	
LV	64.0	70.5	69.5		69.2*	62	
MT	36.9	43.2	38.9		38.5*	41	
PL	49.8	57.1	50.9	48.1	49.6		
SK	53.2	56.3	53.9		53.8*		
SI	62.6	65.3	64.9	63.3	64.4	2pp >EU15	(2008)
EU25	57.3	60.6	59.9		60*		
BG	56.1	65.2	62.4		61.2*		
RO	52.7	52.3	50.5	50.1	50.6		
EU27	58.0	61.2	60.2		60.2*		

Target:	**Employment rate of older workers in 2010**						
	Rates in 2010 using employment growth rate in:					**Employment rate targets set by Member States**	
Country	**2007**	**2006 - 2007**	**2001 - 2007**	**1997 - 2000**	**1997 - 2007**	(from NRPs)	
BE	29.6	27.4	26.2	26.9	26.2	50	asap
DK	60.6	55.3	63.3	72.4	67.0		
DE	43.5	53.8	48.3	43.3	46.0		
GR	43.5	43.4	43.0	33.6	39.4		
ES	49.0	46.8	48.8	45.7	48.2		
FR	42.9	39.9	45.0	35.6	41.6		
IE	60.4	56.9	59.7	63.0	60.9		
IT	34.2	37.5	36.5	31.9	34.7		
LU	30.0	22.0	30.3	29.5	28.7		
NL	55.4	63.3	61.6	64.0	61.8	40	>12 hours week
AT	36.7	47.1	44.1	40.6	42.3		
PT	54.5	56.2	52.2	48.5	50.8	50	
FI	61.4	57.4	63.8	63.6	65.1		
SE	74.0	73.1	78.3	83.8	81.5		
UK	60.8	59.2	63.9	62.9	63.8		
EU15	46.9	49.1	49.6	45.2	47.8		
CY	64.1	72.6	56.5	56.5	61.2*	53	
CZ	51.1	50.9	55.9	46.2	52.6	47.5	(2008)
EE	59.4	58.7	60.4	47.7	56.5	54.8	(2008)
HU	33.9	29.5	37.5	37.2	37.7	37	
LT	53.5	65.3	58.6	59.5	56.7*	50	
LV	55.5	69.1	66.0	64.1	63.8*	50	
MT	24.7	16.9	24.5	21.2	20.8*	35	
PL	35.2	36.1	30.5	19.6	26.0		
SK	39.4	41.6	34.7	33.8	39.9*		
SI	37.4	39.5	38.4	32.4	36.9	35	(2008)
EU25	45.9	47.6	47.8	42.8	46.8*		
BG	43.0	50.0	53.0		55.4*		
RO	44.7	40.2	36.1	31.4	34.2		
EU27	47.3	48.8	48.7		48.2*		

**1997-2007*
Source: Commission services, DG ECFIN.

1.4. THE CONTRIBUTION OF EMPLOYMENT AND LABOUR PRODUCTIVITY TO GDP GROWTH

The relative contribution to GDP growth of labour productivity and labour utilisation, can be assessed using the standard accounting decomposition

$$GDP = Labour\ productivity \times Labour\ utilisation$$

or $$GDP = \frac{GDP}{Hours} \times \left(\frac{Hours}{Employment} \times \frac{Employment}{Working\ Age\ Pop.} \times \frac{Working\ Age\ Pop.}{Population} \right) \times Population$$

Table 12 and Table 13 reproduce this decomposition for 2007 and the decade 1997-2007. In 2007 the labour input made an average contribution of 1.8% against a contribution of hourly productivity growth of about 1.1% (Table 12), with this larger contribution of the labour input suggesting that the expansion cycle achieved in 2007 a mature stage. A similar pattern was observed in the US, where the strong productivity growth in 2003 and 2004 (3.0%) was followed in 2005 and 2006 by a decline in hourly productivity growth (1.8%) and an increase in the rate of labour utilisation (at about 1.5%).

When looked over a longer period (Table 13), hourly productivity provides the highest contribution (1.4% against 0.8%).[27] This difference is partly due to the increase in the employment rate and to the more moderate decline in total hours worked. In addition, the productive population continued to fall at the same rate as that of the 1997-2007 average, implying that its contribution did not change between the two periods. Demographic trends have been an important factor in the differing relative performance of the EU versus the US over the last decade, and are projected to be even more relevant in the coming decades given the faster pace of ageing in Europe. In 2007, the positive contribution of the demographic effect was in the US twice as much as in the EU.

With few relevant exceptions, labour productivity was the major contribution to GDP growth in the RAMS but also in countries such as Denmark Portugal and Finland. The increase in the labour input is mainly driven by the new jobs created (the so-called extensive margin), while the contribution of the intensive margin is negative in Malta, Denmark, Cyprus, Spain, Ireland, Finland and the UK. For Denmark and Cyprus the decline in the total hours worked per employee gave a positive impulse to growth of productivity. The combined effect of changes at the intensive and extensive margins is a positive contribution to the increase in the labour input in all countries but Cyprus, Malta and Hungary. For the first two, the input of labour grows only because of demographic components.

27 In 2007 the total factor productivity and the hourly labour productivity in the EU aggregate for which TFP data are available, increased by 1.0% and 1.6%, compared with an average change of 1.0% and 1.5% between 2001 and 2006.

Table 12 – GDP growth and its sources in 2007

	GDP growth in 2007	Due to growth in:						GDP per capita growth in 2007
		Productivity (GDP/hour)	Labour utilisation	Hours worked per employee	Employment rate	Share of Working age population	Population	
			of which					
	1 = 2+3	2	3 = 4+5+6+7	4	5	6	7	8 = 1-7
BE	2.8	1.0	1.7	0.0	0.9	0.6	0.2	2.6
CZ	6.5	4.7	1.7	-0.1	1.2	0.1	0.5	6.0
DK	**1.8**	**1.4**	0.4	**-1.4**	**1.5**	-0.1	0.4	1.4
DE	2.5	0.8	1.7	0.0	2.3	-0.5	-0.1	2.6
EE	7.1	6.4	0.6	-0.1	1.1	-0.2	-0.2	7.3
EL	4.0	1.6	2.3	1.1	1.3	-0.2	0.1	3.9
ES	3.8	1.1	2.7	-0.4	1.3	0.0	1.8	2.0
FR	2.2	1.0	1.2	-0.1	0.7	0.1	0.6	1.6
IE	5.3	1.9	3.2	-0.3	1.0	0.5	2.1	3.2
IT	1.5	-0.2	1.7	0.5	1.0	-0.2	0.4	1.0
CY	4.4	2.4	1.9	-1.3	1.2	0.1	1.9	2.4
LV	10.3	6.4	3.7	0.2	4.0	0.0	-0.5	10.8
LT	8.8	5.6	3.0	1.1	2.0	0.5	-0.5	9.3
LU	4.5	-0.5	5.0	0.8	3.2	0.0	1.0	3.5
HU	1.3	1.6	-0.3	-0.1	-0.1	0.1	-0.2	1.5
MT	3.8	2.9	0.9	-1.7	0.7	1.3	0.6	3.1
NL	3.5	1.1	2.4	0.0	2.3	-0.2	0.2	3.3
AT	3.4	1.6	1.8	-0.2	1.6	-0.1	0.4	3.0
PL	6.5	2.0	4.4	-0.1	4.1	0.4	-0.1	6.6
PT	1.9	1.4	0.5	0.3	-0.1	0.0	0.3	1.6
SI	6.1	3.3	2.7	0.0	2.1	0.2	0.4	5.7
SK	10.4	6.4	3.7	1.6	1.6	0.5	0.1	10.3
FI	4.4	3.1	1.3	-0.9	1.9	-0.1	0.4	4.0
SE	2.6	-0.6	3.1	0.9	0.9	0.2	1.2	1.4
UK	3.0	3.0	0.1	-0.6	0.0	0.3	0.4	2.6
US	2.2				0.2	0.0	1.0	1.2
JP	2.1				0.0	-0.1	0.0	2.1
Euroarea	2.6	0.8	1.8	0.0	1.4	-0.1	0.5	2.1
EU-25	2.9	1.1	1.8	0.0	1.4	0.0	0.4	2.4
EUR-15	2.7	1.1	1.5	-0.1	1.2	-0.1	0.5	2.2
EU10	6.1	3.0	3.0	0.1	2.6	0.3	0.0	6.1

Source: Commission services.

Table 13 – GDP growth and its sources 1997-2007

	GDP growth in 2007	Due to growth in:						GDP per capita growth in 1999-2007
		Productivity (GDP/hour)	Labour utilisation	Hours worked per employee	Employment rate	Share of Working age population	Population	
			of which					
	1 = 2+3	2	3 = 4+5+6+7	4	5	6	7	8 = 1-7
BE	2.3	1.3	1.0	0.0	0.6	0.1	0.4	1.9
CZ	4.1	4.3	-0.2	-0.3	-0.3	0.3	0.0	4.0
DK	2.0	1.4	0.6	0.0	0.4	-0.2	0.3	1.7
DE	1.5	1.5	0.0	-0.5	0.9	-0.3	0.0	1.5
EE	7.7	0.0			0.7	0.3	-0.4	8.0
EL	4.2	2.7	1.5	0.4	0.9	-0.1	0.3	3.9
ES	3.8	0.6	3.1	-0.5	2.2	0.1	1.4	2.4
FR	2.2	1.8	0.4	-0.7	0.5	0.0	0.6	1.6
IE	6.5	3.1	3.2	-0.5	1.5	0.4	1.8	4.7
IT	1.4	0.4	1.0	-0.3	1.3	-0.3	0.4	1.0
CY	3.8	1.5	2.3	-0.3	0.2	0.7	1.7	2.2
LV	8.2	7.1	1.1	-0.2	1.5	0.4	-0.6	8.8
LT	6.5	5.7	0.8	0.6	0.3	0.5	-0.6	7.0
LU	5.1	1.7	3.4	-0.4	2.4	0.1	1.3	3.8
HU	4.0	3.7	0.3	-0.4	0.8	0.2	-0.2	4.2
MT	2.4	0.0			-0.3	0.5	0.9	1.5
NL	2.4	1.6	0.8	-0.4	0.8	-0.1	0.5	1.9
AT	2.3	1.5	0.7	-0.2	0.4	0.1	0.5	1.8
PL	4.1	0.0			-0.4	0.6	-0.2	4.3
PT	1.7	1.3	0.5	-0.3	0.3	-0.1	0.5	1.2
SI	4.4	3.4	0.9	0.0	0.7	0.1	0.2	4.2
SK	5.0	4.9	0.2	-0.2	-0.4	0.7	0.0	5.0
FI	3.4	2.4	1.0	-0.4	1.2	0.0	0.3	3.1
SE	3.2	2.4	0.8	-0.3	0.4	0.3	0.4	2.7
UK	2.8	2.3	0.5	-0.5	0.2	0.3	0.4	2.3
US	2.8	0.0			-0.1	0.2	1.0	1.7
JP	1.5	0.0			0.0	-0.5	0.1	1.4
Euro area	2.2	1.2	0.9	-0.4	1.0	-0.1	0.5	1.7
EU 25	2.4	0.0			0.7	0.0	0.4	2.0
EU15	2.3	1.4	0.8	-0.4	0.8	-0.1	0.5	1.8

Source: Commission services.

1.5. EMPLOYMENT PROSPECTS IN COMING YEARS

Looking forward, business and consumer expectations and DG ECFIN Spring forecasts (Table 14) point to job creation slowing down. After the trough in 2003, survey measures of employment intentions and household perceptions of labour market conditions improved significantly. According to the *Business and Consumer Survey*, in May 2007, the overall "economic sentiment" index reached the highest level since early 2001, while both employers and consumers were optimistic about the future labour market prospects (Graph 15). One year later, the economic sentiment, indicator has plummeted to the level of July 2005[28]. While it is difficult to infer from this pattern a clear response of the labour market, the reforms enacted so far should have made the European labour markets more prepared to cope with cyclical shocks. At the same time, the increase in the inactivity rate in some countries and the rising size of the inactive which would potentially

28 http://ec.europa.eu/economy_finance/indicators/business_consumer_surveys/2008/bcs_2008_05_en.pdf
For a detailed analysis of future growth developments see DG ECFIN-Economic Forecasts-Spring 2008. http://ec.europa.eu/economy_finance/publications/european_economy/2007/ee207en.pdf

be in the labour force should warn against the risks of a falling labour supply.

Looking forward, the Spring 2008 Commission's forecasts (Table 11) suggest a deceleration of job creation in 2008 and 2009 in response to the foreseen economic slowdown[29]. However, the European economy has been so far relatively resilient to the economic contraction in the US and major industrialised economies. In the first quarter of 2008 GDP growth was unexpectedly revised upward (0.8% q-o-q or 2.2 y-o-y). Even so, business and consumers' surveys suggest a more moderate economic activity in 2008.

According to DG ECFIN Spring forecasts, the EU as a whole is expected to create about 3 millions of jobs over the period 2007-2009 (of which 2 millions in the euro area). Total employment will grow at 0.8% in 2008 and at 0.5% in 2009 (in the Euro area at 0.8% and 0.5%). In 2008-2009 the unemployment rate is projected to hover around 6.8% in the EU and at 7.2% in the Euro area.

29 According to the flash estimate for the first quarter of 2007 (see Eurostat Press release, 15 May 2007), compared to the first quarter of 2007, GDP grew by as much as the average of the previous three quarters, respectively 3.1% for the euro area and by 3.2 for the EU27 (+0.6 over the previous quarter for both the aggregates).

Graph 58 – Employment and unemployment expectations: business and consumers survey

Source: Commission services.

Table 14 – Commission's forecasts (Autumn 2007 and Spring 2008)

	Total employment (percentage change on preceding year)				Number of unemployed (as a percentage of civilian labour force) [1]			
Year	**2008**		**2009**		2008		2009	
(Forecast in:)	X-2007	IV-2008	X-2007	IV-2008	X-2007	IV-2008	X-2007	IV-2008
Belgium	1.0	0.9	0.9	0.4	7.2	7.3	6.9	7.5
Germany	0.5	1.0	0.4	0.3	7.7	7.3	7.6	7.1
Ireland	1.3	0.7	1.5	1.6	5.3	5.6	5.5	5.8
Greece	1.4	1.1	1.4	1.1	7.9	8.3	7.5	8
Spain	2.1	1.3	1.7	0.7	8.5	9.3	9.1	10.6
France	0.9	0.6	0.7	0.3	8.2	8	8.1	8.1
Italy	0.6	0.4	0.6	0.5	5.7	6	5.5	5.9
Cyprus	1.5	1.5	1.5	1.5	4.1	3.7	3.9	3.5
Luxembourg	3.6	4.0	3.2	3.3	4.5	4.5	4.2	4.4
Malta	1.2	1.3	1.1	1.3	6.6	6.3	6.5	6.2
Netherlands	1.6	1.3	1.3	0.7	2.7	2.9	2.4	2.8
Austria	0.9	0.9	0.6	0.5	4.2	4.2	4.2	4.3
Portugal	0.6	0.7	0.9	0.5	8	7.9	7.7	7.9
Slovenia	0.9	0.9	0.5	0.5	4.7	4.7	4.6	4.7
Finland	0.8	1.2	0.3	0.6	6.4	6.3	6.3	6.1
Euro area	1.0	0.9	0.8	0.5	7.1	7.2	7.1	7.3
Bulgaria	1.2	1.6	1.0	1.2	6.8	6	6	5.4
Czech Republic	1.5	1.1	1.6	0.5	5.4	4.5	5	4.4
Denmark	0.1	0.2	-0.3	-0.4	2.7	3.1	2.7	3.2
Estonia	0.2	-1.0	0.0	0.0	4.8	6	4.9	6
Latvia	0.8	-0.4	0.4	-1.2	5.5	6.4	5.6	6.9
Lithuania	0.2	0.1	-0.1	-0.1	4.2	4.5	4.4	4.8
Hungary	0.1	-1.1	0.2	0.6	7	8.3	6.9	7.8
Poland	1.7	2.6	1.3	1.3	7.3	7.1	6.4	6.1
Romania	1.0	0.9	0.8	0.8	7	6.1	6.9	5.9
Slovakia	1.5	1.5	1.0	0.9	9.7	9.8	9	9.3
Sweden	1.0	0.8	0.3	0.2	5.8	6.2	5.7	6.5
United Kingdom	0.4	0.1	0.6	0.0	5.4	5.4	5.3	5.7
EU27	0.9	0.8	0.8	0.5	6.8	6.8	6.6	6.8
USA	0.0	-0.2	0.7	-0.3	5.3	5.4	5.4	6.2
Japan	0.1	0.2	0.2	0.2	4	4	4	4.2

Source: Commission´s forecast.
[1] *Unem*ployment rate: series following Eurostat definition, based on the labour force survey

2. WAGE AND LABOUR COST DEVELOPMENTS

Focusing on EMU members the analysis shows that contained labour cost developments have supported moderate inflation in the euro area in recent years. Notwithstanding this overall assessment of subdued labour cost pressures, some signs of strong acceleration in wages are emerging since the last quarter of 2007. Moreover, the pick-up in wage growth is expected to continue in 2008, with wage demands being fuelled against a background of public concern about workers' declining purchasing power and increasing consumer inflation perceptions. Over the medium term, price stability will therefore require wage agreements at the national level that take into account underlying trend productivity developments, the cyclical situation of labour markets and the underlying position in relative price competitiveness within the euro area.

The current round of energy price rises, if it persists, may require either a renewed downward adjustment of real wages relative to productivity or a reduction in profit margins in order to avoid a negative impact on inflation and, ultimately, on growth and employment. However, after years of wage moderation, employees may resist further downward adjustment of real wages in several countries (e.g. in Germany where real wages have been almost flat for a number of years). There are indeed clear signs of increasing wage demands in euro-area economies, often linked to the observation that labour shares have generally been declining in recent times. Nevertheless, it is shown that, beyond wage moderation, the decline in labour shares stems also form compositional effects. Thus, wage-setting policies alone will not be sufficient to reverse the current trend in labour shares. More emphasis should be put on whether technological and structural conditions in the economy favour significant and widespread productivity gains, necessary for real production wages to increase with no detriment for cost competitiveness.

Overall moderate wage developments in the euro area conceal marked differences across countries regarding the contribution of nominal unit labour costs to the GDP and the final demand deflators. The historical low levels in nominal and real unit labour costs registered in recent years are mostly attributable to Germany. Among the three sources of movements in post-tax real consumption wages (i.e., wages received by workers relative to the price of goods and services they purchase), increases in real production wages are the most dominant, while the contribution of the domestic terms of trade to the purchasing power of workers has remained limited. In most euro-area countries, growth in post-tax real consumption wages has outpaced that of gross real consumption wages, this implying a favourable contribution of changes in social security contributions and personal income taxes to the purchasing power of workers.

Developments in public wages could, directly and indirectly, be an important source of inflation and competitiveness dynamics of individual countries. Recent trends show that growth in nominal compensation per employee in the government sector has outpaced that of compensation per employee in the private sector in several euro area countries. The available data hints at a relatively high share of skilled workers as well as at a relatively low level of compensation per employee in the government sector. Even so, excessive growth of wages in the government sector could worsen underlying budgetary conditions while exacerbating inflationary pressures both directly and indirectly through their signalling role to private sector negotiations.

Developments in nominal compensation per employee in several countries relative to the remaining euro-area economies are not necessarily in line with what one would expect in view of their relative cyclical positions, thereby raising concerns about the adjustment capacity of labour markets (measured by movements in relative nominal unit labour costs) to asymmetric cyclical patters. More precisely, the weak responsiveness of nominal compensation per employee to asymmetric cyclical shocks across euro-area members seems to have precluded a smooth adjustment of the ULC-based Real Effective Exchange Rates (REERs) in EMU.

Regarding non euro-area countries the analysis suggests that in 2007, wage growth stabilised in Denmark, strongly accelerated in Sweden but

abated in the UK, in spite of the labour market tightening in the latter country. Coupled with a sharp slowdown in productivity, nominal unit labour costs have picked up in Denmark and Sweden whereas more dynamic productivity behaviour has contributed to the moderation of nominal unit labour costs in the United Kingdom. The study of labour cost developments in the Recently-Acceded Member States (RAMS) requires a separate section on account of their condition of catching-up countries, with the ongoing convergence process triggering higher-than-EU average wage growth while in turn benefiting from higher-than-EU average productivity growth. Recent data on nominal labour costs point to mounting inflationary pressures, in line with tightened labour market conditions and relatively stable productivity gains. After the culmination of overheating in the labour market in 2007, nominal unit labour costs are expected to decelerate significantly over the period 2008-2009. The deterioration in the international economic outlook is expected to lead to some slowdown in the economic activity. From a supply-side perspective, signs of deteriorating competitiveness in labour-intensive sectors suggest that the sustainability of the catching-up process depends on labour costs remaining in line with productivity, particularly in a context characterised by increasing inflationary expectations. The removal of any shortages of skilled workers will be crucial in this regard, insofar it can facilitate enhanced external competitiveness and a higher contribution of net exports to GDP growth in a less favourable euro-area environment.

2.1. WAGE AND LABOUR COST DEVELOPMENTS AND MACROECONOMIC STABILITY IN THE EURO AREA

This section assesses to what extent the functioning of euro-area labour markets have facilitated and can be expected to facilitate sound internal and external macroeconomic conditions, namely aggregate price stability and sustainable competitive positions at individual country level.

2.1.1. Recent past developments in wage and labour costs in the euro area

This section presents recent evidence on the indicators that provide a measure of the growth in nominal labour costs in the euro area, i.e., negotiated wages, the Labour Cost Index, and compensation per employee[30]. The assessment of inflationary pressures stemming from the labour market focuses on nominal unit labour costs, which reflect the developments of compensation per employee and labour productivity. This is done by quantifying the contribution of nominal unit labour costs to the increase in the final demand deflator. Inflationary pressures as measured by the final demand deflator have two sources: i) factors arising from abroad, whose influence on prices is channelled through the import deflator, and ii) domestic factors, whose influence on prices is channelled through the GDP deflator and its income (i.e., cost) components: nominal unit labour costs, gross operating surplus and net indirect taxes per unit of output.

The inspection of nominal unit labour costs growth relative to that of the GDP deflator is a starting point of the assessment of inflationary pressures arising from the labour market. The requirement for wage developments to contribute to price stability translates into the condition that nominal increases in compensation per employee should not exceed the sum of productivity and the inflation target of the ECB of close but below 2%. However, when applying this simple "rule of thumb" due attention should be given to the distinction between actual and long-term productivity and the influence on wage growth of the cyclical situation of the labour market. A benchmark against which to gauge labour cost developments should rather compare cyclical unemployment with a measure of real compensation per employee adjusted for productivity trend.

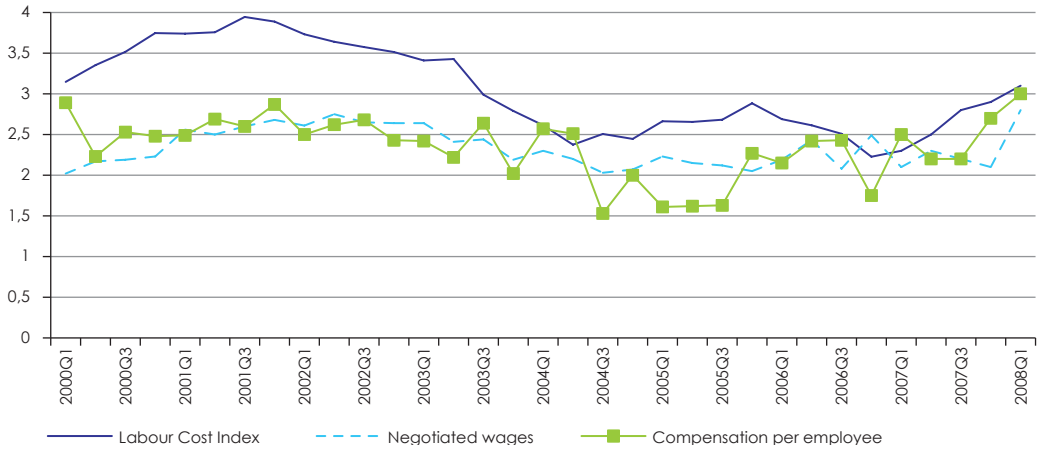
Contained labour cost developments have supported moderate inflation in the euro area in recent years, although signs of strong acceleration in wages are emerging since the last quarter of 2007

30 Compensation per employee includes gross wages and salaries (i.e., wages plus employees' social security contributions) and employers' social security contributions. This indicator covers the total economy, which gives an indication of whether labour cost developments are broadly based across sectors or whether labour cost pressures significantly comes from a particular sector (public/private sectors, industry/services, etc.). The Labour Cost Index captures the evolution of hourly labour costs, correcting for distorting compositional effects of hours worked (namely, the changes in overtime hours and the developments of part-time employment). The Labour Cost Index does not cover non-market activities.

Information on nominal labour costs available up to the fourth quarter of 2007 point to a continuation of subdued wage developments (Graph 59 and Table 15). The annual growth rates of negotiated wages and compensation per employee in 2007 was around the corresponding average growth rates over 1999-2006, while the annual increase in the Labour Cost Index (measuring hourly labour costs) stayed well below the average level registered since the creation of EMU. The overall picture of moderate labour costs is partly clouded by some noticeable acceleration in the last quarter of 2007 and the first quarter of 2008, as indicated by the upward movement in the annual rate of change of all indicators of labour cost growth. In the first quarter of 2008, the annual growth rate of negotiated wages rose to 2.8%, compared with an average of 2.2% in 2007. The Labour Cost Index has also recorded further acceleration from 2.9% in the last quarter of 2007 to 3.1% in the first quarter of 2008. Compensation per employee grew at 3% in the first quarter of 2008, compared with an average of 2.4% in 2007.

As illustrated by Graph 60, wages have been driving the increases in the Labour Cost Index in the recent past, while the contribution of non-wage costs (mainly represented by employers social contributions and, to a lesser extent, vocational training costs, as well as taxes and subsidies) has remained relatively smaller, particularly as of 2006, following the dampening effects of cuts in social security contributions implemented in some euro-area economies.

Graph 59 – Nominal wage and labour cost indicators, EA13
Year-on-year % change, 2000Q1-2008Q1



Data source: Labour Cost Index and Compensation per employee (on the basis of headcounts): Eurostat.
Negotiated wages: ECB.

Graph 60 – Contribution of wage and non-wage costs to overall growth in LCI, EA13
P.p. contributions to year-on-year LCI % growth, 2004Q1-2007Q4

Data source: Own calculations on the basis of Eurostat data.

Graph 61 presents an estimate of the euro-area wage drift[31]. As wage increases are bargained for a given period of time, the wage drift is likely to capture the effect of unexpected changes in economic conditions in the short term, through flexible pay elements, such as performance-based bonuses or compensation for overtime, that companies use to respond to fluctuations in activity and labour market conditions. The wage drift, therefore, provides some information about the cyclical profile of compensation per employee, following cyclical developments in the economy. In recent years, the wage drift has generally been negative and thus should have contributed to moderate nominal wage developments in a period of relatively weak economic activity.

On the basis of the information available[32], the latest rounds of wage negotiation in euro area Member States have resulted in somewhat higher increases than in previous years, albeit with much differentiation across Member States

Agreed pay settlements foresee substantial compensation growth in countries such as Belgium, Germany, the Netherlands, Finland and Italy. In **Belgium**, the sharp price increase will have a lagged impact on nominal wages as these are automatically adapted to a measure of past inflation. Although the indexation excludes a number of goods, such as motor fuels, for which inflation has been particularly high in recent months, wages are projected to increase more than in the neighbouring countries in 2008. Wage developments in 2009 will depend on the outcome of the upcoming bargaining rounds, but are forecast to be largely in line with those in France, Germany and the Netherlands. In the case of **Germany**, a number of years of almost flat real wages (and improving competitiveness) appear to be the main justification for recently higher wage demands, rather than the recent rise in inflation. In **the Netherlands**, wage demands are expected to rise in response to both the still tight labour market and increasing inflation. In **Finland**, the current multi-annual wage agreements provide for 5½ % wage growth in 2008 and slightly less in 2009. This is 1½ percentage points higher than the average over the recent years. In **Italy**, the wage agreements signed in late 2007 and those scheduled for 2008 in many sectors of the economy, both private and public, are likely to bring about an appreciable acceleration in compensation per employee. In **Austria**, Luxemburg and Spain, wage negotiations resulted in relatively moderate wage settlements. In Austria, the increase in wages is projected to be slightly lower than the euro-area average. In **Luxembourg** wages should decelerate in 2008 and 2009 but not dramatically, as the rise in employment is projected to remain rather robust and inflation to be quite strong. Finally, wage moderation is expected to continue over the forecast horizon in **France** owing to a still high unemployment rate (around 1 pp above the euro-area average) and the projected slowdown in employment growth. Whereas the risk of second-round effects on wages from the flare-up in prices cannot be excluded, it nevertheless seems relatively limited.

In order to assess inflationary pressures coming from the labour market, developments in labour cost growth should be viewed in conjunction with developments in productivity and the contribution of nominal unit labour cost to the growth in GDP deflator should be closely monitored

From a medium-term standpoint (Graph 62), the assessment of mild inflationary pressures stemming from the labour market is largely explained by a slowdown in compensation per employee, while productivity gains have generally been weak. Notwithstanding this positive medium-term assessment, nominal unit labour costs increased by 2.3% and 2.4% respectively in the fourth quarter of 2007 and the first quarter of 2008, almost one percentage point above the average rate of change over the period 1999-2006. This is due to a marked slowdown in productivity coupled with a strong acceleration in nominal wages. Taking a longer-term perspective, there is evidence[33] that trend productivity growth in the euro area registered a fairly sustained decline since the mid-1990s.

31 An estimate of the annual growth in the euro-area wage drift is constructed as a residual component of annual growth in compensation per employee, after subtracting the increase in negotiated wages and the increase in employees' and employers' social security contributions weighted by their share in overall compensation per employee. For a detailed description of the methodology see Box 2 entitled "Recent developments in euro-area wage drift" in the October 2006 issue of the Monthly Bulletin.
32 See "Spring economic forecasts 2008 – 2009". European Economy, No. 3, 2008.

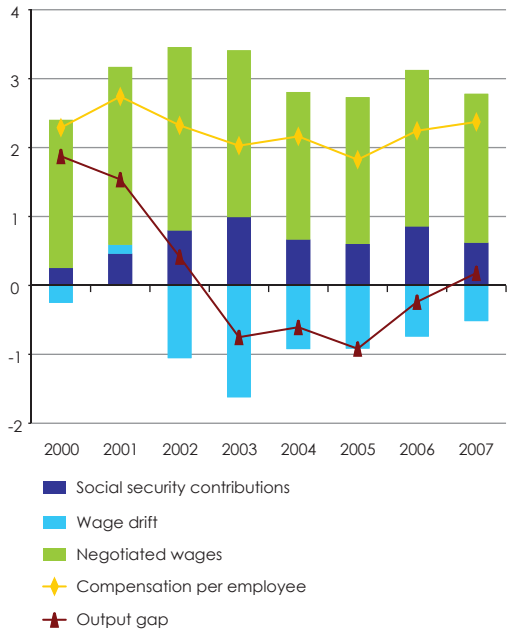
33 See, for instance, "Moving Europe's productive frontier. The EU 2007 Review". European Economy, No 8/2007.

This is a common feature across sectors and Member States, although developments in manufacturing and trade services, from a sector perspective, and in Germany and Italy, from a country perspective, seem to have dominated the overall picture. Nevertheless, actual data suggests a significant pick-up in labour productivity growth since mid-2005, although further data is needed to assess whether this pick-up reflects a change in the underlying trend.

The GDP deflator can be broken down into three income components, namely, nominal unit labour costs, gross operating surplus per unit of output and net indirect taxes (i.e., taxes on production and imports less subsidies) per unit of output. Graph 63 illustrates the dampening effect of nominal unit labour costs on euro area inflation in recent years. The domestic price pressures, reflected in the annual rate of change of the GDP deflator, have been contained, standing at around 1.9% since 2004, after having been as high as 2.6% in 2002. The contribution of nominal unit labour cost decreased significantly in 2004 and remained at moderate levels thereof. The contribution of net indirect taxes per unit of output has generally increased over time, while that of the gross operating surplus per unit of output has remained broadly stable.

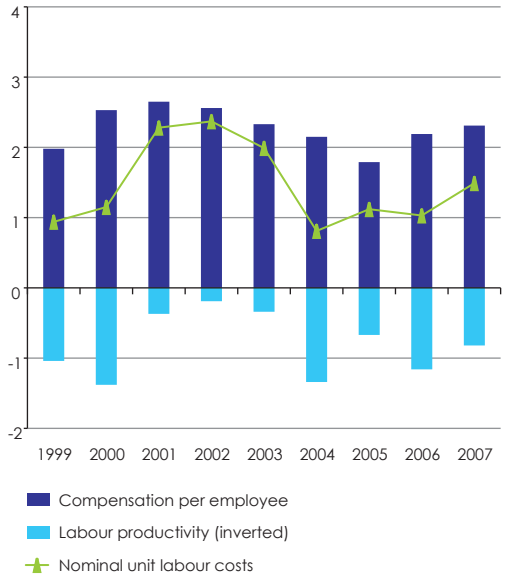
The resilience of profits is particularly evident considering developments in the industrial sector (excluding construction). Graph 64 illustrates developments in industrial producer prices and in the industrial value added deflator and its breakdown into nominal unit labour costs and nominal unit profit margins[34]. Producer prices measure gross output prices, whereas the value added deflator measures the price of value added (i.e., the difference between gross output and intermediate inputs). Barring 2001 and 2002, the significant gap between producer price developments and the value added deflator is due to marked increases in intermediate input costs. Whenever the increase in producer prices were not accompanied by a commensurate increase in the value added deflator, labour costs have been declining, thus enabling firms to maintain profit rates and to offset the upward pressures on prices from intermediate inputs.

Graph 61 – Compensation per employee and the wage drift, EA13
Year-on-year % change, 2000-2007



Data source: Own calculations on the basis of Eurostat and AMECO data.
Note: the annual growth in the wage drift is estimated as a residual component of the annual growth in compensation per employee, after subtracting the increase in negotiated wages and the increase in employees' and employers' social security contributions, weighted by their share in compensation per employee.

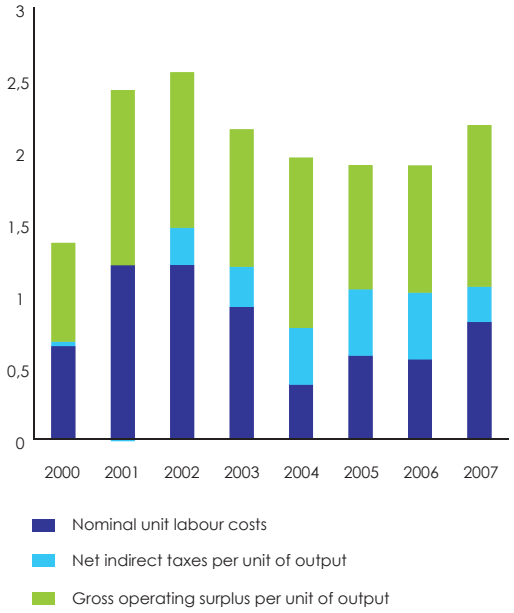
Graph 62 – Compensation per employee, labour productivity and nominal unit labour costs, EA13
Year-on-year % change, 1999-2007



Data source: Eurostat.
Note: Compensation per employee, labour productivity and nominal unit labour costs are based on headcounts.

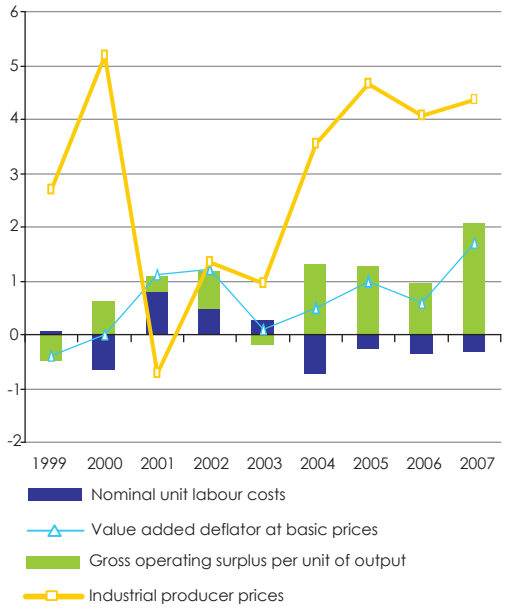
34 Owing to the lack of information at the sectoral level on taxes less subsidies on production, nominal unit profit margins are calculated as the gap between the rates of change in the gross value added deflator at basic prices and nominal unit labour costs.

Graph 63 – Income decomposition of GDP deflator, EA133
P.p. contributions to year-on-year GDP deflator % growth, 2000-2007



Data source: Own calculations on the basis of Eurostat data.

Graph 64 – Industrial production prices and the breakdown of industrial value added deflator, EA13
Year-on-year % change, 1999-2007



Data source: Commission services on the basis of Eurostat data.

Table 15 – Nominal wage and labour cost indicators, labour productivity and nominal unit labour costs, EA13
Year-on-year %change

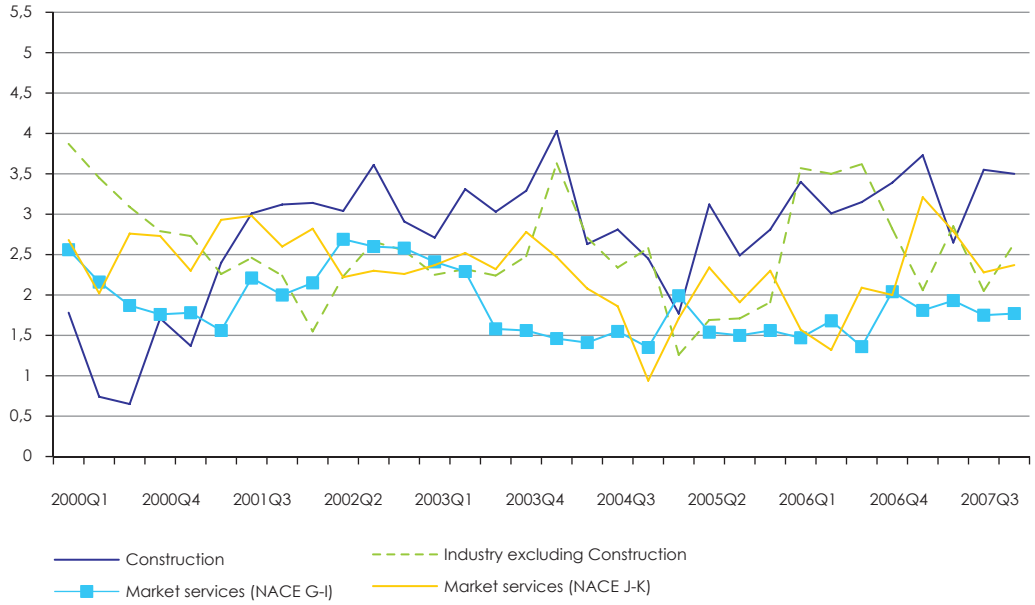
	2005	2006	2007	Av. 99-06	2007Q1	2007Q2	2007Q3	2007Q4	2008Q1
Negociated wages	**2.1**	2.3	2.2	2.4	2.1	2.3	2.2	2.1	2.8
Labour Cost Index	**2.7**	2.5	2.6	3.0	2.3	2.5	2.8	2.9	3.1
Compensation per employee	**1.8**	2.2	2.4	2.3	2.5	2.2	2.2	2.7	3.0
Labour productivity	**0.7**	1.2	0.9	0.8	1.4	0.9	0.8	0.4	0.6
Nominal unit labour costs	**1.1**	1.0	1.5	1.5	1.1	1.3	1.5	2.3	2.4

Data source: Negotiated wages: ECB. LCI, Compensation per employee, labour productivity and nominal unit labour costs: Eurostat.
Note: Compensation per employee, labour productivity and nominal unit labour costs are based on headcounts.

Overall moderate labour cost growth in the euro area conceals different patterns across sectors. It is still early to say whether recent labour cost pressures in market services and the construction sector will persist and thus spill over across the remaining economic sectors

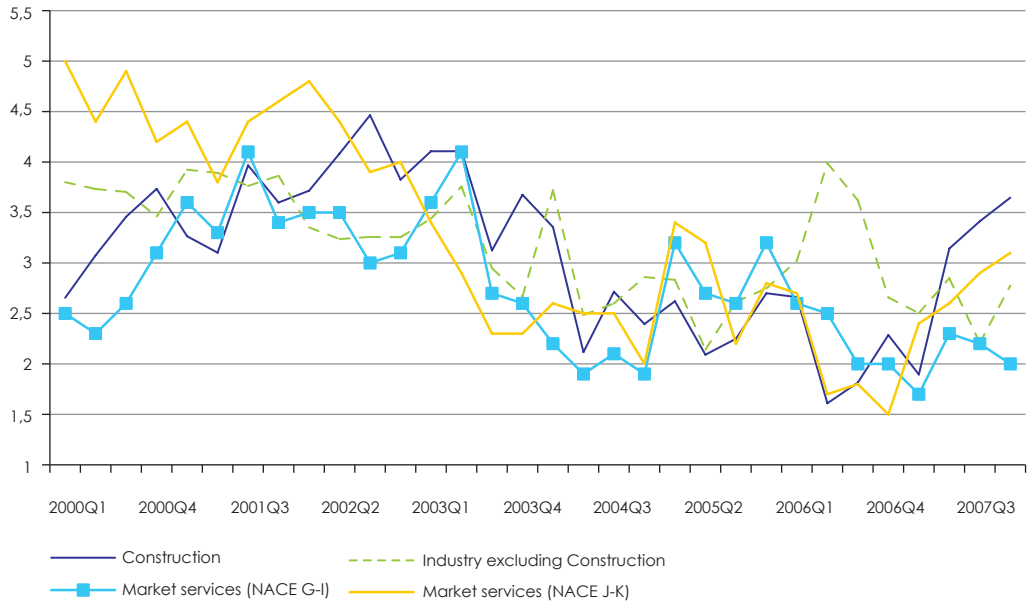
In recent quarters, the annual growth rate of compensation per employee has been highest in the construction sector (Graph 65). The growth rate in compensation per employee has been higher in the industry than in the market services. In terms of the Labour Cost Index (Graph 66), there was a clear moderation of the annual growth rate of hourly labour costs in industry throughout 2007 and a marked acceleration in construction. Hourly labour costs growth in market services increased somewhat in 2007 compared with the previous year.

Graph 65 – Sectoral compensation per employee, EA13
Year-on-year % change, 2000Q1-2007Q3



Data source: ECB. Statistical Data Warehouse.
Note: Compensation per employee is based on headcounts. NACE G-I corresponds to the following groupings: trade and repairs, hotels and restaurants and transport and communication. NACE J-K covers financial intermediation, and real estate, renting and business activities.

Graph 66 – Sectoral Labour Cost Index, EA13
Year-on-year % change, 2000Q1-2007Q4

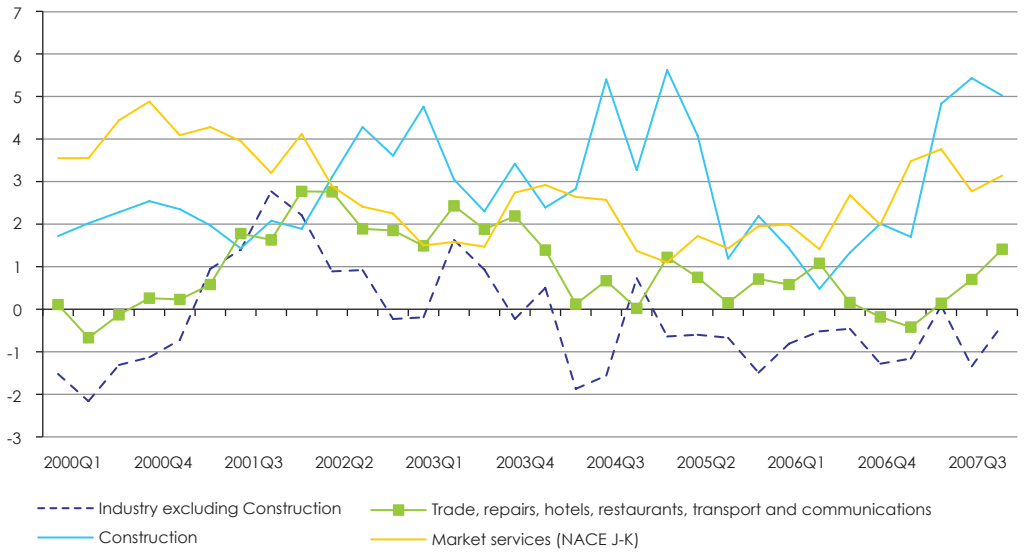


Data source: ECB. Statistical Data Warehouse.
Note: NACE G-I corresponds to the following groupings: trade and repairs, hotels and restaurants and transport and communication. NACE J-K covers financial intermediation, and real estate, renting and business activities.

Sectoral nominal unit labour costs are examined in Graph 67, where compensation per employee is seen in conjunction with sectoral productivity developments. The pattern across sectors appears to differ substantially not only in terms of growth in compensation per employee, but also in terms of productivity, and, therefore, of nominal unit labour costs. Nominal unit labour costs have edged up in the construction sector in the last quarters of 2007, due to a combination of labour cost pressures and a slowdown in labour productivity. Growth in nominal unit labour costs remained negative in the industry, owing to sustained increases in productivity. While the weakening of household spending on residential construction should contribute to moderating wage pressures in the construction sector, careful surveillance in the months to come may be warranted in order to detect whether mounting labour cost pressures in this sector persist and eventually spill-over across the remaining economic sectors.

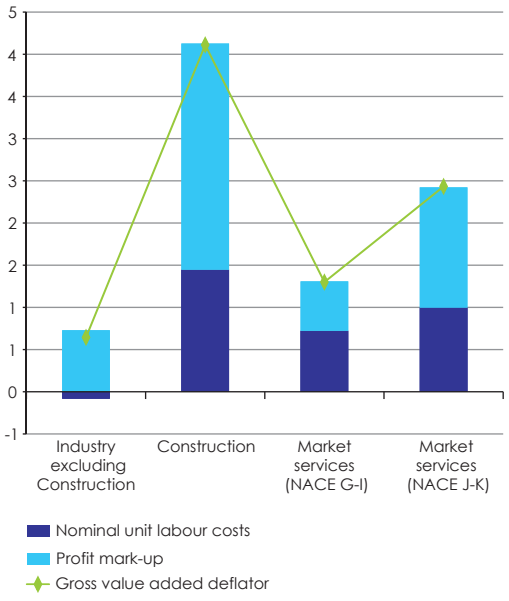
Graph 68 shows the sectoral gross value added deflator (at basic prices) as the sum of nominal unit labour costs and a mark-up of profits over labour costs. The industrial sector is characterised by a decline in nominal unit labour costs over the period 1999-2007. Judging by the resilience of profit margins (see Graph 64), this sector seems to have withstood the pressures from rises in non-labour input costs and international competition. In market services, the increases in value added inflation has been driven by the rise in labour costs (together with profit margins, especially in financial intermediation, real estate, renting and business activities). Finally, the construction sector differs somewhat as it has exhibited higher mark-up growth than industry, while sharing a pattern of high labour costs growth with services.

Graph 67 – Sectoral nominal unit labour costs, EA13
Year-on-year % change, 2000Q1-2007Q3



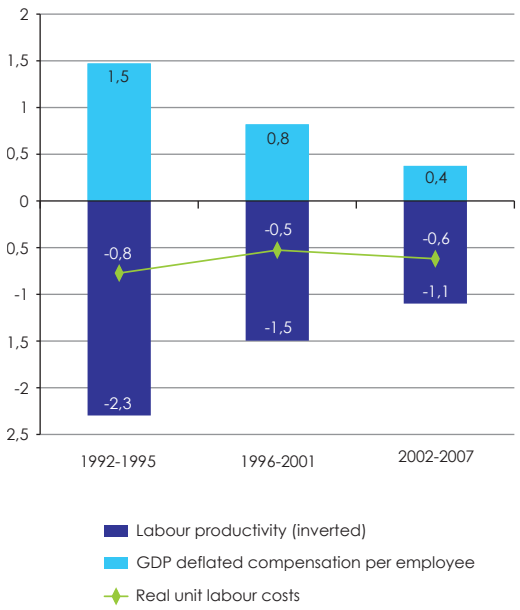
Source: Commission services on the basis of Eurostat data. Nominal unit labour costs are based on headcounts.
Note: NACE G-I corresponds to the following groupings: trade and repairs, hotels and restaurants and transport and communication. NACE J-K covers financial intermediation, and real estate, renting and business activities.

Graph 68 – Income decomposition of the sectoral gross value added deflator, EA13
P.p. contribution to y-on-y GVA deflator % growth, 1999-2007



Source: Commission services on the basis of Eurostat data. Nominal unit labour costs are based on headcounts.
Note: NACE G-I corresponds to the following groupings: trade and repairs, hotels and restaurants and transport and communication. NACE J-K covers financial intermediation, and real estate, renting and business activities.

Graph 69 – GDP-deflated compensation per employee, labour productivity and real unit labour costs, EA13
Annual average % change over selected periods



Data source: Eurostat.
Note: GDP-deflated compensation per employee, labour productivity and real unit labour costs are based on headcounts.

Judging by the negative growth rate registered in real unit labour costs, euro-area labour cost dynamics were quite moderate in recent years…

When assessing inflationary pressures coming from the labour market, it is standard practice to focus on real unit labour costs, i.e., compare GDP-deflated compensation per employee with labour productivity. On this basis, euro-area labour cost dynamics have been quite benign in recent years (Graph 69), as GDP-deflated compensation per employee did not increase sufficiently to compensate for the increase in productivity gains, implying falling real unit labour costs or declining labour shares (for a detailed description of the underlying drivers of declining labour shares, see Box 5).

…though not for all countries consistent with cyclical labour market conditions since the creation of EMU

However, such a positive assessment of labour cost pressures needs to be qualified in two regards. First, it must be acknowledged that this overall positive assessment changes its character when broken down to the individual country level (see Section 3.2.2). Second, the practice of focusing on yearly real unit labour costs to assess inflationary pressures ignores the distinction between actual and long-term productivity and the influence of labour market cyclical conditions on wage growth. A better benchmark against which to assess actual labour cost developments can be obtained by comparing the cyclical unemployment (i.e. the gap between the observed rate of unemployment and its long-term component) with a measure of the cyclical component of real compensation per employee. The latter can be obtained by subtracting from the actual growth rate in real wages its long-term component. Such long-term component of real wages is, in turn, consistent with a stable labour share and long-run labour productivity developments (Box 4 *"A benchmark measure for real wage growth in the long run"* discusses the long-term component of real wages that would be consistent with a technology of the Cobb-Douglas type).

The cyclical real wages and cyclical unemployment are plotted together in Graph 70 for euro-area members (excluding Slovenia) over the period 1981-2007, as well as the forecast period 2008-2009. Over the cycle, one would expect a negative relationship between the growth of the cyclical component of real wages and the change in the unemployment gap. Put differently, when the increase in unemployment is higher than the increase in the NAIRU, the actual growth of real wages should fall below the growth of its long-term component. However, Graph 70 illustrates that this negative relationship is not detected for all euro-area economies over the EMU years. In countries such as Austria, Spain, France, Italy and the Netherlands there seems to be a positive relationship between the cyclical components of unemployment and real wages, usually with a lagged response of real wages to cyclical unemployment. On the basis of these indicators, movements in real wages in the short run have not adequately reflected the cyclical situation in the labour market in many euro-area members.

Taking a look at the expected developments over 2008-2009[35], the distance between the observed unemployment rate and the NAIRU is likely to remain the same in Belgium and Austria (after two years the overall change in the unemployment gap is estimated respectively at 0.08 and 0.07). Significant reductions in the unemployment gap are expected to occur in Germany (-0.91), Portugal (-0.72) and, to a lesser extent, Luxembourg (-0.57). The gap between the observed unemployment rate and its long-term component is assumed to increase substantially in Spain (1.84), followed by Ireland (0.58) and Italy (0.49). The remaining countries occupy intermediate positions (Greece and France with positive variations of respectively 0.25 and 0.21, and the Netherlands and Finland with negative variations of respectively -0.20 and -0.18). In many euro-area countries, the cyclical component of real wages is expected to decrease during the forecast period, reinforcing their contribution to subdued inflation and employment growth. This is particularly the case in Belgium, Luxembourg, the Netherlands, Portugal, and Finland, where the unemployment gap is expected either to stabilise (Belgium) or even narrow (the remaining countries), yet cyclical real wages should further decrease. Cyclical real wages are estimated to accelerate slightly in Germany, in line with tightening labour market conditions. By contrast, the situation in the labour market is projected to deteriorate in Spain and Greece, which casts some doubts on the adjustment capacity of real wages, which are expected to accelerate over the forecast period. Finally, in Ireland and Italy some moderation is foreseen in cyclical real wages in line with easing labour market conditions.

35 See "Spring economic forecasts 2008 – 2009". European Economy, No. 3, 2008.

BOX 4 : A BENCHMARK MEASURE FOR REAL WAGE GROWTH IN THE LONG RUN

Let us define the long-run as a situation where the real unit labour costs (the labour share in national income) remain roughly constant. In the long-run, with product and labour markets operating under perfect competition, the rate of unemployment will be given by the natural rate of unemployment, i.e., there is no involuntary unemployment and the economy will experience no inflationary pressures. The internal macroeconomic equilibrium can be defined in terms of the steady-state solution provided by the neoclassical growth model. Let us define the labour share as:

$$(1)\quad RULC = LS = \frac{L * w}{Y}$$

where *RULC, w, L* and *Y* respectively denote real unit labour costs, real wages (GDP deflated compensation per employee), total employment and GDP at constant market prices. Consider the Cobb-Douglas specification for the production function:

$$(2)\quad Y = AK^{\alpha} L^{1-\alpha}$$

where *A* and *K* respectively stand for TFP and the capital input. As is well-known, the labour share in value added consistent with the production function defined in (2) is equal to , both along the balanced-growth path and the transitional dynamics. With this in mind, (1) becomes:

$$(3)\quad RULC^{*} = LS^{*} = (1-\alpha)$$

where the symbol * denotes the value of the variable under balanced-growth conditions. Expression (3) then implies that:

$$(4)\quad \hat{w}^{*} = \left(\frac{\hat{Y}}{L}\right)^{*}$$

where the symbol ^ denotes the growth rate of the variable. Expression (4) tells us that, in the long run, the growth rate of real wages must be equal to the growth rate of the average productivity of labour. In turn, the average productivity of labour consistent with the production function defined in (2) is:

$$(5)\quad \frac{Y}{L} = A^{1/(1-\alpha)} \left(\frac{K}{Y}\right)^{\alpha/(1-\alpha)}$$

One feature that characterizes the balanced-growth path in the neoclassical growth model is the constancy of the capital-output ratio, which implies that:

$$(6)\quad \hat{w}^{*} = \left(\frac{\hat{Y}}{L}\right)^{*} = \frac{1}{1-\alpha}\hat{A}^{*}$$

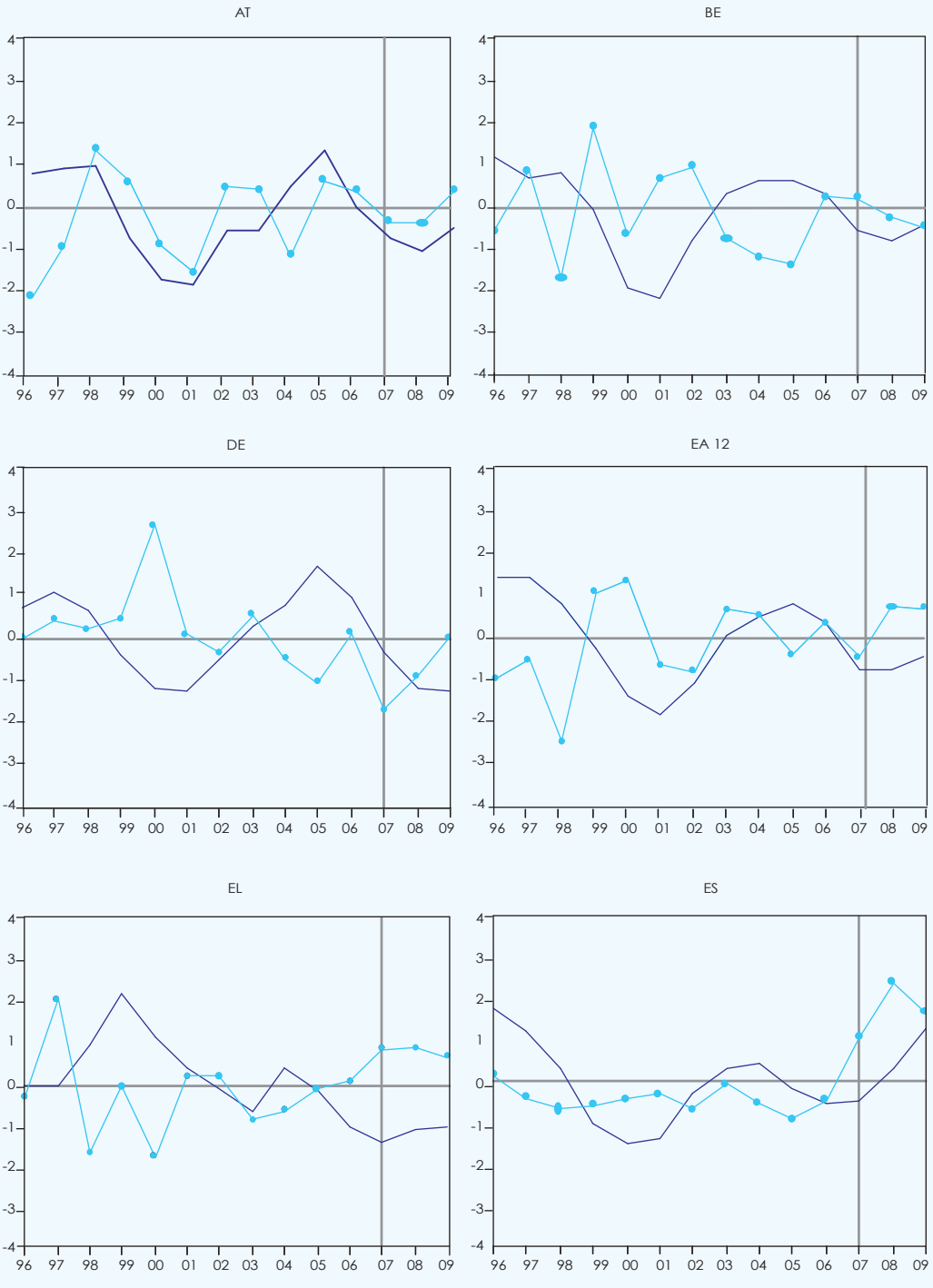
Expression (6) implies that, for wages to contribute to the internal macroeconomic balance in the long run, their growth rate should equate the growth of the long-run component of TFP divided by the labour share. The long-run rate of productivity growth determines how rapidly real wages can rise without undermining employment performance[1].

Expression (6) is a steady-state condition and, as such, it does not allow for increases in real wages arising from increases in the capital-output ratio, which is stable in the long run. In turn, it can be shown that, in the context of the neoclassical growth model, changes in the capital-output ratio reflect changes in the capital-labour ratio, with labour measured in efficiency units. Expression (6) therefore implies that, from a long-term perspective, an increase in the capital-labour ratio measured in efficiency units does not generate margin for higher real wages. This is one fundamental difference between the benchmark given by (6) and the most commonly used yardstick which identifies wage pressures with the excess of real wage growth compared to the growth of observed labour productivity. This criterion

1 For empirical applications, the labour share entering expression (6) can be downloaded from the AMECO databank. The level of potential TFP growth is consistent with potential GDP growth, as estimated by DG ECFIN services within the Working Group on Output Gaps attached to the EPC.

is vulnerable to the critique that changes in real wages affect (given the price of capital) the capital intensity and hence the labour productivity. Intuitively, an increase in the relative price of labour that generates a higher capital-labour ratio will result in higher labour productivity (see expression (5)). Yet, this increase in measured labour productivity should not generate margins for higher real wages if seen from a long-term angle, as real wage growth in excess of TFP productivity will induce capital-labour substitution, thereby creating a vicious circle of "higher relative price of labour – substitution of capital for labour – higher capital-labour ratio– increase in labour productivity – increase in real wages…". This mechanism is considered to have been at work in the period since the 1970s and may have contributed to high wage growth and a subsequent increase in unemployment in some European countries (Blanchard 1997).

Graph 70 - Cyclical unemployment and annual growth in cyclical real wages, EA12 MS
1996-2009



Source: Commission services.
[2]*Note:* Cyclical unemployment is given by the gap between the actual rate of unemployment and its equilibrium value as measured by the NAWRU (both series downloaded from AMECO). Annual growth in cyclical real wages is calculated by subtracting from the actual growth rate in real wages (GDP deflated compensation per employee) its long-term component. Such long-term component of real wages is, in turn, calculated by dividing the long-term component of TFP growth of each year by the labour share. The long-term component of TFP growth is consistent with potential GDP growth, as estimated by DG ECFIN services within the Working Group on Output Gaps attached to the EPC. The labour share can be downloaded from the AMECO database. The two variables are normalised, i.e. they are transformed to have zero mean and unit standard deviation. For Italy the 1998 data are not corrected for the introduction of the IRAP, which replaced some social security contributions with a tax on value added.

2.1.2. Prospects in wage and labour cost developments in the euro area

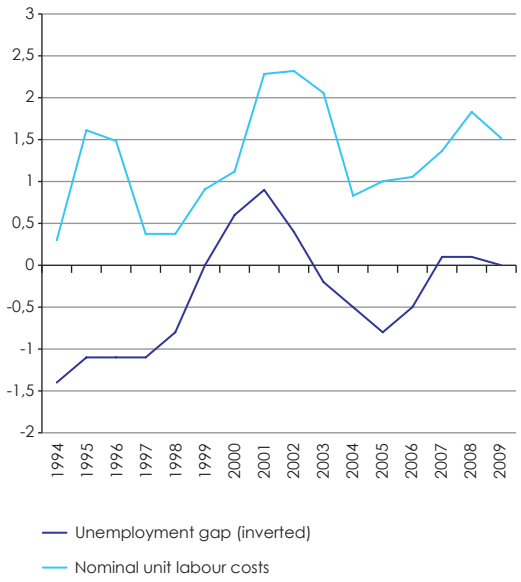
Two different shocks pushing in different directions add to the uncertainty surrounding the outlook for inflation over the medium term.

As regards the medium-term inflation outlook, there is an unusual combination of significant downside and upside risks. The upside risks stem from the rise in commodity prices. The question is whether inflationary pressures will remain just temporary, or whether they will feed into medium-term expectations of inflation, and so become reflected in wages and prices going forward and, thus, in domestically-generated inflation. These upside inflationary risks from oil and other commodity prices need to be weighed in the balance against the risks to inflation from the recent financial turmoil. On the one hand, financial distress may keep inflationary pressured down because of economic slack. On the other hand, policy response to difficulties in the global financial markets may turn out to be inflationary. In any event, sustained appreciation of the euro exchange rate has helped to mitigate external inflationary impulses and aggregate demand is expected to slow. There is, in consequence, a downwards threat to inflation over the medium term as well.

Regarding the situation in the labour market, the Commission's Spring economic forecasts 2008-2009 expects labour market tensions to ease. The unemployment gap (i.e., the gap between the observed unemployment rate and the equilibrium unemployment rate given by the NAWRU) should widen somewhat, pointing to a certain easing in the labour market situation. This would contribute to attenuate the risk from wage pressures associated with positive cyclical labour market conditions (Graph 71).

With the HIPC inflation well above 2%, an important concern at this juncture is whether households expect higher inflation to persist, and the extent to which those expectations are built into wages. It is essential for the effectiveness of the monetary policy that inflation expectations remain well-anchored. Recent survey data indicate that inflation expectations have picked up a little over the past few months, influenced by the rises in fuel and food prices affecting the more frequently-purchased consumer goods. Short-term inflation expectations based on the EU's consumer survey have been increasing in

Graph 71 – Unemployment gap (inverted) and nominal unit labour costs (year-on-year growth rates) in EA13



Data source: AMECO.

the euro area until June 2008, softening in July and decreasing significantly in August.

Looking further ahead, the pick-up in wage growth is expected to continue in 2008.

Most recent wage negotiations points towards somewhat increasing pressure for higher wages in some countries in 2008, against a background of public concern about high consumer price inflation, increasing consumer inflation perceptions and the link between workers' purchasing power and declining labour shares (although this appears to be driven to some extent by sizeable compositional effects (see Box 5)).

The already agreed wage increases in 2008 in several countries are indeed somewhat larger than in previous years. In particular, recent German wage negotiations in the public sector, with an agreed pay increase of 8% stretched over two years (5.1% this year, the rest in 2009), came after a prolonged period of wage stagnation in the public sector, thus should not be used as a benchmark for other rounds of industrial bargaining. However, if similar public wage claims should emerge in other countries that have recorded much less virtuous wage behaviour in the past, this could generate serious upward inflationary pressure in the euro area. Indeed, several other large countries will conduct major

public sector wage negotiations in the course of the year. If high wage growth in the public sector were to materialise, it may have some signalling role on wage claims in the private sector (see Section 3.2.3 for a detailed discussion on wage increases in the public sector vis-à-vis wage increases in the private sector from a medium-run perspective).

Looking further ahead, subdued wage growth so far should not lead to complacency. Price stability will require wage agreements at the national level that take into account underlying trend productivity developments, the cyclical situation of labour markets and the underlying position in relative price competitiveness within the euro area. Strict vigilance on possible second round effects is warranted. One factor likely to mitigate the risk of higher pay settlements is the outlook for demand. The background of greater economic uncertainty may limit pay pressures as wage bargainers become more concerned about employment prospects and businesses may reduce profitability. The combination of those factors could lead to more subdued pay settlements.

BOX 5 : LONG-TERM TRENDS IN THE LABOUR SHARE

An analysis performed at the aggregate level may overlook important disaggregated sectoral patterns that may explain the observed change in the aggregate real unit labour costs (or "adjusted" labour shares). Beyond the impact of wage moderation, part of the observed decline in the aggregate labour shares might be due to changes in the sectoral composition and the employment structure of the economy, with an increasing weight of those sectors with structurally lower labour shares, together with widespread reductions in the proportion of self-employment in total employment, which, for any given value of the ratio of compensation of employees to value added, result in a lower level of wages being imputed to the self-employed. Let the adjusted labour share given by:

$$(1)\quad ALS_t^{\text{sec toral data}} = \frac{\sum_{i=1}^{k} CE_{i,t} * TE_{i,t}}{\sum_{i=1}^{k} va_{i,t} * E_{i,t}} = \sum_{i=1}^{k} \frac{va_{i,t}}{GVA_t} * \frac{CE_{i,t}}{va_{i,t}} * \frac{TE_{i,t}}{E_{i,t}} = \sum_{i=1}^{k} \omega_{i,t} * aws_{i,t}$$

where for any economic sector i, $CE_{i,t}, va_{i,t}, TE_{i,t}, E_{i,t}, aws_{i,t}, \omega_{i,t},$ respectively denote compensation of employees, gross value added at current basic prices, total employment, the employees, the adjusted labour share and the weight of the sector's value added in the value added of the whole economy. According to (1), the adjusted labour share is calculated as a weighted average of the adjusted labour share for each sector i in the economy, with sector shares in total value-added as weights.

One may differentiate expression (1) to get:

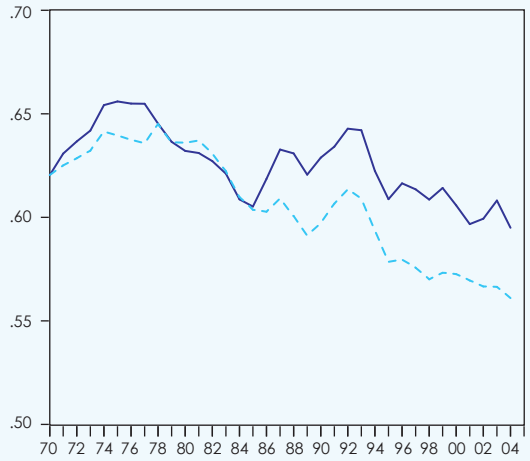
$$(2)\quad \Delta ALS_t^{\text{sec toral data}} = \sum_{i=1}^{k} \left[\underbrace{\frac{CE_{i,t}}{va_{i,t}} * \frac{TE_{i,t}}{E_{i,t}} * \ddot{A}\omega_{i,t}}_{\text{Sectoral composition effect}} + \underbrace{\omega_{i,0} * \frac{TE_{i,0}}{E_{i,0}} * \Delta \frac{CE_{i,t}}{va_{i,t}}}_{\text{Industrial labour share effect}} - \underbrace{\frac{CE_{i,t}}{va_{i,t}} * \frac{1}{q_{i,t}} * \omega_{i,t} * \frac{\Delta q_{i,t}}{q_{i,0}}}_{\text{Employment structure effect}} \right]$$

with $q_{i.t} = \frac{E_{i,t}}{TE_{i,t}}$ Expression (2) shows that the its change can be split into 3 components: i) the "sectoral composition effect", ii) the "employment structure effect", and iii) the "industrial labour share effect", which measure changes in the adjusted labour share of the economy coming respectively from changes in: i) the sectoral composition of the economy, ii) the employment structure of the economy, and iii) the ratio of compensation of employees to value added at the industry level. According to the first effect, a shift from high-labour-share sectors to low-labour-share sectors will translate into an aggregate decline in the labour share, all other things being equal. According to the second effect, widespread reductions in the ratio of total employment to the number of employees across the various economic sectors will translate, all other things being equal, into a lower aggregate labour share, because of a lower level of compensation per employee being imputed to a higher level of self-employed. According to the third effect, generalised reductions in the ratio of compensation of employees to value added across the

various economic sectors will translate into a lower labour share for the economy as a whole, all other things being equal.

The shift-share analysis reveals the importance of structural forces in driving aggregate labour share movements. To illustrate this more clearly, we proceed to disentangle the industrial labour share component from the other two structural sources of labour share movements. This is illustrated in Graph 72, which compares two series over the period 1970-2004, i.e., the observed adjusted labour share and an alternative measure of the adjusted labour share calculated by keeping constant the sectoral and employment composition observed in 1970. The main conclusion is that changes in the sectoral and the employment composition of the economy explain about half (3.5 p.p.) of the overall observed decline (6 percentage points). Put differently, if there had been no change in the sectoral and employment structure of the economy since 1970, the decline would have been 2.5 percentage points instead of the observed 6 percentage points.

Graph 72 – Adjusted labour share (dashed line) versus an alternative adjusted labour share measure, keeping constant sectoral and employment composition at 1970 levels (solid line), EA12



Data source: Commission services on the basis of EU KLEMS data.

Because the sources of observed declining labour shares are partly structural in nature, i.e. arising from changes in the sectoral and employment composition of the economy, wage-setting policies alone will not be sufficient to reverse the current trend in labour shares. To avoid the whole burden of adjustment falling on wages, reforms improving the functioning of product and services market and boosting productivity are essential. Enhanced competition and integration of services markets can contribute to containing profit margins and price pressures. Productivity gains should also play a major role in sustaining wage increases. Technical progress, higher investment and more flexibility in the workplace, are all factors that can contribute to enhancing productivity. In this context, the implementation of the Lisbon Strategy can provide a key contribution. In addition, a reduction of the tax burden on labour could also contribute to reduce labour cost pressures. This is easier to be implemented in countries that have already achieved a sound budgetary position, and could be facilitated by a re-composition and better quality of spending and revenues.

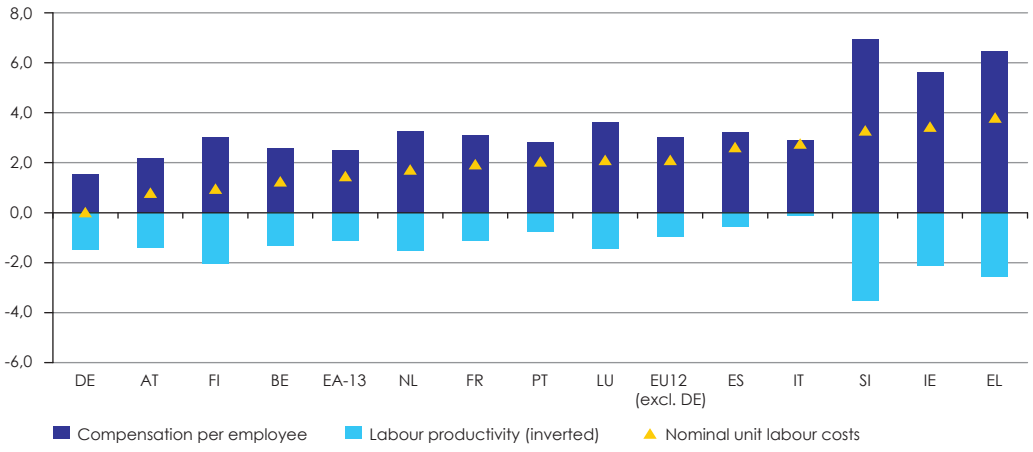
2.1.3. Country-specific trends in labour costs

Overall moderate wage developments in the euro area conceal marked differences across countries regarding the contribution of nominal unit labour costs to the GDP and the final demand deflators.

The historical low levels in nominal (1.5%) (Graph 73) and real (-0.6%) (Graph 75) unit labour costs growth registered in the euro area over the period 2002-2007 are mostly attributable to wage moderation in Germany. Excluding Germany from the euro area average yields a growth rate in nominal and real unit labour costs of, respectively, 2.1% and -0.4%. A number of Member States, namely Greece, Ireland, Slovenia, Italy and Spain (Graph 73) registered sizable increases in nominal unit labour costs.

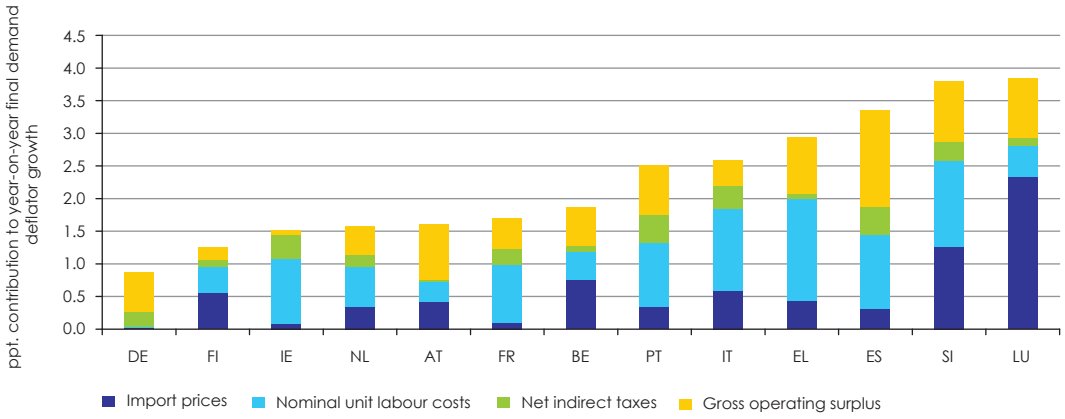
Graph 74 quantifies the contribution of nominal unit labour costs to the increase in the final demand deflator. Inflationary pressures as measured by the final demand deflator have two sources: i) factors arising from abroad, whose influence on prices is channelled through the import deflator, and ii) domestic factors, whose influence on prices is channelled through the GDP deflator and its income (i.e., cost) components: nominal unit labour costs, gross operating surplus and net indirect taxes per unit of output. The contribution of nominal unit labour costs to cost pressures is almost nil in Germany and very modest in Belgium, Luxembourg, Austria and Finland. Looking at the contribution of gross operating surplus per unit of output to the increase in GDP deflator, Spain, Greece, Slovenia, Austria and Luxembourg stand out as the countries in which this is relatively high, which may suggest low competition in various economic sectors. The impact of import prices on the final demand deflator is dramatically high in Luxembourg, and, to a lesser extent, Slovenia, Belgium, and Finland, all economies of a relatively small size in the euro area. Finally, net indirect taxes remain the lowest contributor to the increase in the GDP deflator in most Member States, though its size is relatively large in Ireland, Portugal, Spain and Italy.

Graph 73 – Compensation per employee, labour productivity and nominal unit labour costs, EA13 MS and EA with and without Germany
Year-on-year % change, average 2002-2007



Data source: Eurostat.
Note: For DE, ES, FR, IT, NL and AT, compensation per employee, labour productivity and nominal unit labour costs are based on full-time equivalents.

Graph 74 – Contribution of import prices and GDP deflator components to final demand deflator growth, EA13 MS
P.p. contributions to year-on-year % change in final demand deflator growth, average 2002-2007



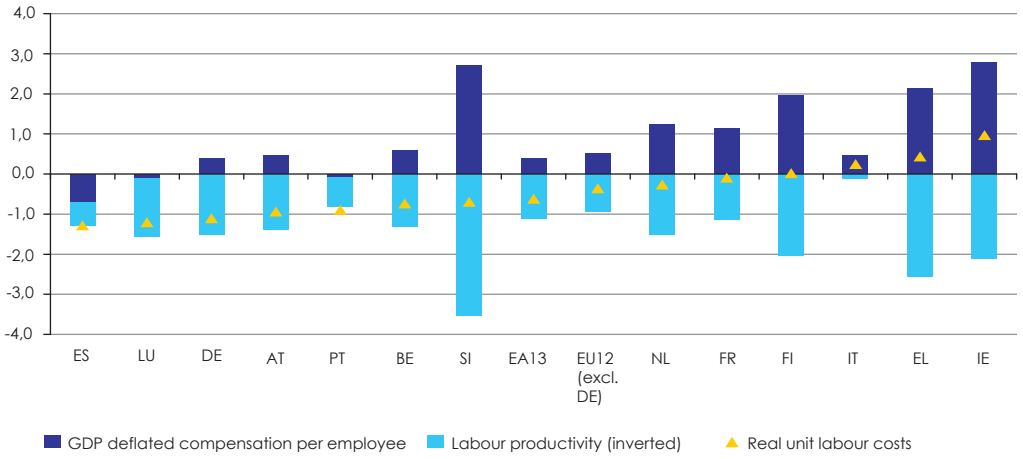
Data source: Eurostat.
Note: For DE, ES, FR, IT, NL and AT, nominal unit labour costs are based on full-time equivalents.

In most countries, increases in real (GDP deflated) compensation per employee were below the increase in labour productivity and thus real unit labour costs (the adjusted36 labour share) have declined over the period 2002-2007.

Graph 75 shows that, over the period 2002-2007, real unit labour costs decreased or remained broadly stable in all euro-area economies except Greece and Ireland, where acceleration in GDP deflated compensation per employee more than absorbed productivity gains. Luxembourg, Germany, Austria, and Belgium registered increases in productivity above the euro-area average, which, coupled with very modest (or even reductions) in real wages, allowed for significant reductions in real unit labour in these countries. Pronounced increases in real wages went in parallel with substantial gains in productivity in Slovenia, Finland, and the Netherlands, thus real unit labour costs fell in these countries. Spain stands out as the only country were real wages sharply dropped over the period 2002-2007, which combined with very unfavourable productivity developments (partly as a result of brisk employment growth related to immigration) resulted in a marked reduction in real unit labour costs. Declining real unit labour costs also prevailed during the period 1996-2001 in the euro area as a whole (Graph 76). From a country perspective though, in contrast with developments during the subsequent five-year period described above, real unit labour costs increased in Portugal and Luxembourg, decreased in Ireland, Greece and Italy and remained stable in Germany and Belgium.

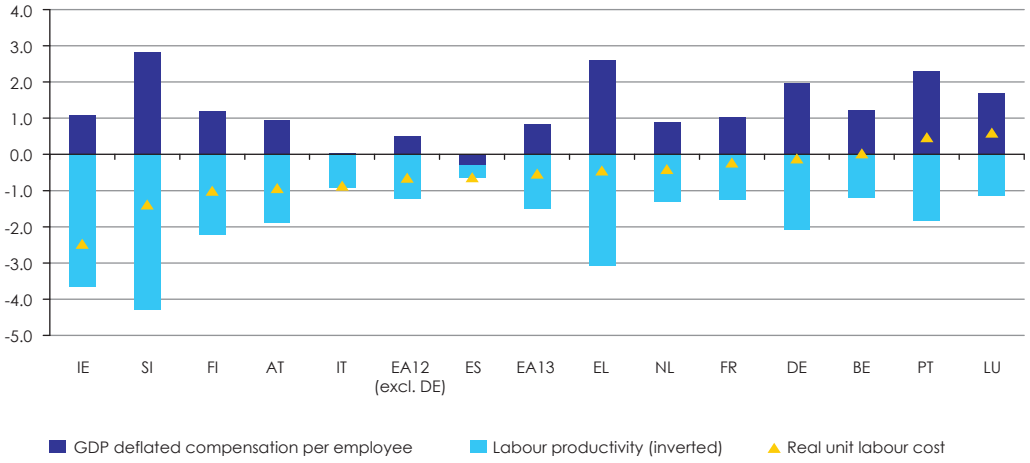
36 The term "adjusted" labour share is used to illustrate that the share of compensation of employees in value added is adjusted upwards by incorporating the imputed wage component of the self-employed income.

Graph 75 – GDP deflated compensation per employee, labour productivity and real unit labour costs, EA13 MS and EA with and without Germany
Year-on-year % change, average 2002-2007



Data source: Eurostat.
Note: For DE, ES, FR, IT, NL and AT, nominal unit labour costs are based on full-time equivalents.

Graph 76 – GDP deflated compensation per employee, labour productivity and real unit labour costs, EA13 MS and EA with and without Germany
Year-on-year % change, average 1996-2001



Source: Commission services.

Increases in real consumption wages across euro-area economies stem from increases in real production wages, while the contribution of the domestic terms of trade to the purchasing power of workers has been limited.

Whereas firms care about the "real production wage", the price of labour relative to the value added deflator, households care about the "real consumption wage", their take-home pay relative to the price of the goods and services that they purchase. In the long run, both measures should grow in line with productivity. But in the short run, for example, during the adjustment to a change in non-wage costs, these growth rates may diverge, which influences households' purchasing power and, ultimately, together with the growth in employment, their consumption pattern.

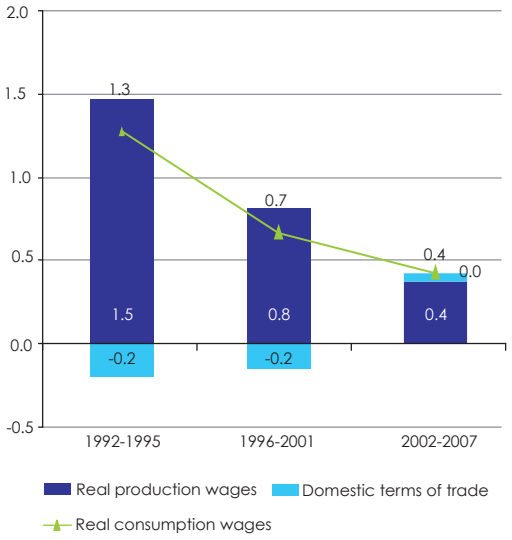
A rough approximation to the gross purchasing power of workers can be obtained by comparing nominal compensation per employee with the price of goods and services they purchase. Following a simple accounting rule, real consumption wages can be decomposed into the product of real production wages and the ratio of the GDP deflator to the deflator of private consumption – i.e., the domestic terms of trade –. This is to say:

$$(1) \quad \frac{W}{P_C} = \frac{W}{P_Y} * \frac{P_Y}{P_C}$$

where W, PC and P_Y respectively denote nominal compensation per employee, the deflator of private consumption and the GDP deflator. By relating real consumption wages to real production wages and the domestic terms of trade, this accounting rule allows to identify the sources of movements in real consumption wages.

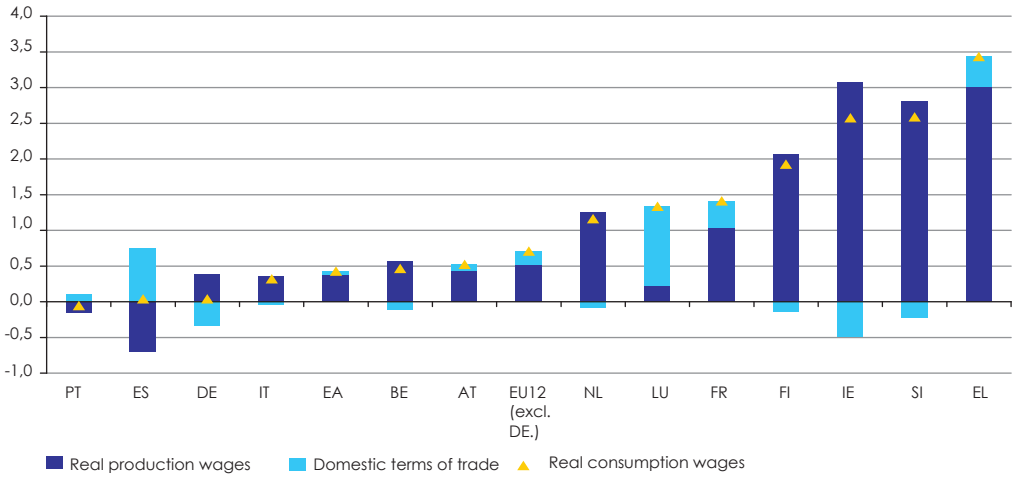
Graph 77 reveals that the deterioration in the purchasing power of workers has been mostly driven by the deterioration in real production wages, accentuated by the drop in the domestic terms of trade. The latter was particularly painful in 2000, as a result of the sharp depreciation of the euro. More recently (2004-2006), adverse movements in the domestic terms of trade led to the stagnation in real consumption wages, due to soaring commodity prices. A detailed analysis by countries (Graph 78) generally confirms the aggregate pattern. Movements in real consumption wages tend to mirror improvements in real production wages (which in turn reflect labour productivity gains over the period 2002-2007), whereas international trade does not change the picture for most euro-area countries, although some unusual developments seem to have taken place in Germany, Spain and Luxembourg.

Graph 77 – Real consumption wages, real production wages and domestic terms of trade, EA13
Annual average % change over selected periods



Data source: Eurostat.
Note: GDP-deflated compensation per employee and consumer-price-deflated compensation per employee are based on headcounts.

Graph 78 – Real consumption wages, real production wages and domestic terms of trade, EA13 MS and EA with and without DE
Year-on-year % change, average 2002-2007



Data source: Eurostat.
Note: For DE, ES, FR, IT, NL and AT, GDP-deflated compensation per employee and consumer-price-deflated compensation per are based on full-time equivalents.

The sources of changes in the domestic terms of trade are specific to each euro-area economy

The sources of changes in the domestic terms of trade can be gauged in Graph 79.[37] The cumulated changes in the domestic terms of trade between the reference year (2000) and any given year *t* are related to the gap between the deflator of expenditure components other than private consumption and the deflator of private consumption. More precisely, the gap between the deflator of GDP at basic prices and the private consumption deflator is positively related to the difference between the public consumption, the investment, and the export deflators with the private consumption deflator, as all these components are part of the GDP but are not consumed by private households. Conversely, the gap between the deflator of GDP at basic prices and the private consumption deflator is negatively related to the difference between the import and the net indirect taxes deflators with the private consumption deflator, as imports and net indirect taxes are clearly part of private consumption but they are not part of domestic production at basic prices.

This decomposition is performed in Graph 79. The accumulated gap over the period 2000-2006 between the GDP (at basic prices) and the private consumption deflators is shown to be highest in Ireland, followed at a considerable distance by the Netherlands, Luxembourg and Spain. Barring Luxembourg, all these countries have in common a sizable positive contribution of the gap between the import and the private consumption deflators. The strong growth in investment is also an important part of the significant gap between GDP and private consumption deflators in Ireland and Spain, with the booming in housing investment playing a prominent role in the latter country. The gap is lowest in Italy and Austria, while the remaining euro-area countries occupy an intermediate position, with varying patterns in terms of composition. Finland stands out as the country where the contribution of the gap between the public consumption and the private consumption deflators is highest. In Greece, the accumulated gap between the net indirect taxes

37 Starting with the breakdown of the GDP into its expenditure components, the gap between the GDP and the private consumption deflators can be broken down as follows:

(2) $P_{Y,t} - P_{C,t} = w_{G,t}(P_{G,t} - P_{C,t}) + w_{I,t}(P_{I,t} - P_{C,t}) + w_{X,t}(P_{X,t} - P_{C,t}) - w_{M,t}(P_{M,t} - P_{C,t}) - w_{T,t}(P_{T,t} - P_{C,t})$

where $P_{Y,t}, P_{C,t}, P_{G,t}, P_{I,t}, P_{X,t}, P_{M,t}, P_{T,t}$ respectively denote the deflators (index numbers) at any given year t of GDP at basic prices, private consumption, public consumption, gross capital formation, exports, imports and net indirect taxes (i.e., taxes on production and imports less subsidies), whereas correspond to the weight of each expenditure component in GDP at basic prices. The weights are calculated with variables expressed in volumes.

and the private consumption deflators is shown to be negative and sizeable, which has contributed to widen the gap between the GDP (at basic prices) and the private consumption deflators, whereas Portugal has undergone the opposite development. It is finally worth noting that the gap between the export price and the private consumption deflator is negative in all countries except Luxembourg and Greece, thereby contributing to easing pressures in the GDP deflator relative to the consumption price deflator. This does not come as a surprise, in view of the disciplinary effect of international competition on the set of domestically-produced goods that are the object of foreign trade.

In most euro-area countries the growth in real take-home pay has been above the growth in real (consumption price deflated) compensation per employee, this implying a favourable contribution of changes in social security contributions and personal income taxes to the purchasing power of workers

When using the decomposition of real consumption wages presented in equation (1), one should be cautious to gauge the terms in the right hand side as the sole sources of changes in the purchasing power of workers. Importantly, the breakdown in equation (1) neglects one important aspect of the difference between real production wages and the purchasing power of workers, i.e., the tax wedge. As it stands, real consumption wages are not an accurate measure of the real take-home pay, as compensation per employee encompasses social security contributions, labour income taxes and net wages and salaries. The tax wedge includes the tax and social security components that create a gap between the cost of labour for employers and the net earnings received by the workers.

Actual data on the net wages and salaries component of compensation per employee are not available and therefore need to be estimated. Graph 80 displays a positive growth differential between consumption price deflated post-tax wages (i.e., compensation per employee excluding social security contributions and labour income taxes received by workers) and consumption price deflated gross wages (i.e., compensation per employee paid by employers) over the period 2000-2006. The latter are calculated as specified in (1), while the former rely on the estimates of the tax wedge on labour for an average-wage worker[38] provided by the OECD (see Box 6). Only in four euro-area Member States, namely Greece, France, Austria and Spain real post-tax consumption wages increased by less than real gross consumption wages over the period 2001-2006. Note that, of the group of countries that registered weak increases (or even decreases) in real gross wages, i.e., Germany, Belgium, Spain, Italy, Austria and Portugal (see Graph 78), in two of them, namely Spain and Austria, the purchasing power of workers is even worsened when changes in social security contributions and labour income taxes are taken into account.

38 The reference is a single person without children.

Box 6 : The evolution of the tax wedge on labour

The high tax burden on labour is frequently regarded as an important reason for the negative labour market outcomes and the high levels of undeclared work that can be observed in many European countries. The tax burden on labour is typically measured by the tax wedge on labour which measures the difference between the gross labour costs an employer has to pay and what the worker receives after taxes and social security contributions. This wedge can be calculated either on an average basis or with respect to the additional euro earned.

The tax wedge is composed of several elements. First, employers have to pay payroll taxes and/or employers' social security contributions. Second, employees have to pay social security contributions on their wage income received [1]. Finally, labour income is subject to the personal income tax. These different taxes and social security contributions constitute the different components of labour taxation, and they can be summed up to give the aggregate tax wedge due to labour taxes.

Such measured tax wedges on labour remain high in most EU countries. This situation contrasts with that of non-EU OECD countries, where the total tax wedge is substantially lower on average. However, European governments have been able to reduce the tax wedge over recent years. This has been the case for average and low income workers alike (see Table 16).

Given the importance of labour taxation for government revenues, reductions and increases in the tax wedge typically take place gradually over time. This is evident from Table 16, which shows little change on a year-over-year basis for individual countries. An exception to this observation can be the changes in the tax wedge as a consequence of major tax reforms. In line with this observation, Table 16 shows that some Member States have been able to subsequently reduce the tax wedge on labour over recent years. This is particularly the case for Ireland and the Nordic countries (Denmark, Sweden and Finland). On the other hand, Slovakia's reduction in the tax wedge, which is the biggest in the EU over the period 2001-2007 can be mostly attributed to the change from 2004 to 2005. A similar picture holds for those countries that have substantially increased their tax wedge over the same period, such as the UK and Austria, where the tax wedge has gradually built up.

The trend to flat tax systems continues in the EU, with Bulgaria and the Czech Republic now moving to such systems in 2008. While flat tax systems can differ substantially with respect to their basic allowances, the definition of income that is subject to the tax, and the rate that is being applied, they typically make the tax system less progressive. This will typically reduce the tax wedge more strongly for high income workers. Nevertheless, if the rate is set relatively low, this may also imply falling tax wedges for low income workers. This will also depend on how the reform is financed and whether other taxes or social security contributions are being increased to compensate revenue losses.

Several specific tax changes have occurred in 2007 and 2008 that affect the tax wedge on labour. The personal income tax was reduced in Lithuania at the beginning of 2008. In Denmark, the average local income tax was reduced in 2007 as a consequence of a reform of local government. Estonia continued with its policy of subsequently lowering its personal income tax rate by one percentage point per year until 2011. Hungary adjusted its personal income tax system that made the system more progressive in 2007. Sweden has introduced waivers of social security contributions for long term unemployed, and reduced contribution rates for younger workers.

Finally, while the tax wedge on labour itself gives useful information on the tax burden on labour, it should be noted that it nevertheless underestimates the full tax burden on labour. Consumption taxes reduce the value of wages for the worker and should therefore also be regarded as part of the tax wedge on labour. Moreover, other taxes can also be implicit forms of labour taxation to the extent the incidence falls on labour, no matter how such taxes are classified. The classic example is that of capital income taxation in a small open economy. If capital is fully mobile across borders, the tax will be fully shifted onto labour.

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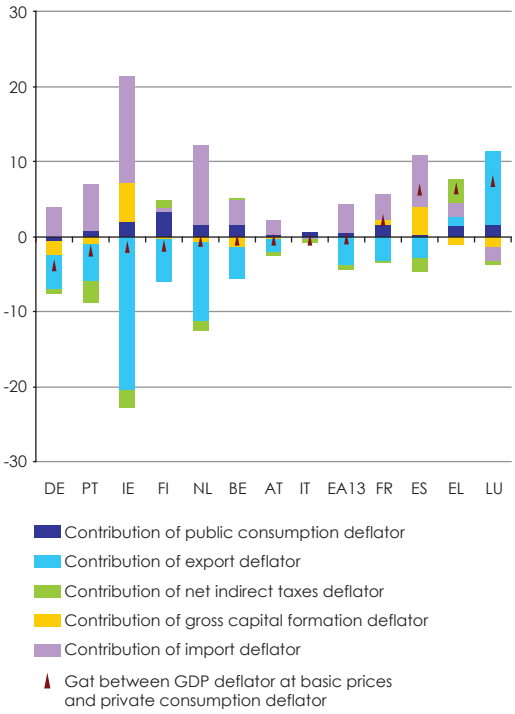
1 One should mention that social security contributions (whether paid by the employer or employee) often give rights to individual benefits. Therefore, only to the extent to which the link between contributions and benefits in such social insurance schemes is not actuarially fair, the contributions actually constitute a tax. An insurance scheme is called actuarially fair, if the insurance premium is equivalent to the expected costs of the insured contingency.

Table 16 – Total tax wedge on labour (including employers' social security contributions)

	Total tax wedge (average rate, including employers' SSC), single person without children, 100% of AE								Total tax wedge (average rate incl. employers' SSC), single person without children, 67% of AE							
	2001	2002	2003	2004	2005	2006	2007	Change 2001-07	2001	2002	2003	2004	2005	2006	2007	Change 2001-07
Austria	46.9	47.1	47.4	48.1	47.9	48.1	48.5	1.6	42.9	43.1	43.5	43.9	43.1	43.5	44.1	1.2
Belgium	56.7	56.3	55.7	55.4	55.4	55.4	55.5	-1.2	50.7	50.5	49.6	48.9	49.2	49.1	49.6	-1.1
Bulgaria	40.4	39.6	39.0	38.9	38.9	35.4	n.a.	n.a.	35.9	35.2	35.0	34.9	35.3	31.1	n.a.	n.a.
Cyprus	20.9	17.3	18.5	18.6	13.6	14.1	n.a.	n.a.	17.0	17.2	18.5	18.6	11.9	11.9	n.a.	n.a.
Czech Republic	42.6	42.9	43.2	43.5	43.8	42.6	42.9	0.2	41.3	41.5	41.7	41.9	42.1	40.1	40.5	-0.8
Denmark	43.6	42.6	42.6	41.3	41.4	41.3	41.3	-2.3	40.5	39.8	39.8	39.3	39.3	39.3	39.3	-1.2
Estonia	39.7	42.2	42.5	41.4	41.6	40.2	n.a.	n.a.	37.4	40.2	40.7	38.9	39.8	38.4	n.a.	n.a.
Finland	46.4	45.9	45.0	44.5	44.6	44.1	43.7	-2.7	41.4	40.9	40.0	39.4	39.5	38.9	38.2	-3.2
France	49.8	49.8	49.8	49.9	50.1	50.2	49.2	-0.7	47.6	47.4	45.0	42.4	41.8	44.5	44.4	-3.2
Germany	53.0	53.5	54.2	53.2	52.4	52.5	52.2	-0.8	47.7	48.1	48.8	47.8	47.3	47.4	47.4	-0.3
Greece	38.1	37.7	37.7	39.5	40.4	41.2	42.3	4.2	35.1	34.3	34.4	34.9	34.8	35.4	36.7	1.6
Hungary	54.0	53.7	50.8	51.8	50.5	51.0	54.4	0.4	48.1	48.2	44.5	44.8	42.9	42.9	45.9	-2.2
Ireland	25.8	24.5	24.2	25.0	23.5	23.1	22.3	-3.5	17.3	16.7	16.2	20.0	16.8	16.3	15.0	-2.3
Italy	46.0	46.0	45.0	45.4	45.4	45.2	45.9	-0.1	42.7	42.7	41.1	41.4	41.7	41.5	42.0	-0.7
Latvia	42.7	42.9	42.2	42.5	42.2	42.9	n.a.	n.a.	41.2	41.4	40.8	41.2	40.9	41.8	n.a.	n.a.
Lithuania	45.2	44.6	43.4	43.7	44.4	46.3	n.a.	n.a.	42.2	41.2	39.5	40.0	41.0	43.9	n.a.	n.a.
Luxembourg	37.0	34.2	34.7	35.1	35.9	36.5	37.5	0.5	31.2	29.0	29.3	29.6	30.2	30.6	31.4	0.2
Malta	23.4	24.1	23.3	23.6	23.9	24.5	n.a.	n.a.	17.0	17.7	17.4	17.6	17.8	18.4	n.a.	n.a.
Netherlands	37.2	37.4	37.1	38.8	38.9	44.4	44.0	6.8	38.9	39.1	40.0	40.8	41.6	40.6	40.2	1.3
Poland	42.9	42.9	43.1	43.3	43.6	43.7	42.8	-0.1	41.8	41.7	41.9	42.2	42.4	42.5	41.6	-0.1
Portugal	36.4	36.6	36.8	36.8	36.3	36.3	37.4	1.0	32.2	32.3	32.4	32.4	31.8	31.7	32.6	0.4
Romania	47.9	47.3	46.2	45.8	44.0	43.7	n.a.	n.a.	45.2	44.6	43.4	42.9	42.4	42.2	n.a.	n.a.
Slovak Republic	42.8	42.5	42.9	42.5	38.3	38.5	38.5	-4.3	41.3	40.8	40.9	39.6	35.3	35.6	35.6	-5.8
Slovenia	42.3	42.5	42.5	42.6	42.4	44.0	n.a.	n.a.	41.0	41.1	41.1	41.1	39.4	39.8	n.a.	n.a.
Spain	38.8	39.1	38.5	38.7	38.9	39.1	38.9	0.0	35.3	35.7	34.7	35.2	35.5	35.9	35.6	0.3
Sweden	49.1	47.8	48.2	48.4	47.9	47.9	45.4	-3.7	47.8	46.8	47.0	47.1	46.5	46.0	43.3	-4.5
United Kingdom	31.8	31.9	33.3	33.4	33.5	33.9	34.1	2.3	28.0	28.1	29.6	29.7	29.9	30.4	30.8	2.8
EU-27	44.9	45.0	45.4	45.2	44.9	45.1	n.a.	n.a.	41.3	41.4	41.3	40.7	40.4	40.7	n.a.	n.a.

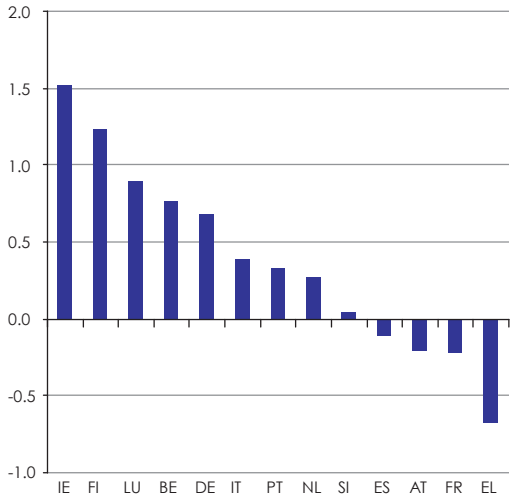
Source: OECD and Eurostat, Change 2000-07 in percentage points, AE: Average earnings.

Graph 79 – Accumulated gap between GDP and consumption price deflators in 2006, EA13 MS
Deflators are index numbers, 2000 = 100



Data source: Commission services on the basis of AMECO data.

Graph 80 – Growth gap between real post-tax and gross consumption wages, EA13 MS
Year-on-year % change, average 2001-2006



Data source: Compensation per employee and private consumption deflator: Eurostat. Tax wedges on labour: OECD Taxing Wages report.

2.1.4. Labour cost developments in the government sector

With the government sector wage bill around 20% of total compensation of employees over the period 1999-2006, public wages may directly influence aggregate wage growth. Through *spillover and imitation* effects, wage settlements in the public sector provide a signal to private-sector wage setters when agreements on increases in government wages take place before similar settlements have taken place in the private sector.

Public wages can be not only an important costs factor but, through their effect on public consumption, a source of policy-induced demand shocks. As such, developments in public wages could, directly and indirectly, be an important source of inflation and competitiveness dynamics. Excessive growth in public wages may worsen overall competitiveness when the interaction between public and private make the latter to respond asymmetrically to positive and negative shocks and reinforce the pressure on private wages during upturns. Thus, monitoring the relative developments of private and public wages could help to detect inadequate adjustment of wages in face of accumulated competitiveness losses. Given that the public sector is not exposed to market pressure, it is important to signal when public wages have a trend which may turned out to be unsustainable for the economy and the private sector. Furthermore, inappropriate wage developments in the public sector may distort labour supply decisions, namely reduce the incentives to take up a job in the private sector. Similarly, wage compression in the public sector relative to the private sector may create substantial public wage premia in certain geographical areas which can make a 'job for life" in the public sector the preferred option, creating long waiting lists, high unemployment and low participation (Alesina et al. 2001).

The government sector is one sub-sector of the non-market services, and its scope very much depends on the institutional features of the country under consideration. In particular, the delimitation of the government depends on differences in the organisation of the provision of education and healthcare services.[39] As a consequence, differences in the provision of services may result in different assessments of government wage and employment developments.[40]

Recent trends show that the growth in public wages has outpaced that of private wages in most EMU members

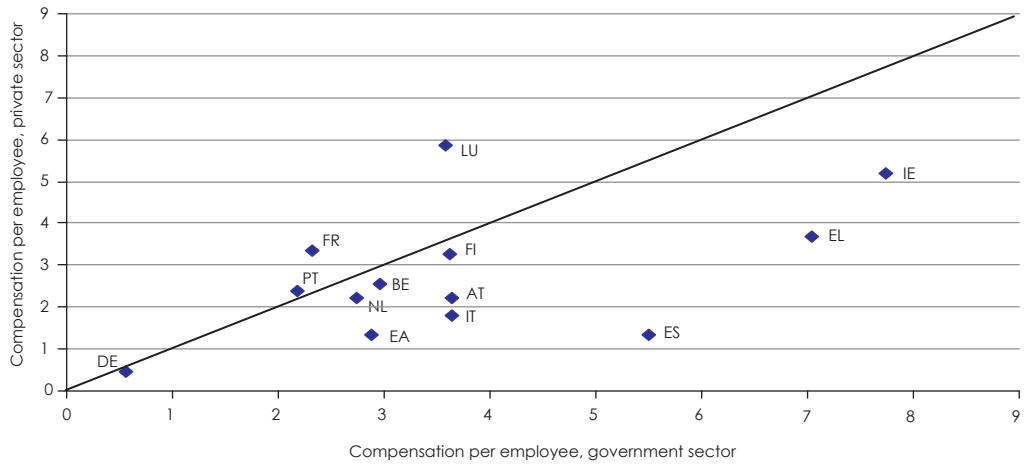
There are only four countries, namely Germany, France, Portugal and Luxembourg, where compensation per employee in the public sector has grown in line or below compensation per employee in the private sector over the period 2004-2007 (Graph 81). Taking a longer perspective, Graph 82 displays a positive growth differential between government and private sectors' compensation per employee in practically all euro-area members over the past decade. The average annual growth gap between public and private wages has been the highest in Portugal, Ireland, and Italy, followed at a considerable distance by Greece, Spain, Germany, Belgium, France and Austria. Only in the Netherlands, government compensation per employee has grown in line with private compensation per employee over the past decade, whereas Finland and Luxembourg have registered a negative growth differential of government wages vis-à-vis private wages.

Thus, public wages is experiencing a trend in recent years higher than that of private's, which, in turn, could be contributing to the loss of competitiveness in these countries, provided *imitation* effects are at work. This is not to say that there should be no differentiation between wages in the private and public sectors, but that wages do not seem to be aligned with sectoral productivity in several countries. Indeed, leaving aside all the manifold problems that affect the measurement of productivity in the public sector, it is difficult to believe that underlying productivity developments in the two sectors justify such divergent growth patterns. Thus, a prudent wage policy in the public sector could weigh heavily on the wage determination process and provide an appropriate signal to wage settlements in the private sector.

39 For instance, in countries where hospitals (or schools) are owned and managed directly by the government, the related human resources costs and the number of workers appear in the government accounts as, respectively, government nominal compensation of employees and government employment. By contrast, in countries where healthcare services (or education) are mainly managed by the private sector or a public corporation classified as being outside the government, the costs borne by the government are classified in public expenditure items different from government compensation of employees. Similarly, the number of workers involved is not considered as part of the government employment.

40 To add to such difficulties, the availability of data is anything but straightforward. A good compromise between tractability and strict comparability across euro-area countries can be reached by relying on national accounts (ESA95) figures for government compensation of employees while taking government employment data from the OECD Economic Outlook database. Although the latter are not ESA95 aggregates, the OECD data are based on a uniform approach across countries which hinges on the identification of public sector employment at different levels of government. On the basis of this data, private sector compensation of employees is calculated as total economy compensation of employees minus government sector compensation of employees. Then, private sector compensation per employee is calculated as private sector compensation of employees divided by the number of private employees, which is in turn derived as total economy employees minus government employees minus the self-employment.

Graph 81 – Nominal compensation per employee in the private and government sectors in EA12 MS
Average annual % change, 2004-2007



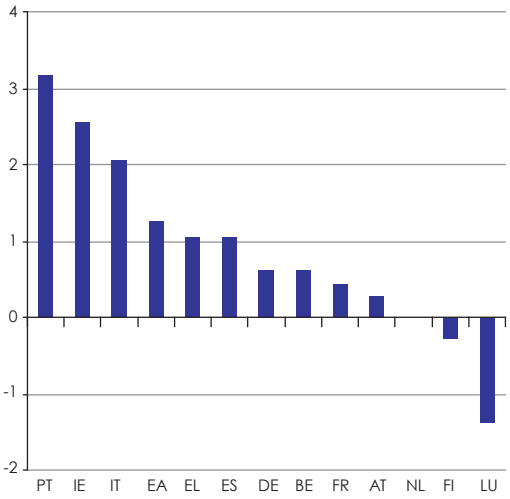
Data source: OECD Economic Outlook database.
Note: For DE, EL, AT and EA12 averages over 2004-2006.

It is not straightforward to identify the main drivers of the positive growth differential between public and private compensation per employee

A question arises as to the main drivers of this growth differential. Two candidates for accounting for such general phenomenon are diverging patterns in the skill composition and long-term dynamics governed by convergence phenomena across euro-area countries.[41]

Graph 83 and Graph 84 show for selected euro-area members the p.p. contribution by skills to the annual growth in compensation per employee over the period 1996-2004 in industry, construction and market services versus non-market services[42]. In general, the data suggest that the p.p. contribution of the high skilled is relatively higher in the public sector, which could contribute to explain a relatively faster increase in wages in this sector.

Graph 82 – Growth gap between government and private sectors' nominal compensation per employee in EA12 MS
Average annual % change, 1996-2006



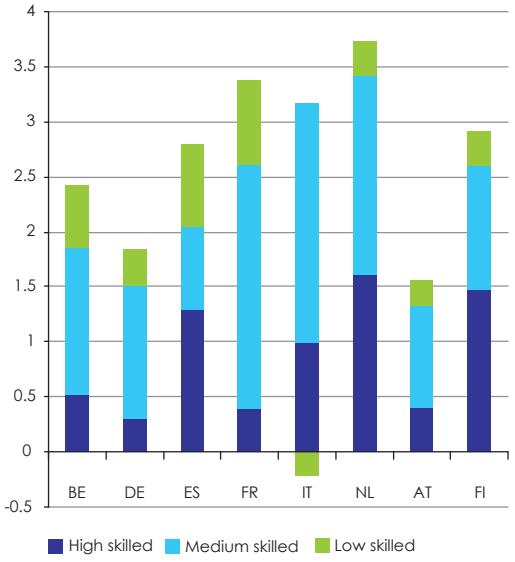
Data source: OECD *Economic Outlook database.*

Graph 85 to Graph 88 investigate whether there is a negative relationship between the relative growth of compensation per employee in the two sectors across euro-area countries and the ratio of government to private compensation per employee in a given initial year (either 1986 or 1996). A negative correlation would imply convergence across countries in the public-private wage gap. As shown by Graph 85, there is no evidence of this convergence over the past decade, and even divergence, when Austria and

41 A third posssibility concerns the differernt part-time jobs created in the public relative to the private sector. Thus, if more part-time jobs are created in the private than in the public, the gap between the growth compensation per employee on head count basis in the public and the private sector would be biased upward.
42 Data come from the EU KLEMS database where employment by skills is computed in terms of hours worked. Due to the lack of data on government compensation per employee, we present data on NACE L-P as the best proxy one may think of the government sector. Though imperfect, this approximation has the virtue of being fully comparable across the euro-area countries for which the data are available.

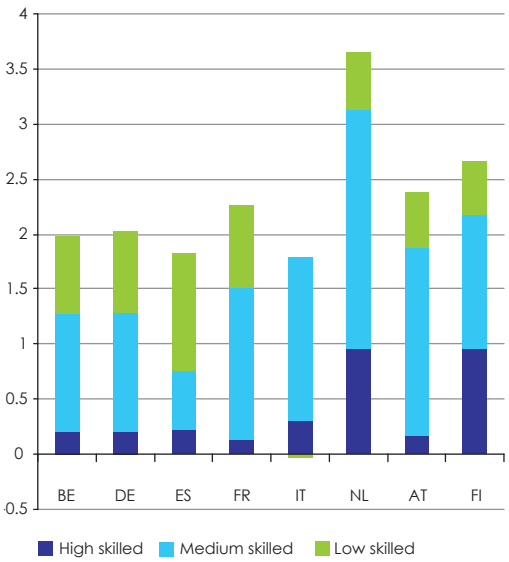
the Netherlands are excluded from the sample. Extending the period backwards to include the decade 1986-1996 does not change the results (Graph 87) unless Belgium, France and Finland are removed, in which case a convergence in the public-private wage gap is detected. This preliminary evidence suggests that a convergence in the public-private wage gap may explain the widening gap between public and private wage growth in countries where the wage gap is relatively lower than the average. Even so this convergence is detected only when the countries with the lower ratio of government to private compensation per employee in 1986 are removed from the sample. Thus, the divergence observed over a shorter period hints at an excessive growth of public relative to private wages.

Graph 83 – Contribution by skills to annual growth in compensation per employee, NACE L-P, selected EA MS
P.p. contributions to year-on-year % growth in nominal compensation per employee, 1996-2004



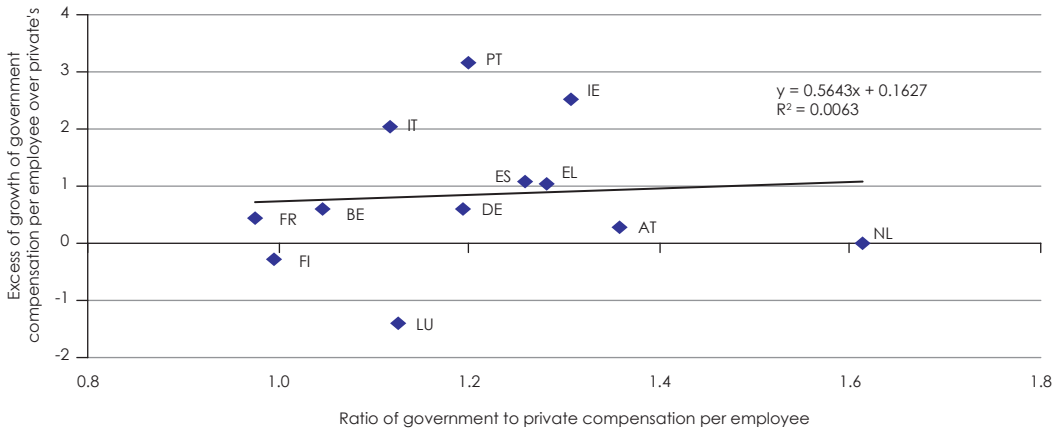
Data source: Commission services on the basis of EU KLEMS data.
Note: NACE L-P includes non-market services, i.e., public administration and defence, education, health and other community social and personal services.

Graph 84 – Contribution by skills to annual growth in compensation per employee, NACE C-K, selected EA MS
P.p. contributions to year-on-year % growth in nominal compensation per employee, 1996-2004



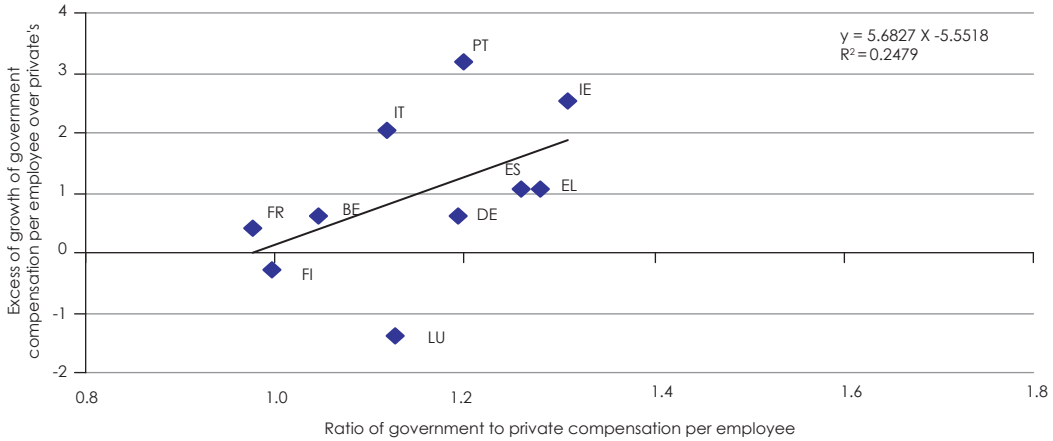
Data source: Commission services on the basis of EU KLEMS data.
Note: NACE C-K includes industry, construction and market services. Market services include trade and repairs, hotels and restaurants and transport and communication, financial intermediation, and real estate, renting and business activities.

Graph 85 – Ratio of government to private's compensation per employee and relative growth in wages in the two sectors
EA12 MS, 1996-2006



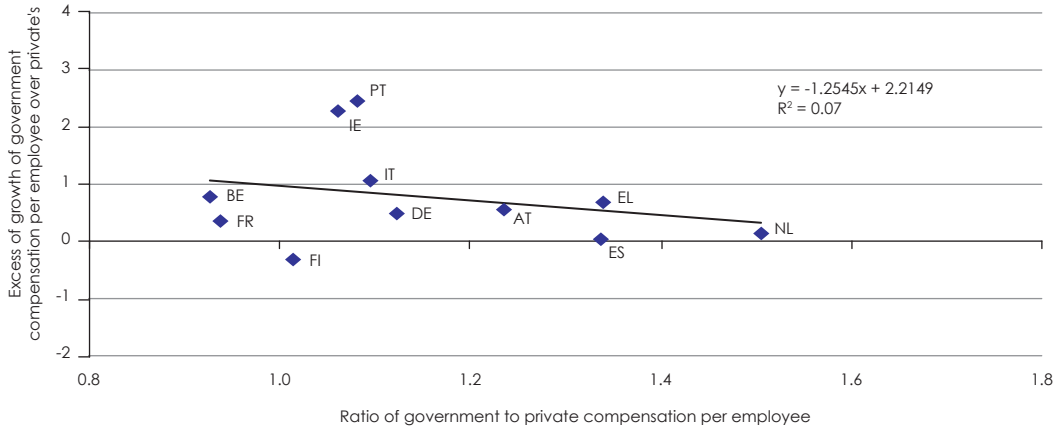
Data source: Commission services on the basis of OECD Economic Outlook database.

Graph 86 – Ratio of government to private's compensation per employee and relative growth in wages in the two sectors
EA12 MS (excl. AT , NL), 1996-2006



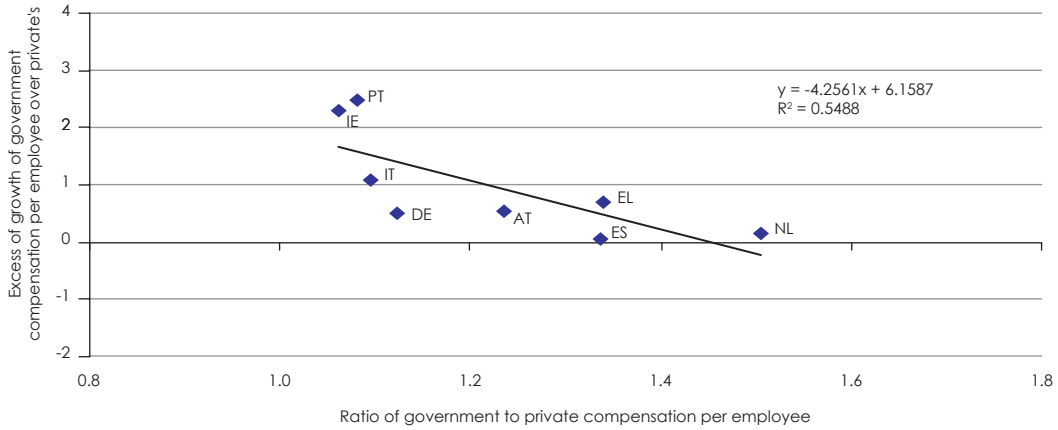
Data source: Commission services on the basis of OECD Economic Outlook database

Graph 87 – Ratio of government to private's compensation per employee and relative growth in wages in the two sectors
EA12 MS (excl. LU), 1986-2006



Data source: Commission services on the basis of OECD Economic Outlook database.

Graph 88 – Ratio of government to private's compensation per employee and relative growth in wages in the two sectors
EA12 MS (excl. LU, BE, FR, FI), 1986-2006



Data source: Commission services on the basis of OECD Economic Outlook database.

In view of the relatively high volatility of public wages and their lagged response to GDP growth, prudence in government wages settlements should be warranted at the current juncture

The analysis of the cyclical pattern of public wages[43] over the period 1980-2006 (Graph 89 and Table 17) suggests that, in most euro-area countries, public wages react with some lag to cyclical swings. Table 18 illustrates that, compared to GDP, government wages tend to be more volatile than private wages in most euro-area countries.[44] This is consistent with the recent literature which shows that government consumption in many countries is pro-cyclical, owing to the dynamic behaviour of public wages (Lane, 2003),[45] which, to some extent, reflects policy-induced fluctuations rather than systematic correlation with the economic cycle brought about by market forces.

Due to the lagged response of government wages to economic activity and assuming that the cycle reached its peak in (the first half of) 2007, an acceleration in government wages will become visible in 2008-2009. This calls for prudence on the part of governments in the current cyclical conditions, as excessive growth of government wages could worsen underlying budgetary conditions, while exacerbating inflation pressures both directly and indirectly through their signalling role to private wage sector negotiations.

For the euro-area countries, Graph 81 suggests that there is a strong positive correlation between nominal compensation in the government and in the private sector in recent years[46]. Since correlation does not imply causality, Table 19 checks for the direction of causality between public and private wages on the basis of the so-called *Granger causality test*[47]. Table 19 suggests that there is causality from private wages to government wages in Austria, France, Greece, and Italy. By contrast, in Spain and Portugal the hypothesis that public wages do not Granger-cause private wages is rejected. In Finland and Ireland there is statistical causality in both directions, while no statistically-significant causal relationship between government and private wages is found in the remaining countries.

Interactions between private and public wages

Because of the interactions between private and public wages and their effects on the growth and inflation cycles, directly through the budget balance and indirectly through their effects on private wages, the cyclical response of private and public wages should be analysed taking into account the feedbacks between private and public wages.

The analysis in box 7 shows that the interactions between private and public wages may be an important source of inflation persistence and cycles in economic activity. Shocks to the public sector wages appear more inflationary than shocks to the private sectors' and, consistently with the public finance literature, they have an expansionary bias in economic activity.[48] In the short-term, fluctuations in public wages are mainly exogenous (i.e., policy-induced). This is suggested by the forecast error variance decomposition of public wages (not reported for brevity), which suggests that the volatility of public wages is mainly determined in the short-

43 The data used in the analysis come from OECD Economic Outlook database compiled by the ECB.
44 The volatility of nominal compensation per government and private employee is measured as the standard deviation of the cyclical component of nominal compensation per government and private employee relative to real GDP's. This gives an indication of the amplitude of each series relative to real GDP's.
45 Few empirical studies address the topic of cyclical heterogeneity of government wages across countries. Lane (2003) shows that cyclical heterogeneity of government wages across countries is related to country characteristics such as GDP per capita, GDP volatility, trade openness, size of the public sector and the degree of power dispersion within the political system. More specifically, the volatility of government wages is positively related to the volatility of GDP, dispersion of power in the political system, the size of the public sector and the degree of openness and negatively related to GDP per capita.

46 Lamo et al. (2008) report a strong positive annual contemporaneous correlation of public and private sector wages over the business cycle; this finding is robust across methods and measures of wages and quite general across countries.
47 The Granger causality measures the significance of past values of variable X (say public wages) in explaining variable Y (say private wages), taking into account the effect of past values of variable Y itself. Since the Granger-causality test is sensitive to the number of lags included in the regression, both the Likelihood Ratio (LR) criterion and Schwarz Information criterion (SC) have been used in order to find an appropriate number of lags.
48 Blanchard-Perotti (1999), "An Empirical characterisation of the dynamic effects of changes in government spending and taxes on output" NBER WP7269.

term by changes in public wages (i.e. a public wage shock) and not by any other shock to the endogenous variable. However, in the medium term, relevant interactions with private wages and demand shocks emerge. Indeed, fluctuations in public wages are determined not only by public wage shocks, but also by shocks to demand and to private wages, with each accounting for about 1/3 of the total variability of public wages.

Although statistical methods do not generally confirm the hypothesis of direct causality from public to private wages[49], the (limited) empirical evidence provided by the academic literature in this regard suggests a number of ways in which incomes policy in the public sector could affect economy-wide wage settlements[50]. Wage agreements in the government could provide a signal (demonstration effect) to private-sector wages, on account of their timing, when agreements on increases in government wages take place before similar settlements take place for the private sector. Second, in countries where the government employs a large and growing number of staff, growth of public wages largely above the private wages may increase wage pressures, especially when the labour market is tight[51]. The arguments above suggest that, in evaluating the impact of government action on the labour market, the effect of wages and employment must be considered together. In the current cyclical upturn, a prudent wage policy in the broad public sector could weigh heavily on the wage determination process and provide an appropriate signal to wage settlements in the private sector, particularly in those euro-area countries where public-sector employment has been rising under tight labour market conditions.

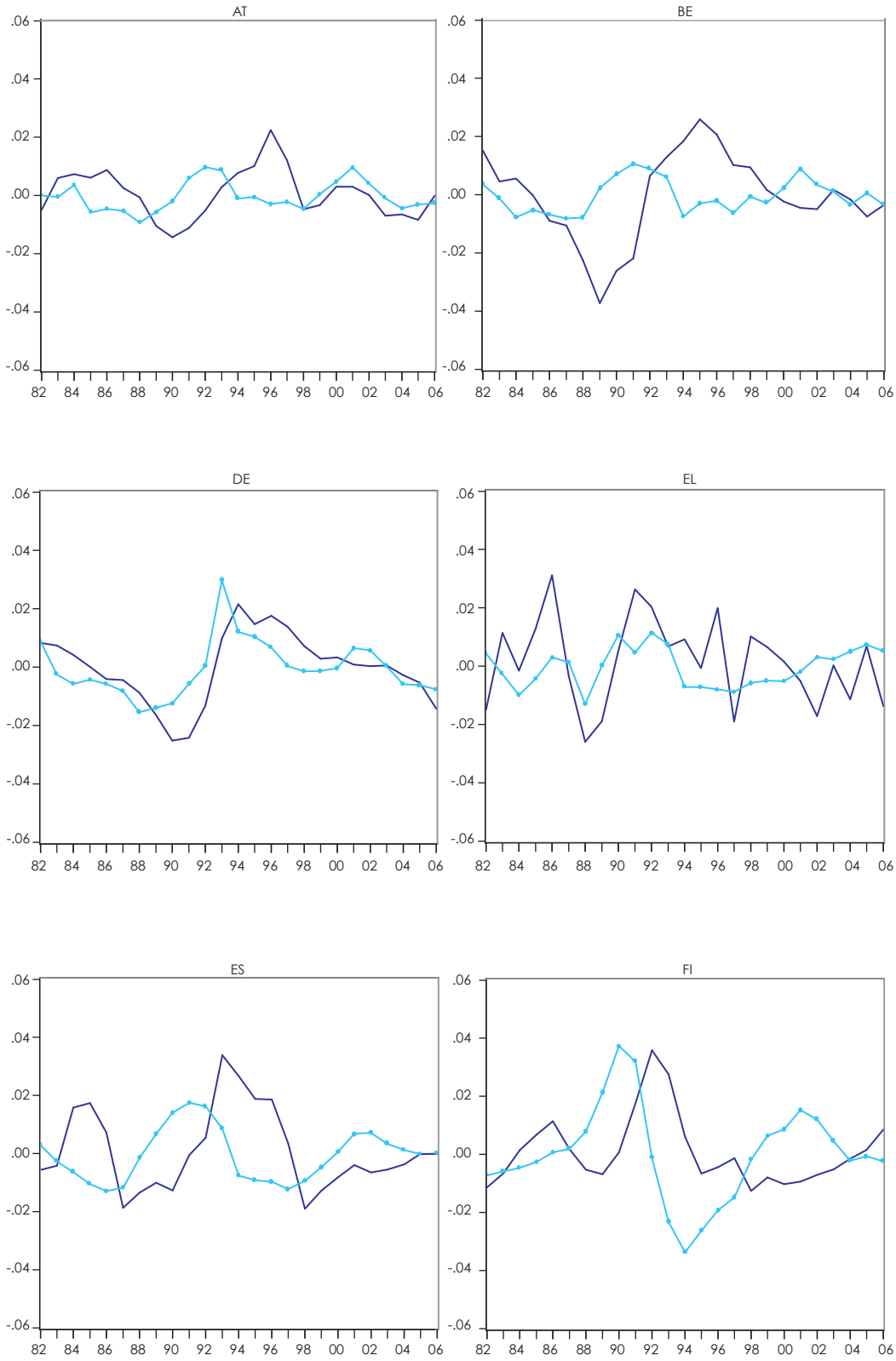
49 Lamo et al. (2008) show that while influences from the private sector appear on the whole to be stronger, there are direct and indirect feedbacks from public wage setting in a number of countries as well.

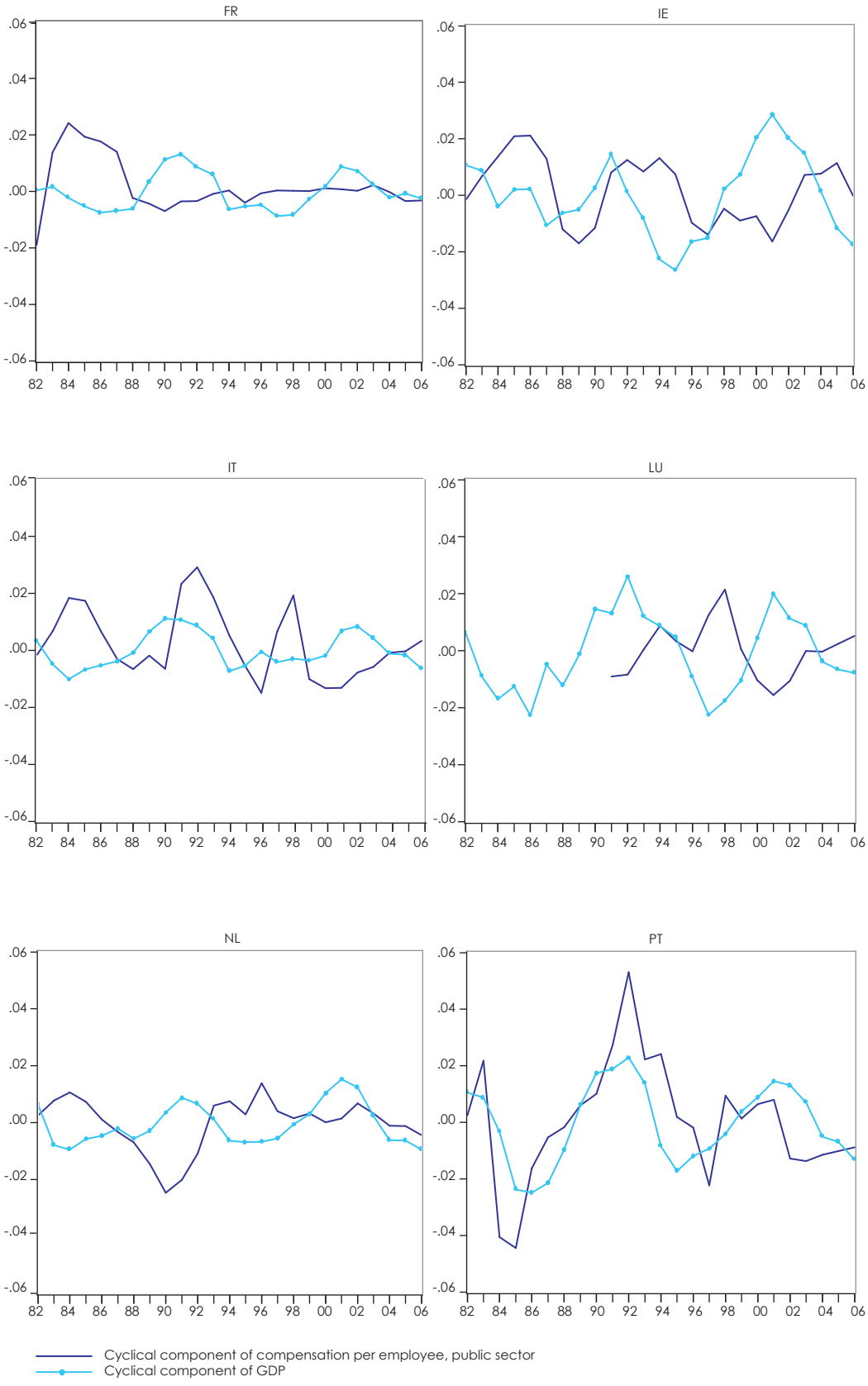
50 See, for instance, Christou et al. (2007), Demekas and Kontolemis (1999), Friberg, K. (2007), and Mizala and Romaguera (1995).

51 Demekas and Kontolemis (1999) develop a two-sector labour market model and, by applying it to Greece—a country with a relatively large public sector—, they show that increases in government wages lead to increases in private-sector wages and, therefore, directly to higher unemployment. Specifically, it appears that the expansion of the public sector in Greece during the late 1970s and 1980s, not only failed to improve overall labour market performance, but has probably contributed directly to its sharp deterioration during that period. Increases in government wages have had a strong positive impact on private sector wages and led to higher unemployment. At the same time, because of its positive impact on private sector wages, the expansion of government employment has been much less effective in relieving the burden on unemployment than policy-makers thought at the time.

Graph 89 – Cyclical components of real GDP and nominal compensation per employee in the government sector, EA12 MS

Cyclical components of real GDP and nominal compensation in the government sector a.t. HP filter, 1980-2006





Source: Commission services.

Table 17 – Synchronization of public compensation per employee with GDP across the cycle
Cross-correlation of (contemporaneous) GDP with nominal compensation per government employee (at different leads and lags), EA12 MS. Cyclical components of real GDP and nominal compensation per government employee a.t HP filter, annual data 1980-2006

	t-3	t-2	t-1	0	t+1	t+2	t+3
AT	-0.41	-0.58	-0.34	-0.15	0.15	0.34	0.52
BE	-0.46	-0.58	-0.43	-0.08	0.22	0.47	0.64
DE	-0.36	-0.15	0.20	0.66	0.81	0.69	0.52
EA	-0.48	-0.52	-0.48	-0.25	0.23	0.53	0.64
EL	-0.17	-0.25	-0.08	0.00	0.09	-0.03	0.02
ES	-0.56	-0.65	-0.55	-0.23	0.24	0.55	0.80
FI	-0.43	-0.55	-0.44	-0.09	0.36	0.58	0.54
FR	0.00	-0.28	-0.36	-0.35	-0.16	0.01	0.09
IE	-0.38	-0.56	-0.49	-0.23	0.13	0.31	0.30
IT	0.02	-0.20	-0.26	-0.24	0.17	0.33	0.22
LU	-0.01	-0.28	-0.63	-0.74	-0.40	0.20	0.51
NL	-0.07	-0.30	-0.36	-0.17	0.01	0.25	0.37
PT	-0.12	0.18	0.52	0.59	0.39	0.19	-0.12

Data source: Commission services.

Table 18 – Volatility of public and private wages in EA12 MS, 1980-2006
Stand. deviation of cyclical components of compensation per public and private

	Public wages	Private wages
EA	0.09	0.10
BE	0.22	0.14
DE	0.13	0.11
IE	0.07	0.08
EL	0.22	0.19
ES	0.14	0.13
FR	0.18	0.18
IT	0.27	0.21
LU	0.06	0.07
NL	0.10	0.08
AT	0.11	0.07
PT	0.20	0.14
FI	0.16	0.14

Data source: Commission services. *Note*: by definition, volatility of the euro-area aggregate takes account of cross correlations among euro-area countries, as, generally, if c stands for the aggregate made of individual components a and b, then

$$\sigma_c = \sqrt{\alpha^2\sigma_a^2 + (1-\alpha)^2\sigma_b^2 + 2\alpha(1-\alpha)\sigma_a\sigma_b\rho_{ab}}$$

Table 19 – Spillovers between government and private wages, EA12MS
Annual data 1980-2006

		Null hypothesis		Null hypothesis	
Pairwise Granger Causality Tests		WPU does not Granger Cause WPR		WPR does not Granger Cause WPU	
Country	Optimal number of lags (Schwarz criterion)	F-Statistic	Probability	F-Statistic	Probability
AT	1	0,29	0,59	28,01	0,00
BE	2	0,89	0,42	2,22	0,13
DE	2	0,53	0,59	1,45	0,25
EA12	1	0,42	0,51	1,54	0,22
EL	1	0,37	0,54	9,40	0,00
ES	6	13,60	0,00	1,47	0,31
FI	2	2,93	0,07	8,93	0,00
FR	6	2,36	0,14	3,78	0,05
IE	0	3,48	0,05	2,61	0,09
IT	1	0,43	0,51	7,13	0,01
LU	2	0,42	0,66	1,83	0,22
NL	1	0,05	0,82	0,01	0,90
PT	5	30,50	0,00	1,22	0,36

Data source: Commission services. Second column shows the optimal number of lags according to the Schwarz criterion. The optimal number of lags following the Likelihood Ratio criterion only differs from the Schwarz criterion in the case of Germany, Finland, Greece and Spain. However, the results of Granger causality test run with the alternative lag structure remains the same. Columns third and fifth show in bold those cases in which we reject the null hypothesis (i.e., non-causality). Columns fourth and sixth show the probability value corresponding to the reject threshold.

Box 7 : Public-private wage interactions in a structural VAR (SVAR) framework

Private and public wages are not exogenous as they may be influenced by the cyclical economic conditions, by long-term productivity trends and by demand of specific skills. There are also interactions between private and public wages. For these reasons, it is not possible to examine the behaviour of one type of wage independently from the other. Vector Autoregression is a standard economists' tool used to capture the capture the evolution and the interdependencies between multiple time series. All the variables in a VAR are treated symmetrically by including for each variable an equation explaining its evolution based on its own lags and the lags of all the other variables in the model. Thus all variable are endogenous. The VAR is a-theoretical as it mainly describes the correlation between the variables. Economic relationship are imposed with a Structural VAR

In the analysis of the relationships between private and public wages and their relative cyclical behaviour, one has to take into account that public wages are a source of exogenous shocks across the economic cycle. Moreover, shocks to public wages may feed inflation directly through their effect on public consumption or indirectly, with lags, through imitation effects from the private sectors. Most likely, an inflationary public consumption shock would lead to a response of the monetary authorities to curb inflation expectations. Thus, a proper identification of the cyclical behaviour of public and private wages should incorporate possible monetary authorities' reactions functions. To this end, a five variable SVAR is estimated for the euro-area on annual data for the period 1979-2006 [1]

Graph 90 reports the impulse-response function for each variable and structural shock. An increase in private wage inflation is associated to an interest rate hike which gradually leads to an adjustment process via reduction of GDP below potential. Through imitation effects, the increase in private wage inflation pushes up public wages inflation. It takes about 3 years for the initial shock to the private wages to be reabsorbed. Conversely, the increase in public wages leads to a temporary cyclical expansion, accompanied by an increase in private wages and, compared to the increase in public wages, is relatively more persistent. This longer interest rate cycle is due to the more persistent effect on inflation of the public wage shock. The impulse-response functions do not give any information of the empirical relevance of the structural shocks, which is provided by the forecast error variance decomposition (FEVD) of each single variable. The analyses of the FEVDs suggest that:

1) Temporary demand and inflation shocks are the main determinants of the short-run variability of CPI inflation. However, after 3 years shocks to public wages explain up to 20% of the volatility of consumer price inflation.

2) In the short term, the volatility of public wages is mainly due to shocks to public wages and, to a minor extent to shocks to private sector wages. This implies that public wages are mainly an exogenous variable. However, in the medium term wages fluctuations in the public sector wages are determined by fluctuations in private wages. In the medium term, private wages explain up to 30% of the fluctuations in public wages.

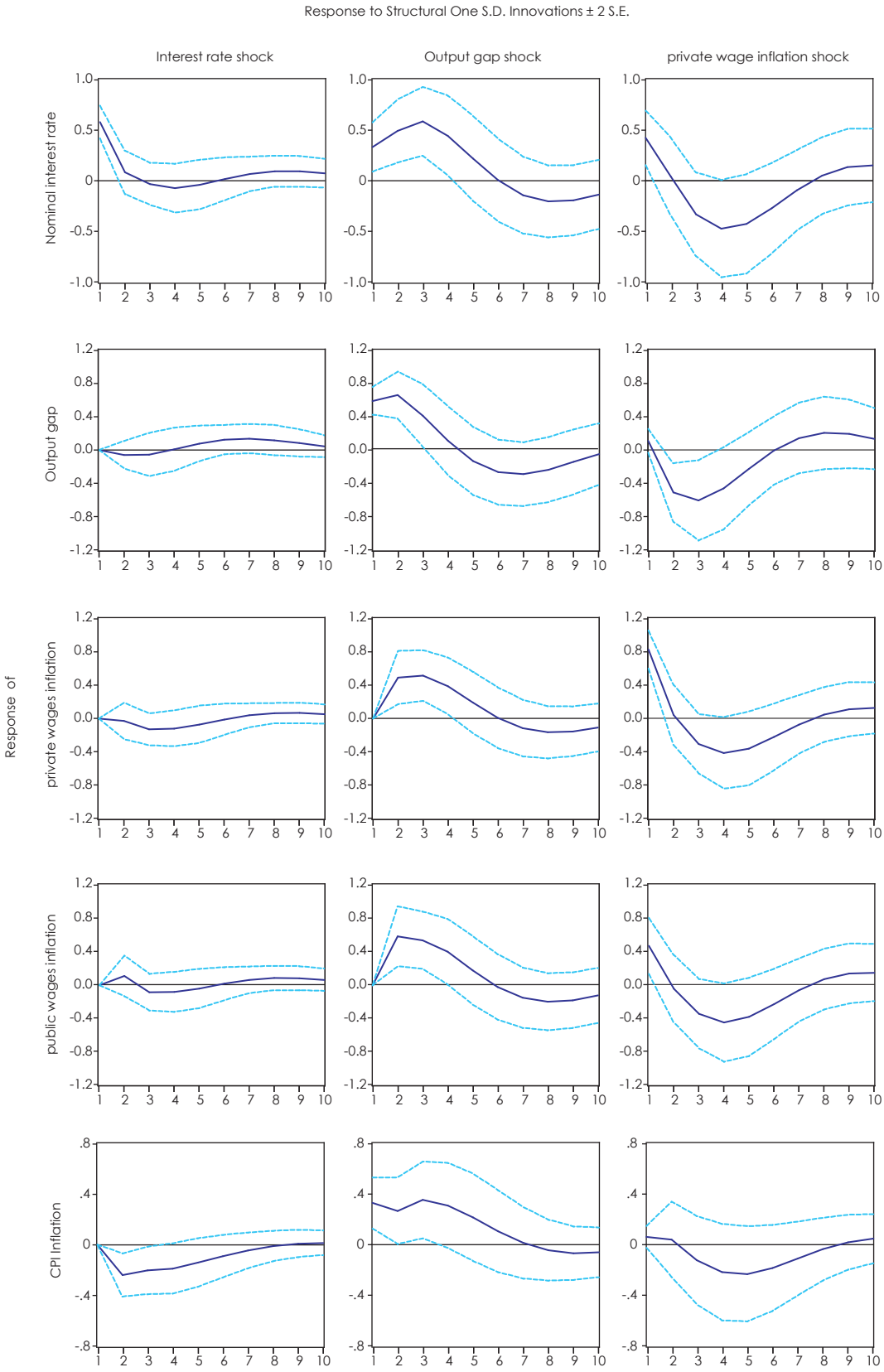
3) Demand shocks and private wage inflation shocks are most important in explaining the volatility of nominal interest rate in the short run.

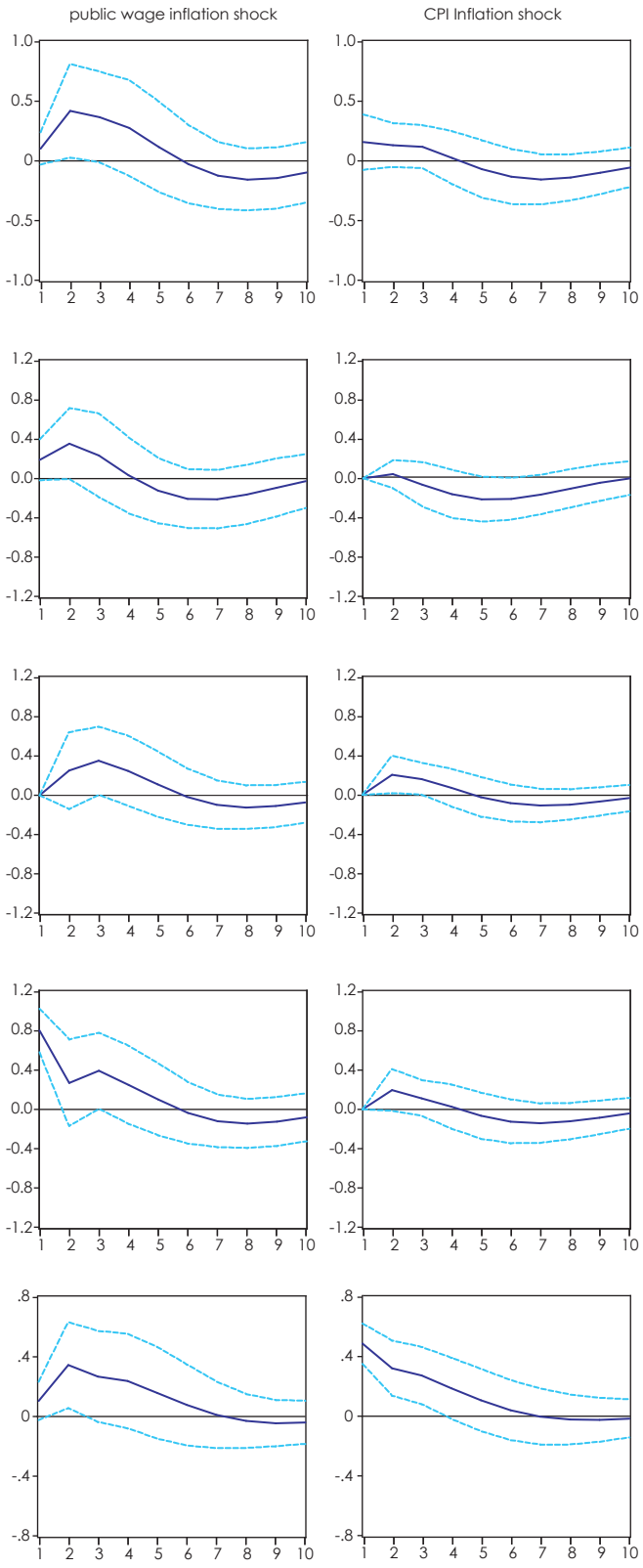
4) Contrary to what found for public wages, a private wage inflation shock depresses temporarily output.

---

1 The SVAR is done in two steps. Firstly, a congruent representation of the data with a canonical VAR in 5 variables (nominal interest rates, output gap, public wage inflation, private wage inflation, CPI inflation) is obtained. It turns out that a VAR with one lag is well specified as it is not affected by autocorrelation and non-normal and heteroschedastic residuals. The residuals from an unrestricted VAR cannot be given any economic interpretation, as they are a linear combination of (unobserved) structural shocks. Thus, in a second step, a link is established between the reduced-form residuals and structural innovations, usually mutually uncorrelated. One way to link reduced-form and economically meaningful shocks is via the contemporaneous correlation of the reduced-form residuals (e.g. Amisano and Giannini, 1997). These links are suggested by plausible restrictions among the economic variables of the original VAR. With 5 variables, the reduced-form variance-covariance matrix has 15 elements that can be used to estimate the links between reduced-form and the structural innovations. Starting from a Choleski decomposition, it is possible to delete non-significant parameters and identify an over-identified structure, whose validity is tested via a LR ratio. The final structure of the instantaneous equations implies that public wages respond positively to private wages, the output gap is positively affected by public wages inflation raises during expansions and the short-term interest rate rises when inflation goes up and GDP grows above potential. Finally private wages are predetermined.

Graph 90 – Impulse responses SVAR





Source: Commission services.

2.1.5. The impact of labour cost developments on cost-competitiveness in euro-area Member States

Wage developments are crucial elements for price and cost competitiveness. With the euro area uniform monetary conditions, various factors may prompt diverging nominal unit labour costs across its members. Benign factors include equilibrium wage adjustments reflecting long-term catching-up processes or wage responses to asymmetric cyclical positions of national economies. Non-benign factors reflect widening divergence in nominal unit labour costs due to structural rigidities and inertial components in wage settlements.

This section investigates the impact of labour cost on the external position of euro-area countries on the back of various measures of price and cost competitiveness. The emphasis of the section is twofold. First, an effort is made to explain the interplay between developments in nominal unit labour costs in individual Member States and various competitiveness indicators. Second, the section examines the adjustment capacity of nominal unit labour costs to asymmetric cyclical positions within euro-area countries.

The ULC-based Real Effective Exchange Rate (REER) provides a reliable picture of general trends in competitiveness

The developments in the external position of euro-area economies over time can be accounted for by non-price/cost competitiveness factors, such as geographical location, trade specialisation, product differentiation, and FDI strategies as well as price/cost competitiveness factors. The latter can be measured by different versions of the Real Effective Exchange Rate (REER), depending on the number of countries and the cost/price indicators involved in its definition. There is little consensus on the ideal indicator of international cost and price competitiveness as each of the standard measures typically employed has its own merits and drawbacks. From an empirical angle, one would prefer the indicator that best explains and helps forecast export developments. Ca' Zorzi and Schnatz (2007) compare the properties of the alternative cost and price competitiveness measures of the euro area. They find little evidence that there is one indicator consistently outperforming the others in terms of explaining and forecasting euro area exports.

Graph 91 compares two versions of cost-competitiveness indicators (or REERs based on unit labour costs in total economy), the intra-euro-area REER, calculated against the remaining euro-area members, and the broad REER, calculated against 36 countries (including EU15 initial Member States, the twelve recently-acceded Member States, Norway, Switzerland, Australia, the United States, Canada, Japan, Mexico, New Zealand, and Turkey). The two measures give similar rankings of Member States' relative competitive performance over the medium run, and show a clear deterioration in the competitive position of Italy and Portugal over the period 1999 to 2007.

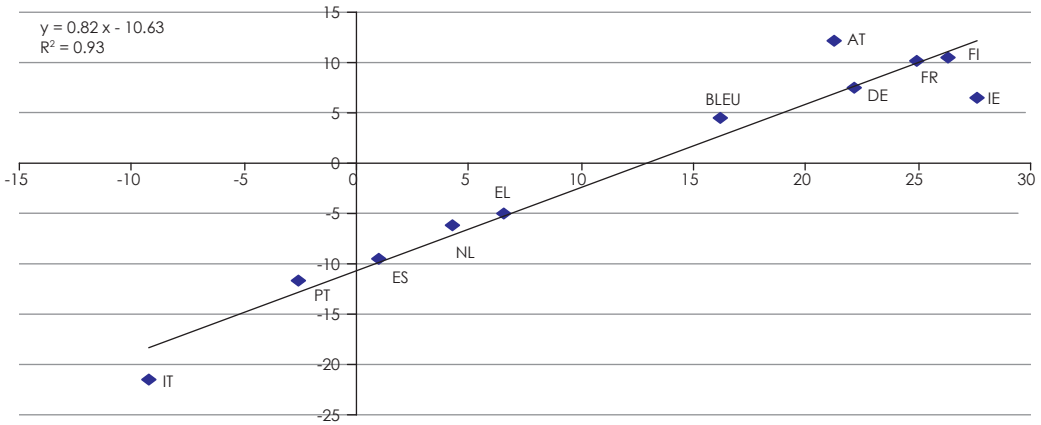
Graph 92 compares three well-known versions of intra-euro-area REERs, based on 1) unit labour costs in manufacturing, 2) unit labour costs in total economy, and 3) the GDP deflator. On the basis of these indicators, countries are classified into three main groups with regard to price and cost competitiveness developments since the launch of the euro. A first group of countries, represented by Greece, Spain, Italy, Portugal, and the Netherlands, has registered a significant deterioration in their competitiveness position against the rest of the euro area. A second group, including Belgium and France, has seen their competitiveness position broadly unaltered since the launch of the euro. The third group has achieved gains in competitiveness, which is pronounced for Germany and less clearly so in the case of Austria and Finland depending on the indicator examined. The verdict on the competitiveness position of Ireland depends on the indicator considered. The competitiveness position of the manufacturing sector in this country has strengthened since 1999, whereas the remaining two competitiveness indicators reflect appreciation movements, an indication of rising domestic inflationary pressures.

As most international trade is in manufactured goods, the most widely-used measure of cost competitiveness focuses on REERs based on unit labour costs in manufacturing (the first of the three REERs described above). However, labour costs account for only a limited share of total costs in this industry, which purchases a certain amount of inputs from tradable and non tradable services. Therefore, the REERs based on the unit labour costs in total economy should provide a more general picture of one country's competitiveness position. Even so, Graph 92 suggests that

competitiveness losses in manufacturing are more marked than in the total economy in some countries, namely Greece, Spain, Italy and Portugal. Conversely, in the Netherlands and Ireland, labour cost pressures in other sectors magnify respectively the competitiveness losses or offset the competitiveness gains registered in manufacturing.

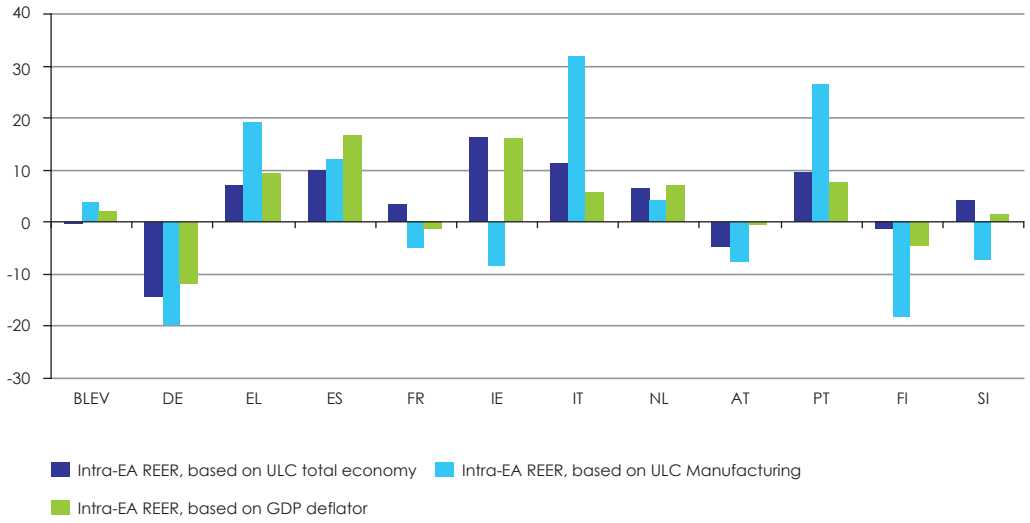
On the other hand, to the extent that the prices of manufacturing goods are set by international markets, pressures arising from unit labour costs may not necessarily lead to deterioration in the external position when labour cost pressures result in squeezed profit margins. Therefore, comparing the REER based on unit labour costs in manufacturing with the REER based on the GDP deflator may be of value to see whether mounting labour cost pressures translate into inflationary pressures in the GDP deflator or rather lead to a redistribution of income between workers and firms. Among countries with unfavourable labour cost developments, Italy, Portugal and Greece have avoided passing through the increase in nominal unit labour costs on prices, thus mitigating the loss of competitiveness as measured in terms of the GDP deflator at the expense of a drop in profit margins. By contrast, in Spain and the Netherlands firms have been passing through the increase in nominal unit labour costs on final prices, thus adding to the deterioration in competitiveness arising from mounting labour cost pressures. The reversal of sign in competitiveness movements between these two indicators in Ireland and Slovenia is also an indication of growing profit margins in these countries.

Graph 91 – Intra-euro-area (Y-axis) and broad (X-axis) REERs based on ULC total economy, EA12 MS
Cumulative change, 1999Q1-2007Q4



Data source: Price and cost competitiveness indicators. Commission services.
Note: the intra-euro-area REER is calculated against the remaining euro-area members. The broad REER is calculated against the EU15 initial MS, the twelve RAMS, Norway, Switzerland, Australia, the US, Canada, Japan, Mexico, New Zealand, and Turkey.

Graph 92 – Cumulative changes in various measures of intra-euro-area REERs, EA13 MS
Cumulative change, 1999-2007



Data source: Price and cost competitiveness indicators. Commission services.

The weak responsiveness of nominal compensation per employee to asymmetric cyclical shocks across euro-area countries precludes a smooth adjustment of the REERs

In presence of country-specific cyclical shocks, changes in cost competitiveness are the key channel of adjustment under a monetary union. A relevant question, therefore, is whether and to what extent nominal unit labour costs respond to fluctuations in output gaps, ensuring smooth adjustment of the REER. This, in turn, entails examining how both nominal compensation per employee and labour productivity respond to cyclical conditions.

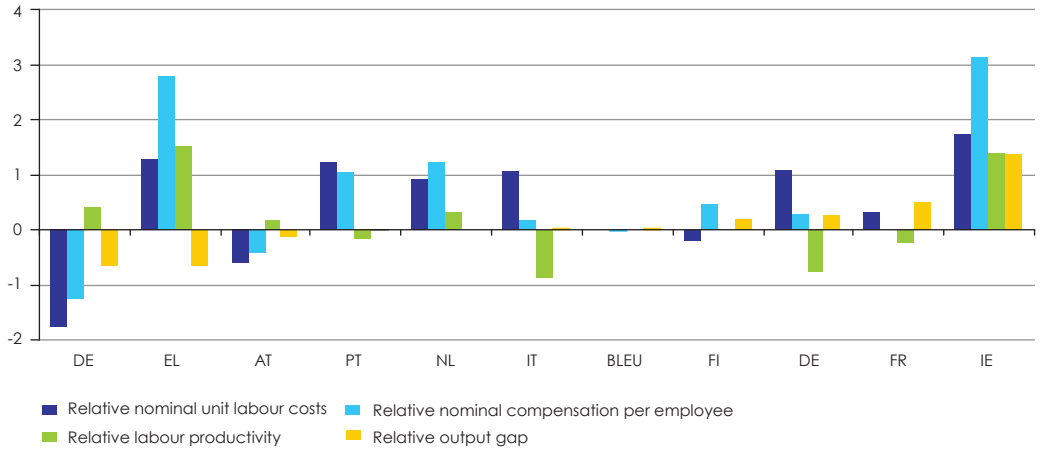
To assess the adjustment capacity of national labour markets to asymmetric cyclical conditions during EMU, Graph 93 compares the relative output gap of each euro-area economy with the annual growth rate of relative nominal unit labour costs, and its two components, i.e., nominal compensation per employee and labour productivity. A positive transitory asymmetric shock is identified whenever a country experiences an increase in the output gap larger than the average. A smooth adjustment to asymmetric shocks would require a marked response of relative nominal unit labour costs, thus reducing the sensitivity of a country's output to the shock. Graph 93 shows that there are two countries (Germany and Greece) subject to a negative asymmetric shock during the period 1999-2007, while another three (Ireland, France, and Spain) have experienced a positive asymmetric shock. In line with what might be expected in terms of adjustment mechanisms of labour markets, relative nominal unit labour costs decreased in line with comparatively negative output gap in Germany, whereas the three countries with comparatively positive output gap experienced an increase in their relative nominal unit labour costs. In Germany, the drop in relative nominal unit labour costs was largely driven by a reduction in relative compensation per employee. France and Spain witnessed unfavourable relative labour productivity developments, which translated into increases in relative nominal unit labour costs in spite of contained wage pressures. By contrast, in Ireland and Greece, marked increases in relative labour productivity were not sufficient to offset excessive growth in compensation per employee, which explains the increase in relative nominal unit labour costs in these two countries.

Of the five countries with fairly neutral cyclical pressures, Italy, the Netherlands and Portugal were not able to contain labour cost pressures, and experienced a positive differential in nominal unit labour costs. Within this group, Italy witnessed comparatively unfavourable productivity growth, while the Netherlands and Portugal experienced excessive nominal compensation per employee growth.

Graph 94 focuses on recent developments. Positive asymmetric shocks are registered in 2007 in Germany, Finland, Greece and Austria. The relatively stronger cyclical position did not preclude relative nominal unit labour costs to decrease in the former two countries, mainly owing to wage moderation –Germany– or productivity gains –Austria–. Relative nominal unit labour costs grew excessively in Greece, owing to a marked acceleration in nominal compensation per employee. In the three countries with comparatively weak cyclical position, there appear to be problems in terms of adjustment in Ireland and Italy, as relative nominal unit labour costs have increased markedly, particularly in Ireland. By contrast, the reduction in relative nominal unit labour costs registered in Portugal is consistent with its relatively weak cyclical position.

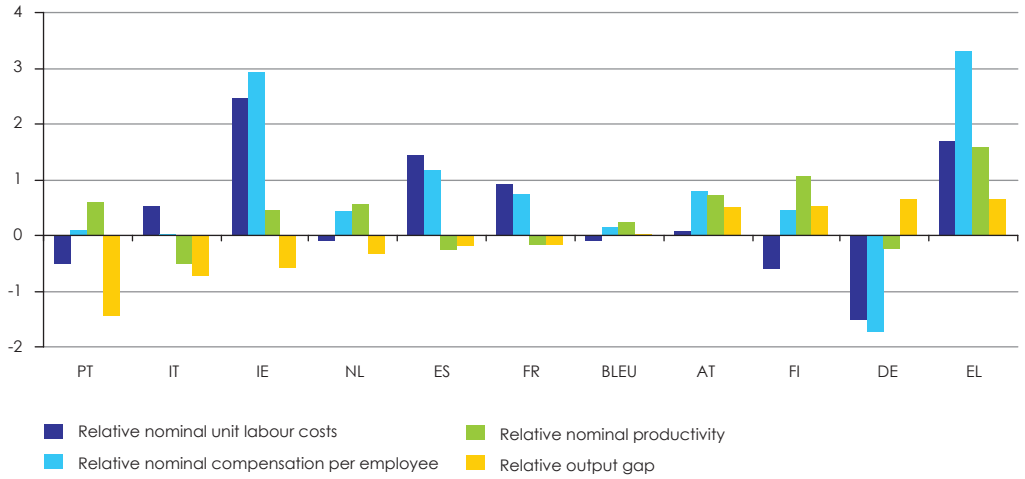
All in all, the loose connection between nominal compensation per employee and labour productivity across the cycle translates into non-benign losses of competitiveness in some euro-area members (Greece, Spain, Italy, the Netherlands and Portugal). Further measures to foster a higher degree of competition in product markets and service sectors would contribute to improve the competitiveness adjustment mechanisms across the cycle.

Graph 93 – Cyclical divergence and relative nominal unit labour costs, relative compensation per employee and relative labour productivity, EA12 MS
Annual average % change, 1999-2007. EA12 MS are ranked in terms of the size of their relative output gap



Data source: AMECO.
Note: All variables are expressed in relative terms, i.e., they are normalised with respect to the weighted average of the remaining euro-area countries.

Graph 94 – Cyclical divergence and relative nominal unit labour costs, relative compensation per employee and relative labour productivity, EA12 MS
Annual % change, 2007. EA12 MS are ranked in terms of the size of their relative output gap



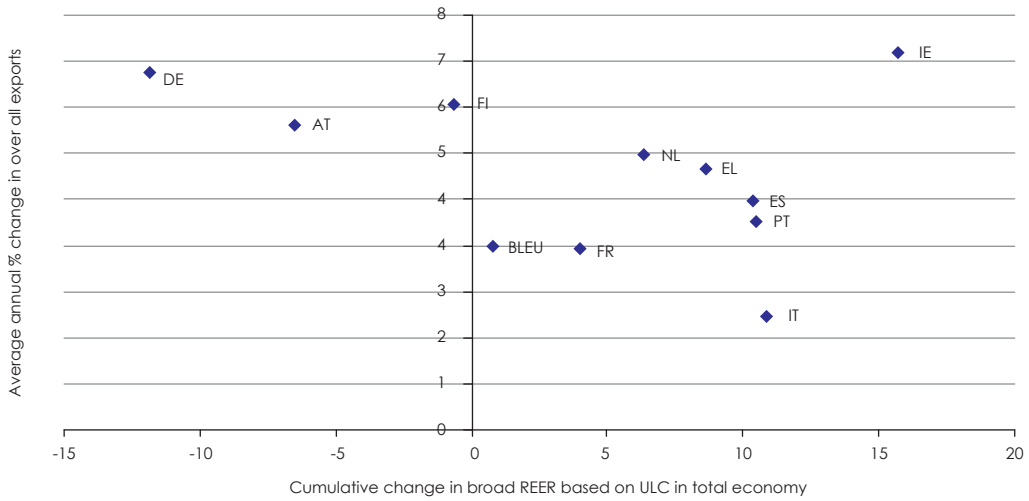
Data source: AMECO.
Note: All variables are expressed in relative terms, i.e., they are normalised with respect to the weighted average of the remaining euro-area countries.

The ULC-based REER is an important explanatory factor of external performance

Graph 95 to Graph 97 report on the relationship between various measures of external performance and indicators of cost-competitiveness (total and intra-euro-area ULC-based REERs). The charts show a negative relationship between cost-competitiveness and measures of export performance, such as export growth or changes in export shares, as well as the net balance of goods and services. Yet, caution is needed when interpreting the relationship between REER movements and the net balance of goods and services as the two variables may be driven by a common factor. For instance, a country-specific positive shock to domestic demand can lead both to cost tensions, a rise in REERs and deterioration in the net balance of goods and services due to the increase in imported goods related to higher initial demand. The available econometric evidence points to considerable heterogeneity in the response of the external performance to changes in the REER[52], which may be interpreted as an indication of the importance of non-price competitiveness, and relative demand, as in empirical estimates of determinants of trade balance, income elasticity tends to be much higher than the price elasticity.

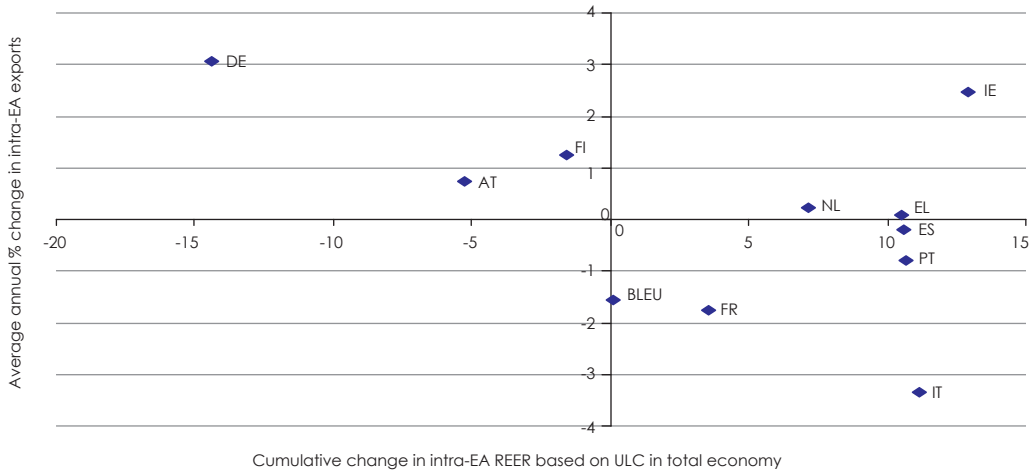
52 The elasticity of exports to the REER varies significantly depending on the Member States considered. ECB (2005), "Competitiveness and the export performance of the euro area", Occasional Paper No. 30, June , and Allard et al. (2005), "Explaining differences in external sector performance among large euro-area countries", IMF country Report No. 05/401), report significant differences in the price elasticity of exports. In both studies, estimated exports tend to show large residuals since the early 2000 in some Member States, which may be interpreted as an indication of the importance of non-price competitiveness and relative domestic demand.

Graph 95 – Cumulative change in broad REER (based on ULC in total economy) and average annual % change in overall exports, EA12 MS
1999-2007



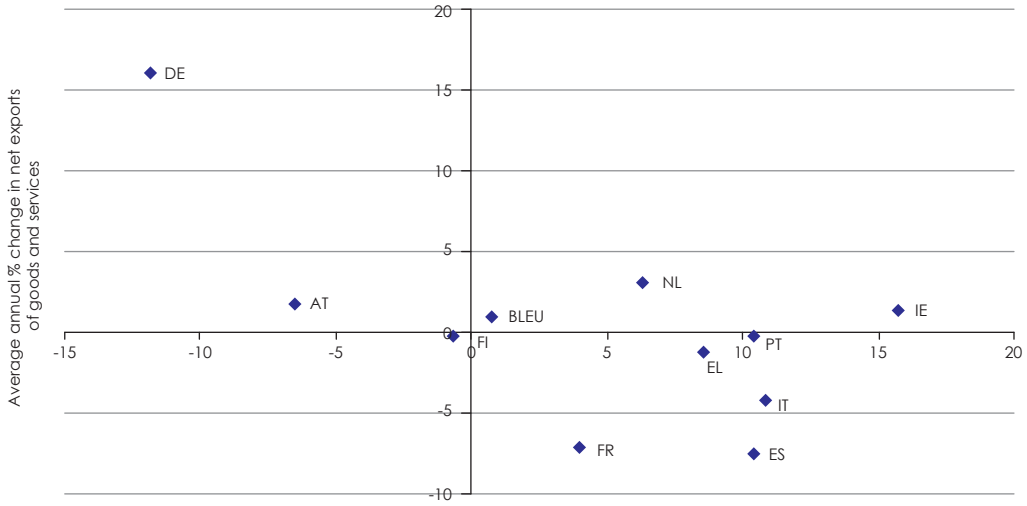
Data sources: Commission services on the basis of AMECO and Price and Competitiveness indicators data.
Note: The broad REER is calculated against the EU15 initial MS, the twelve RAMS, Norway, Switzerland, Australia, the US, Canada, Japan, Mexico, New Zealand, and Turkey. Overall exports are exports to the rest of the world.

Graph 96 – Cumulative change in intra-EA REER (based on ULC in total economy) and av. annual % change in exports of goods and services, performance relative to the rest of the EA, EA12 MS
1999-2007



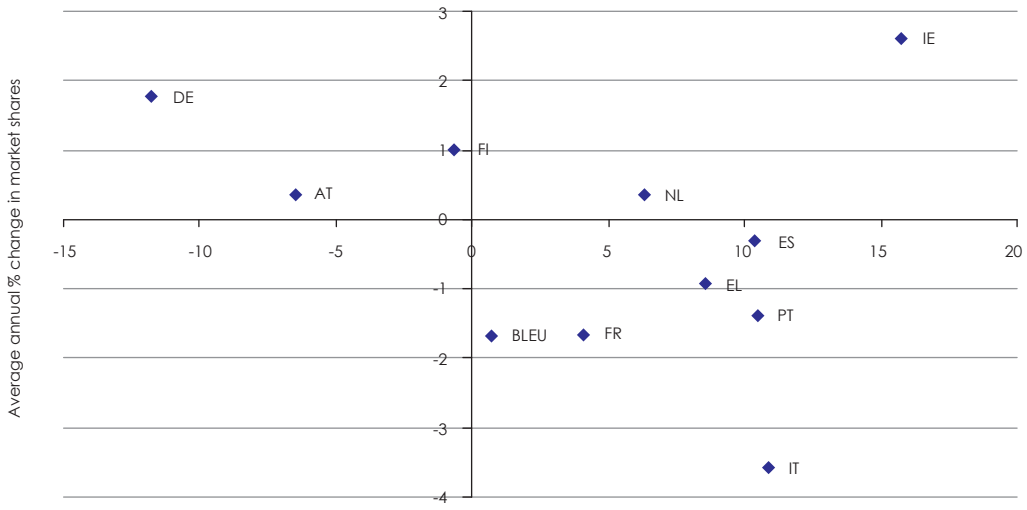
Data sources: Commission services on the basis of AMECO and Price and Competitiveness indicators data.
Note: The intra-euro-area REER is calculated against the remaining euro-area members. The performance relative to the rest of the former euro area is calculated using double export weights.

Graph 97 – Cumulative change in broad REER (based on ULC in total economy) and average annual % change in overall net exports of goods and services, EA12MS
1999-2007



Data sources: Commission services on the basis of AMECO and Price and Competitiveness indicators data.
Note: The broad REER is calculated against the EU15 initial MS, the twelve RAMS, Norway, Switzerland, Australia, the US, Canada, Japan, Mexico, New Zealand, and Turkey. Overall net exports are exports of goods and services minus imports of goods and services to the rest of the world

Graph 98 – Cumulative change in broad REER (based on ULC in total economy) and average annual %
1999-2007



Data source: Commission services on the basis of AMECO and Price and Competitiveness indicators data.
Note: The broad REER is calculated against the EU15 initial MS, the twelve RAMS, Norway, Switzerland, Australia, the US, Canada, Japan, Mexico, New Zealand, and Turkey. Market shares are performance of exports of goods and services on export-weighted imports of goods and services in the 36 industrial markets mentioned above.

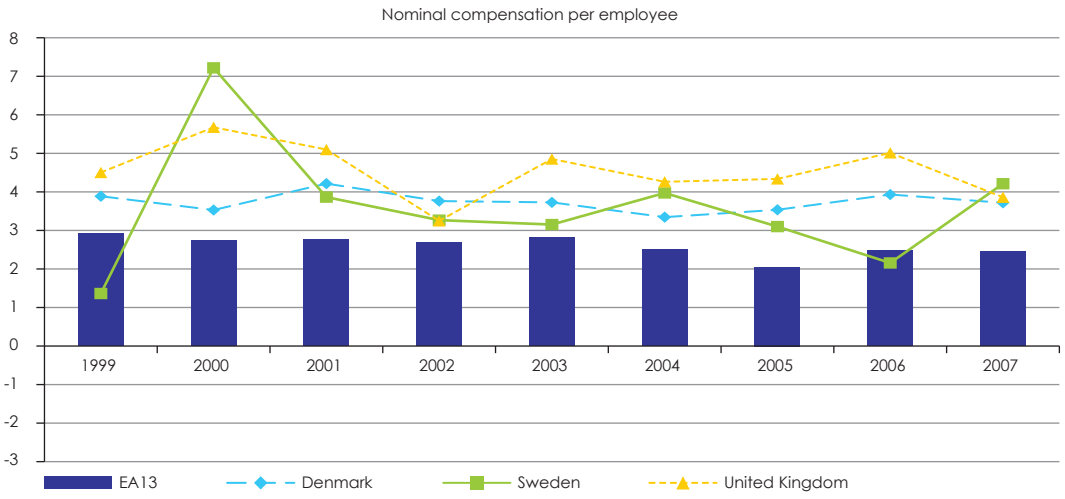
2.2. LABOUR COST DEVELOPMENTS IN DENMARK, SWEDEN AND THE UNITED KINGDOM

Denmark, Sweden and the UK share the position of being outside the euro area and being endowed with a GDP per capita level well above the EU27 average. In 2007, nominal compensation per employee as depicted in Graph 99 grew at 4.2% in Sweden, 3.9 % in the UK and 3.7 % in Denmark, compared to 2.3% in the euro area. Compared to 2006, this implies a stabilisation of wage increases in Denmark, strong nominal gains in Sweden following last year's wage agreements, and a significant slowdown in the United Kingdom, in spite of the labour market tightening throughout 2007. Coupled with a sharp slowdown in productivity, nominal unit labour costs have picked up in Denmark and Sweden (in the latter country as a consequence of strong employment gains and decelerating output growth), whereas more dynamic productivity behaviour has contributed to the moderation of nominal unit labour costs in the United Kingdom (Graph 100 and Graph 101).

One remarkable feature shown in Graph 40 is the relatively stronger volatility of real unit labour cost in these three countries as compared to the euro area. Beyond the fact that an aggregate indicator tends to exhibit less volatility than individual-country indicators, real unit labour costs result more volatile in these three countries than in any of the four biggest economies in the euro area (i.e., Germany, France, Italy and Spain). The fact that Denmark, the UK and, to a lesser extent, Sweden, stand out in terms of successful labour market performance in a context characterised by flexible labour and product markets may explain this higher volatility in the real unit labour costs.

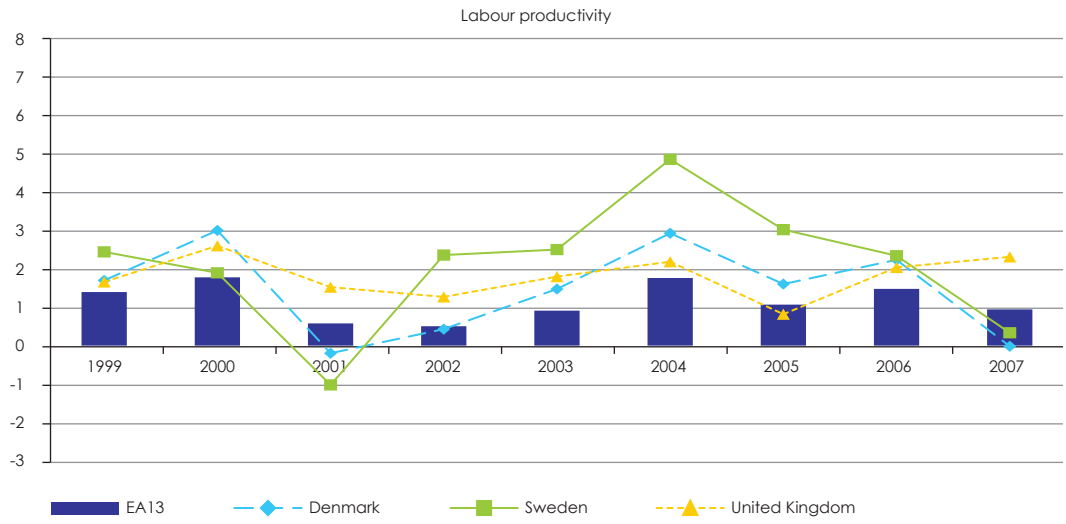
Looking further ahead, in Denmark the labour market is expected to remain tight and wage growth to remain higher than in previous years, while productivity is foreseen to improve after a very weak growth in 2007. In Sweden, nominal wages are assumed to decelerate somewhat as employment is expected to rise in 2008 and 2009 at a significantly slower pace, thus leading to a slight rise in unemployment. As employment gains decelerate, productivity is likely to recover. In the United Kingdom prospects for employment growth point to a slowdown to near-zero increases as a result of moderation in activity. As a result of slowing activity and the still (though reduced) dynamic immigration, the unemployment rate is set to increase slightly, implying that future wage growth will moderate due to labour market easing.

Graph 99 – Compensation per employee in Denmark, Sweden and the UK compared to the EA13
Year-on-year % changes, 1999-2007



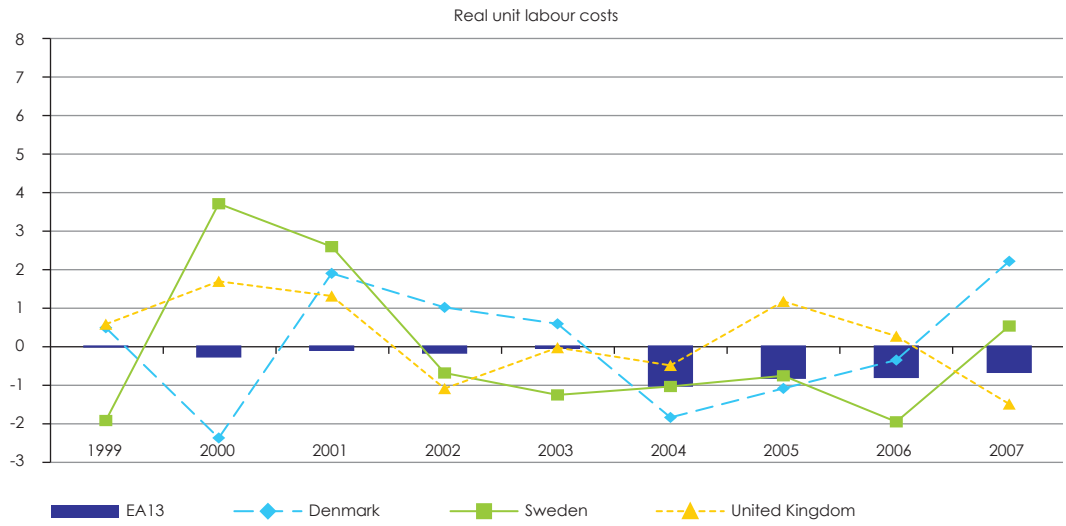
Data source: Commission services on the basis of AMECO data.

Graph 100 – Labour productivity in Denmark, Sweden and the UK compared to the EA13
Year-on-year % changes, 1999-2007



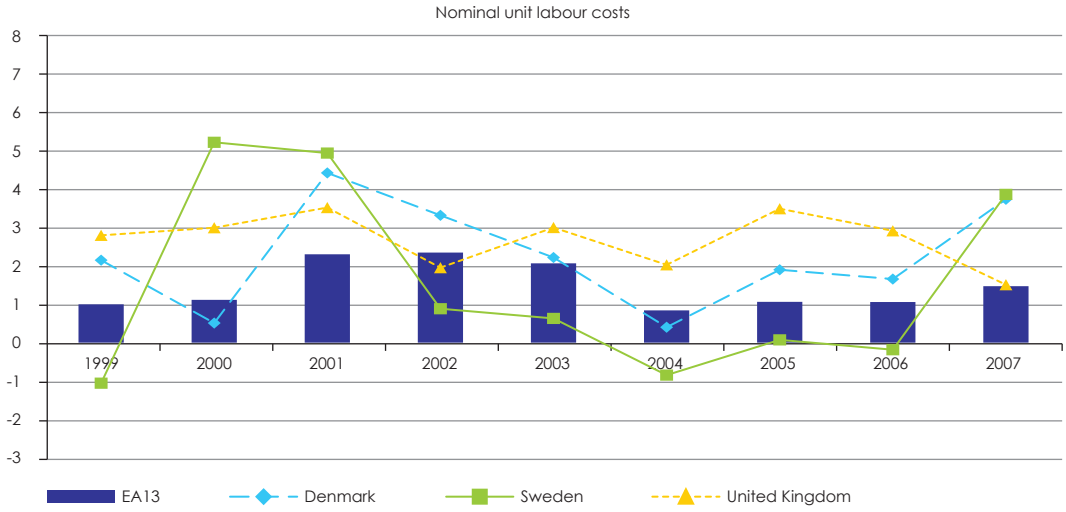
Data source: Commission services on the basis of AMECO data.

Graph 101 – Real unit labour costs in Denmark, Sweden and the UK compared to the EA13
Year-on-year % changes, 1999-2007



Data source: Commission services on the basis of AMECO data.

Graph 102 – Nominal unit labour costs in Denmark, Sweden and the UK compared to the EA13
Year-on-year % changes, 1999-2007



Data source: Commission services on the basis of AMECO data.

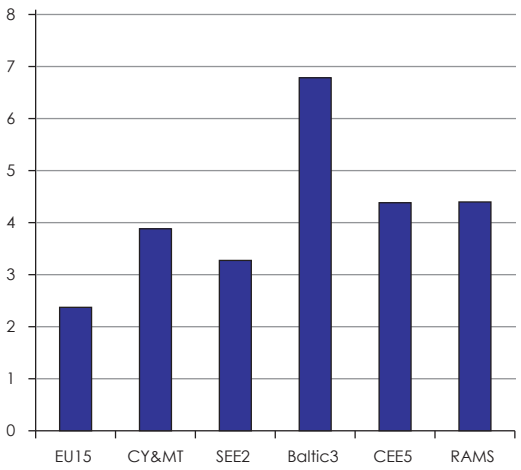
2.3.WAGE AND LABOUR COST DEVELOPMENTS IN THE RECENTLY-ACCEDED MEMBER STATES (RAMS)

Recently-acceded Member States still undergoing a convergence process towards EU15

The growth rate of GDP in the Recently-Acceded Member States (RAMS) situated significantly above that of the euro-area average over the period 1995-2007 (Graph 103). Outstanding growth rates have been registered in Estonia, Latvia and Lithuania (Baltic3), followed by the Czech Republic, Hungary, Poland, the Slovak Republic and Slovenia (Central and Eastern Europe countries or CEE5) and Cyprus and Malta (CY&MT). Although benefiting from bright economic conditions as of 2000, over a ten-year period Romania and Bulgaria (South and Eastern Europe countries or SEE2) still appear lagging behind the remaining RAMS in terms of average GDP growth. The strong expansion of the RAMS continued in 2007, with growth accelerating to 6.1%. Growth was robust in Bulgaria, the Czech Republic, Cyprus, Poland, Romania, Slovenia and Slovakia, whereas some signs of deceleration were registered in the three Baltic countries. In Hungary, economic activity continued to be weak. In general, growth in RAMS economies was underpinned by dynamic domestic demand while the sign of the contribution of net exports to GDP growth is negative in Bulgaria, Cyprus, Lithuania, Poland, Romania and Slovenia and positive in the remaining ones.

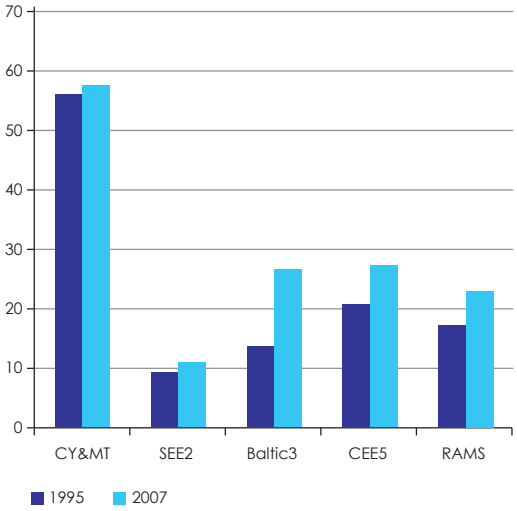
As a result of relative rapid GDP growth, per capita income levels have become closer to the EU average (Graph 104). Convergence has been particularly impressive in Baltic3, helped not just by their low starting positions and more dynamic trading partners, but also their strong commitment to an attractive business environment and sound macroeconomic policies (including lower tax burdens and early commitment to fixing exchange rates against the euro). All RAMS have benefited from high rates of inward FDI, averaging 5% of GDP, as companies have taken advantage of relatively low-cost, but highly skilled labour forces in a relatively secure and familiar neighbourhood. In spite of this substantial convergence process, RAMS still exhibit a substantially lower GDP per capita than the EU average.

Graph 103 – Convergence of RAMS with EU15.
Real GDP growth
Average year-on-year % change 1995-07



Data source: Commission services on the basis of AMECO data.

Graph 104 – Convergence of RAMS with EU15.
Per capita GDP relative to EU15
Percent, 1995 and 2007



Data source: Commission services on the basis of AMECO data.

In 2007, sharp acceleration in nominal wage growth in line with tightened labour market conditions was not mitigated by strong productivity performance, thus leading to substantial inflationary pressures stemming from the labour market

Overall labour market conditions have remained dynamic in 2007, with foreign companies taking advantage of reasonably skilled labour forces at relatively low-cost in a relatively secure business environment. However, increasing skill shortages are driving up nominal unit labour costs in many RAMS.

Nominal compensation per employee grew stronger in RAMS than in EU15 countries in the last years and continued to do so in 2007 (Graph 109 and Table 20). The highest rates of growth of compensation per employee in 2007 were registered in Latvia (33.2%), Estonia (26.5%), Romania (20.2%), and Bulgaria (17.9%). With as many as two million Romanians working abroad and fast economic growth, the country's labour market is growing increasingly tight. Overheating in the labour market explains the sharp wage pressures in Latvia in 2007. In Estonia the labour market remains tight, in particular for skilled workers. At the lower end of the spectrum, wage growth in Malta was even below the EU15 patterns. Half of the RAMS are placed in between the EU15 and the RAMS average values, namely, Cyprus, Slovenia, the Czech Republic, Poland, Slovakia, and Hungary.

Labour productivity in RAMS as a whole grew at 3.5% in 2007 (Graph 109 and Table 20), well above the EU15 aggregate (1.2%). Labour productivity increased markedly in Slovakia, followed by the three Baltic countries, the Czech Republic and Romania, with more intermediate positions represented by Slovenia and Bulgaria and fairly poor productivity performance in Cyprus, Malta, Hungary and Poland.

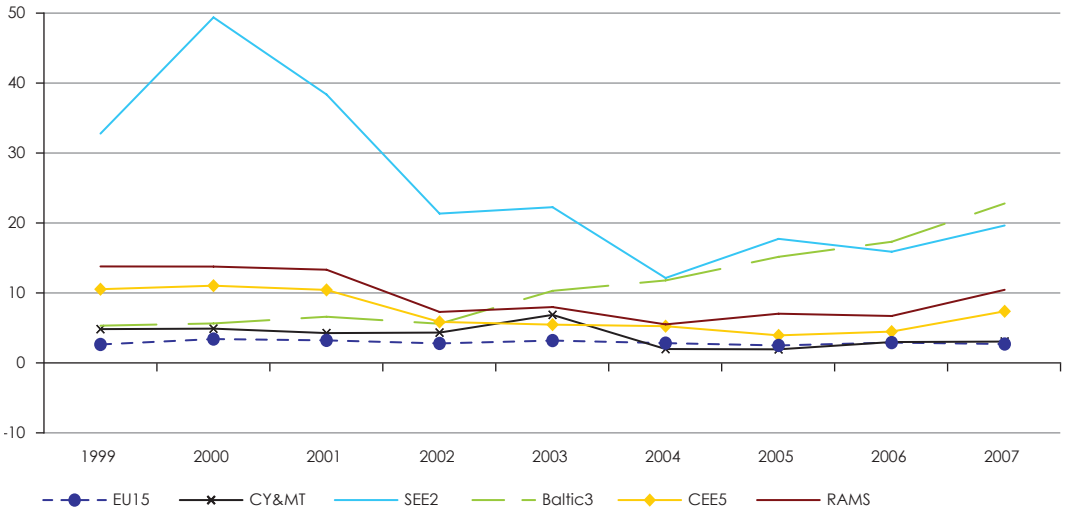
In order to assess the inflationary pressures, developments in wage growth should be viewed in conjunction with developments in productivity, i.e. in terms of the development of nominal unit labour costs (ULC). Marked productivity improvements in 2007 did not suffice to compensate for high nominal wage growth. RAMS as a whole saw an increase in nominal unit labour costs of 10.7% (Graph 109 and Table 20), well above the average registered for EU15 countries. Nominal ULC increased most in Baltic 3 and SEE2, followed by CEE5. Modest increases were registered and CY&MT.

Real ULC increased by a remarkable 5.7% in 2007 for RAMS as a whole, thus around 6.5 p.p. above the EU15 average (Graph 110 and Table 20). Pronounced real unit labour costs

increases were recorded in Baltic3 and SEE2 while ULC remained broadly constant in CEE5 and exhibited negative growth rates in CY&MT, in the latter case somewhat below the decline of real ULC registered in EU15.

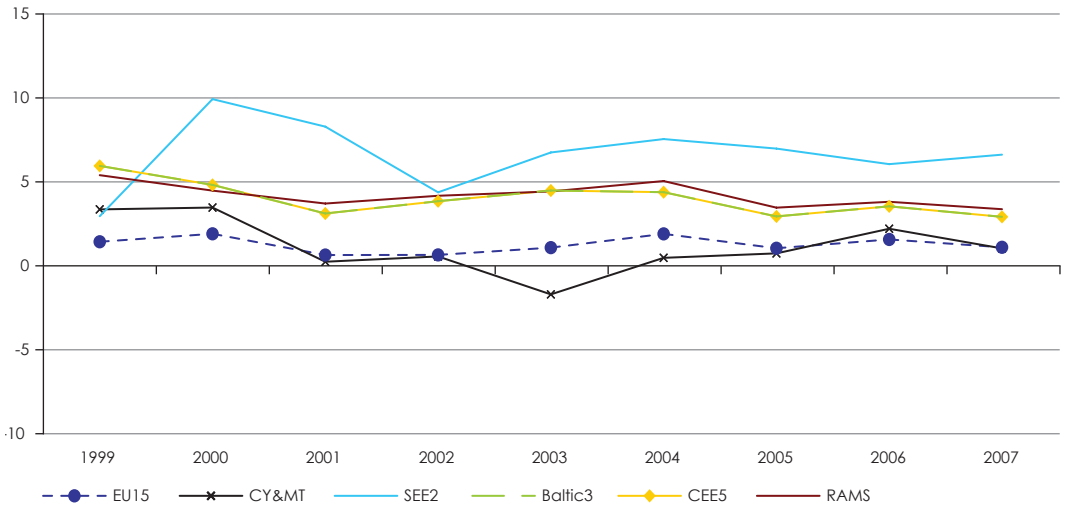
Graph 105 to Graph 108 put labour cost indicators in RAMS into a longer perspective. Not surprisingly, they clearly show that RAMS dynamics is governed by developments in CEE5, as they constitute the biggest economies among RAMS. Indicators in SEE2 are extremely volatile and also the least aligned with EU15 standards. Acceleration in nominal wages is the main explanation to the problem of relatively high nominal ULC growth in SEE2. In spite of declining growth rates in nominal compensation per employee, Romania and Bulgaria still appear as the two RAMS with unavoidably high increases in nominal ULC. Baltic3 benefited from shrinking nominal ULC between 1999 and 2002 owing to relatively moderate nominal wage increases and strong productivity performance. This trend was inverted as of 2002, mostly associated with mounting wage pressures. CY&MT and CEE5 comprise the group of countries which has exhibited most convergence with EU15 in terms of nominal ULC. Although both nominal wages and productivity growth in CEE5 are situated well above the EU15 values, nominal wages are fairly aligned with productivity developments.

Graph 105 – Convergence of RAMS with EU15. Compensation per employee
Year-on-year % changes 1999-2007



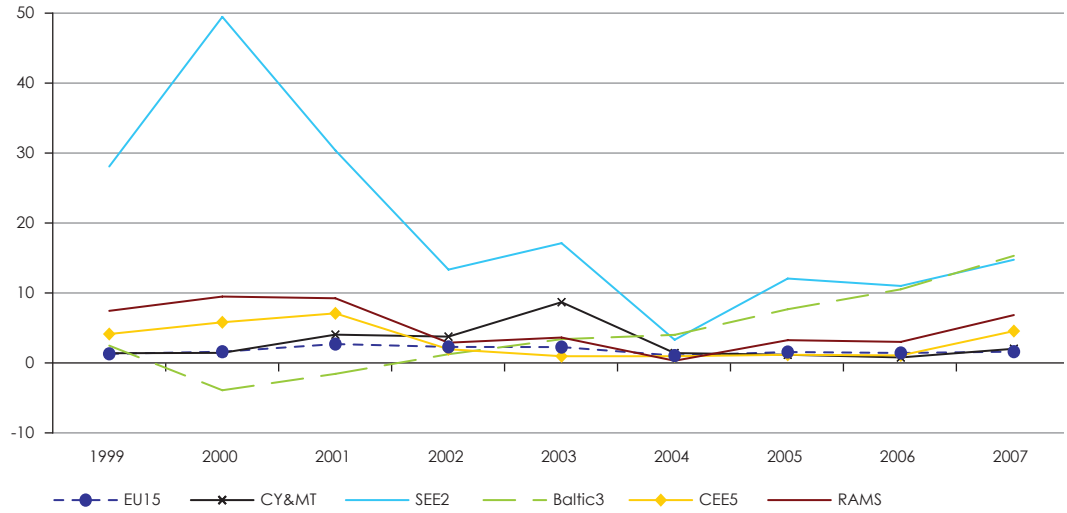
Data source: Commission services on the basis of AMECO data.

Graph 106 – Convergence of RAMS with EU15. Labour productivity
Year-on-year % changes 1999-2007



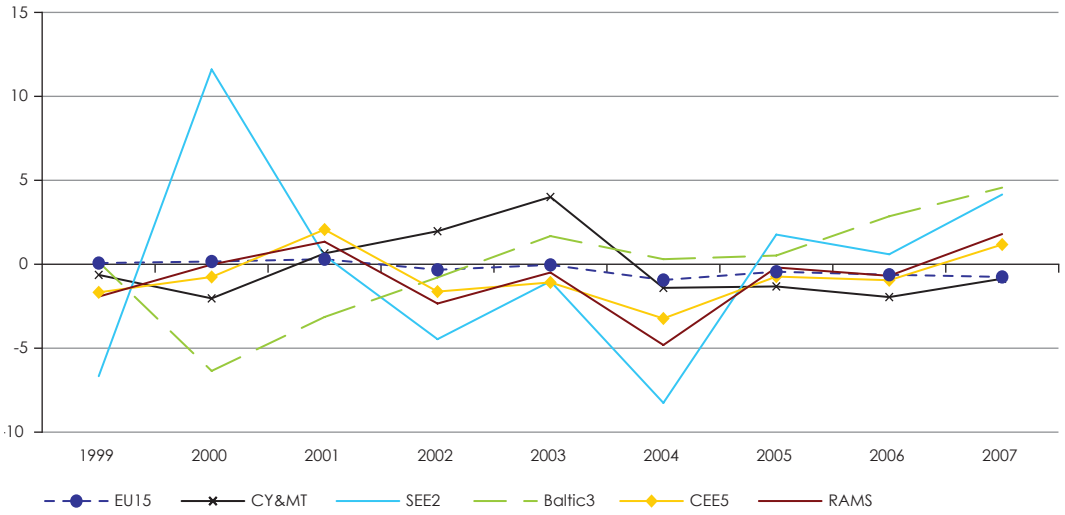
Data source: Commission services on the basis of AMECO data.

Graph 107 – Convergence of RAMS with the EU15. Nominal unit labour costs
Year-on-year % changes 1999-2007



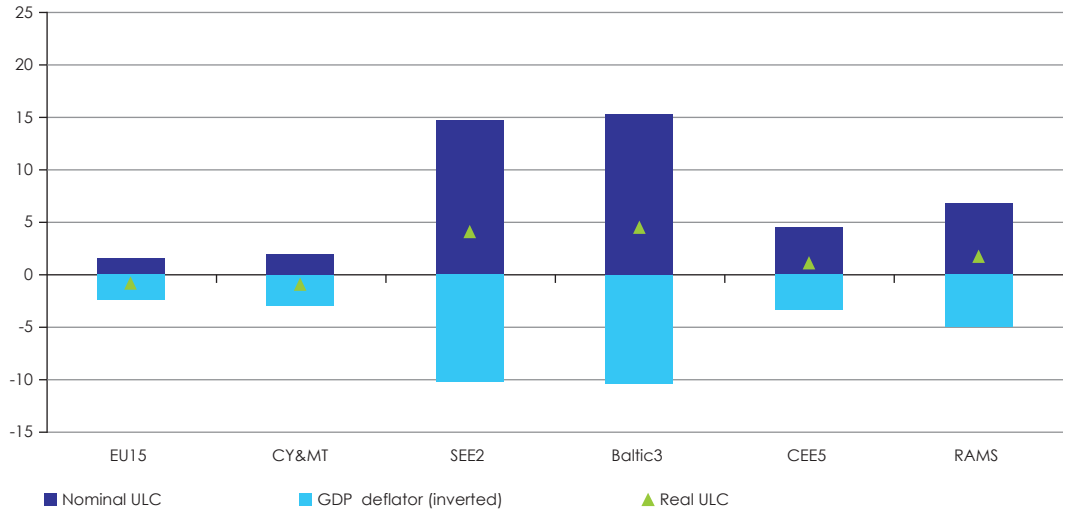
Data source: Commission services on the basis of AMECO data.

Graph 108 – Convergence of RAMS with EU15. Real unit labour costs
Year-on-year % changes 1999-2007



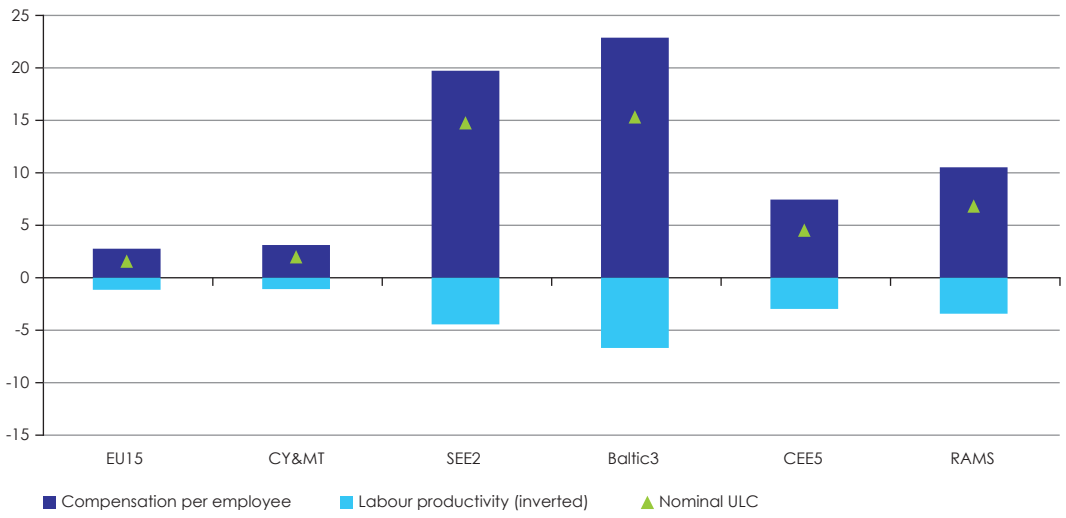
Data source: Commission services on the basis of AMECO data.

Graph 109 – Breakdown of nominal unit labour costs into compensation per employee and labour productivity, RAMS
Year-on-year % changes 2007



Data source: Commission services on the basis of AMECO data.

Graph 110 – Breakdown of real unit labour costs into nominal unit labour costs and the GDP deflator, RAMS
Year-on-year % changes 2007



Data source: Commission services on the basis of AMECO data.

Table 20 – Breakdown of real unit labour costs, RAMS compared to EU15 and EU27
Year-on-year % changes, 2004-2007

	BG	CZ	EE	CY	LV	LT	HU	MT	PL	RO	SI	SK	EU27	EU15	RAMS
Compensation per employee															
2004	4.9	5.7	11.2	1.9	14.3	10.9	11.2	1.3	1.8	13.9	7.8	8.4	3.0	3.3	3.9
2005	5.9	4.6	11.0	1.8	25.3	11.5	7.1	2.0	1.6	22.1	5.3	9.7	2.8	2.3	14.2
2006	7.4	6.2	14.0	2.7	23.6	15.1	4.5	3.3	1.9	17.8	5.5	7.9	2.9	3.0	7.7
2007	17.9	7.0	26.5	3.5	33.2	14.1	8.4	1.5	8.1	20.2	6.2	8.3	3.1	2.7	14.1
Average 2004-2007	9.1	5.9	15.7	2.5	24.1	12.9	7.8	2.0	3.3	18.5	6.2	8.6	2.9	2.8	10.0
Labour productivity															
2004	3.9	4.3	8.2	0.4	7.5	7.3	5.4	0.8	4.0	10.3	4.1	5.5	2.1	1.9	5.3
2005	3.5	5.2	8.3	0.3	8.7	5.3	3.7	2.0	1.3	5.8	4.0	5.1	1.1	1.0	3.7
2006	2.9	4.5	5.3	2.3	7.2	5.9	3.0	2.2	2.9	4.9	4.5	6.1	1.5	1.5	3.7
2007	3.3	4.6	6.6	1.1	6.6	6.7	1.5	1.1	1.9	4.7	3.3	8.1	1.1	1.2	3.5
Average 2004-2007	3.4	4.7	7.1	1.0	7.5	6.3	3.4	1.5	2.5	6.4	4.0	6.2	1.4	1.4	4.0
Nominal unit labour costs															
2004	1.0	1.4	3.0	1.5	6.9	3.6	5.8	0.5	-2.2	3.7	3.7	3.0	0.9	1.4	-1.4
2005	2.5	-0.6	2.8	1.4	16.5	6.2	3.4	-0.1	0.3	16.3	1.4	4.5	1.7	1.3	10.6
2006	4.5	1.6	8.8	0.5	16.4	9.3	1.5	1.1	-1.0	12.9	1.0	1.8	1.4	1.5	4.0
2007	14.7	2.4	19.8	2.4	26.6	7.4	6.9	0.5	6.2	15.5	2.9	0.2	1.9	1.6	10.7
Average 2004-2007	5.7	1.2	8.6	1.5	16.6	6.6	4.4	0.5	0.8	12.1	2.2	2.4	1.5	1.4	6.0
GDP deflator															
2004	5.1	4.5	1.8	3.3	7.0	2.7	4.4	1.7	4.1	15.0	3.3	5.9	2.2	2.0	5.4
2005	3.8	-0.2	6.2	2.3	10.2	5.7	2.2	3.0	2.6	12.2	1.7	2.4	2.1	2.0	3.4
2006	8.5	1.7	6.2	2.8	9.9	6.6	3.9	2.9	1.5	10.8	2.0	2.9	2.2	2.1	3.7
2007	7.9	3.4	9.7	3.1	13.3	8.6	5.2	2.3	3.0	10.8	3.9	1.1	2.5	2.4	4.9
Average 2004-2007	6.3	2.4	6.0	2.9	10.1	5.9	3.9	2.5	2.8	12.2	2.7	3.1	2.2	2.1	4.4
Real unit labour costs															
2004	-4.1	-3.2	1.2	-1.7	-0.1	0.9	1.5	-1.2	-6.3	-11.4	0.3	-2.9	-1.3	-0.6	-6.8
2005	-1.3	-0.4	-3.4	-0.9	6.4	0.5	1.2	-3.0	-2.4	4.1	-0.3	2.2	-0.4	-0.7	7.1
2006	-3.9	-0.1	2.6	-2.3	6.5	2.7	-2.4	-1.8	-2.5	2.0	-1.0	-1.1	-0.7	-0.6	0.3
2007	6.8	-1.0	10.1	-0.7	13.3	-1.2	1.7	-1.8	3.2	4.7	-0.9	-0.9	-0.6	-0.8	5.7
Average 2004-2007	-0.6	-1.2	2.6	-1.4	6.5	0.7	0.5	-2.0	-2.0	-0.1	-0.5	-0.7	-0.7	-0.7	1.6

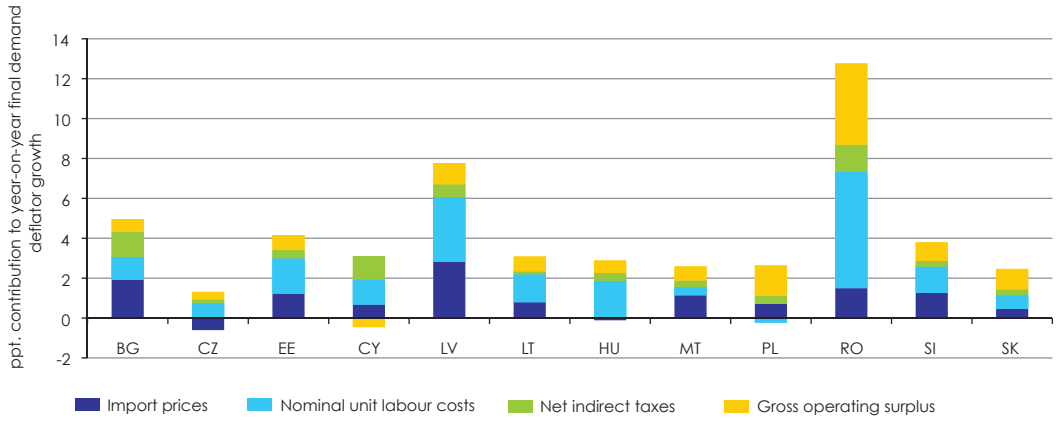
Data source: Commission services on the basis of AMECO data.

The contribution of nominal unit labour costs to the final demand deflator widely varies across RAMS

Overall, final demand prices pressures have been highest in Romania and Latvia, followed at a considerable distance by Bulgaria and Estonia (Graph 111). Nominal unit labour costs have been a major contribution to such inflationary pressures in the first two countries, together with sizable profit margins and the effect of import prices in, respectively, Romania and Latvia. The contribution of import prices has also been sizable in Bulgaria. In the remaining RAMS, final demand price pressures have been more contained. Hungary and Poland are two cases worth mentioning, as they exhibit unbalanced patterns in terms of cost pressures, respectively biased towards unit labour costs and profits.

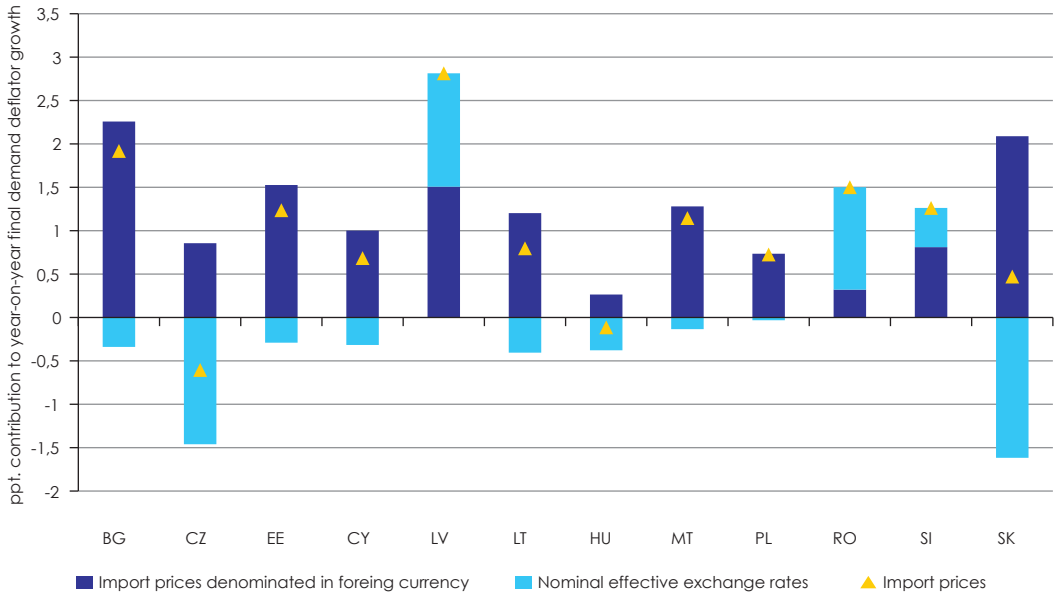
Graph 112 decomposes the contribution of import prices to the final demand deflator growth into the contributions of import prices denominated in foreign currency and the effect of nominal effective exchange rates. Barring the Czech Republic and Hungary, in all RAMS import prices have contributed to intensify inflationary pressures. In all cases this is due to increases in import prices denominated in foreign currency. Depreciation movements in nominal effective exchange rates have added to external inflationary pressures in Latvia and Romania. However, in most RAMS appreciation in nominal effective exchange rates has dampened the effect of higher import prices on overall final demand pressures.

Graph 111 – Contribution of import prices and GDP deflator components to final demand deflator growth, RAMS
Year-on-year % changes 1999-2007
P.p. contributions to year-on-year % change in final demand deflator growth, average 2002-2007



Data source: Commission services on the basis of AMECO data.

Graph 112 – Contribution of import prices denominated in foreign currency and nominal EER to final demand deflator growth, RAMS
P.p. contribution to year-on-year % change in final demand deflator growth, average 2002-2007



Data source: Commission services on the basis of AMECO data.

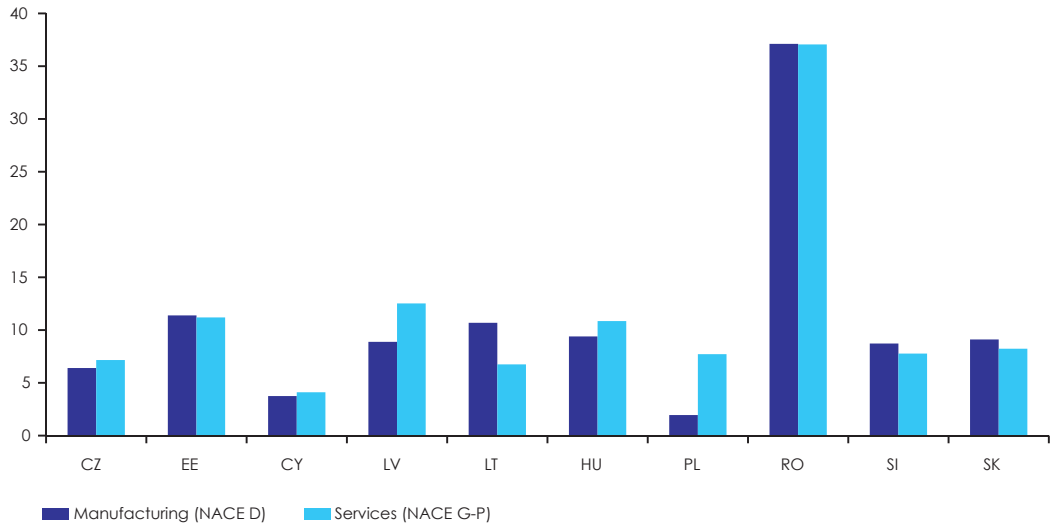
Sectoral developments

Catch-up growth processes are usually driven by strong productivity improvements in the tradable sector. In the RAMS[53], average productivity growth over the period 1999-2006 was around 4 p.p. higher in manufacturing than in services. Conversely, data on compensation per employee reveal that services wages in RAMS have grown almost 3 p.p. faster than manufacturing wages during the same period. As a result, nominal unit labour costs fell by -2% in manufacturing against a +5% growth rate in services (Graph 113 to Graph 115).

The divergent pattern in nominal unit labour costs across manufacturing and services suggests that these countries are facing a typical Balassa-Samuelson effect, i.e., real appreciation movements driven by high price increases in the non-tradable sector. Although the empirical literature is not conclusive, it is recognized that Balassa-Samuelson effects could add 1½–2½ percentage points to inflation in an accession country as its productivity catches up to EU15 levels. This is one reason why sectoral wage developments warrant strict monitoring.

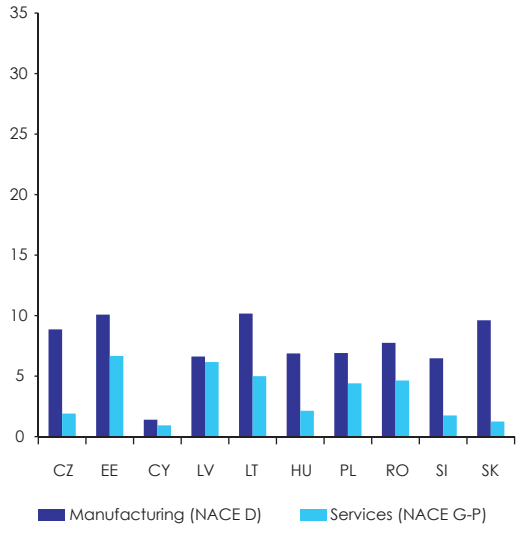
53 Due to lack of data availability, the aggregate excludes Bulgaria, Malta and Romania.

Graph 113 – Compensation per employee in manufacturing and services, RAMS
Average year-on-year % change 1999-06



Data source: Commission services on the basis of AMECO data.
Note: Averages for Romania are calculated over the period 1999-2005.

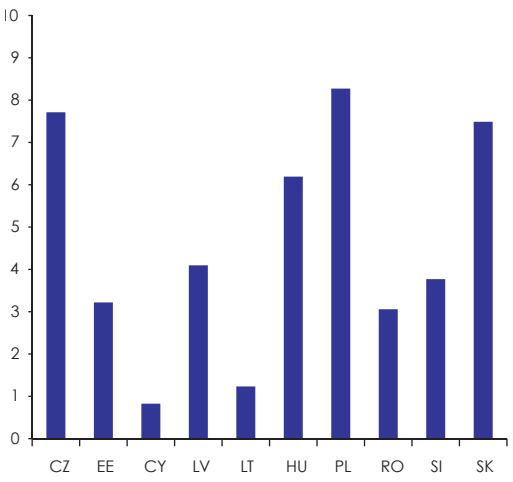
Graph 114 – Labour productivity in manufacturing and services, RAMS
Average year-on-year % change 1999-067



Data source: Commission services on the basis of AMECO data.

Note: Averages for Romania are calculated over the period 1999-2005.

Graph 115 – NULCs differential between manufacturing and services, RAMS
Average year-on-year % change 1999-06



Data source: Commission services on the basis of AMECO data.

Note: Averages for Romania are calculated over the period 1999-2005.

Sustained consumption growth benefited from continued employment, real wage gains and expanding credit

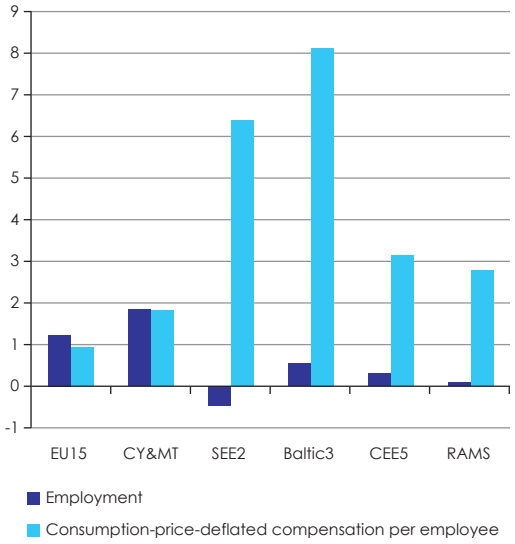
In 2007, growth in RAMS was fed by sustained consumption, which increased by around 6.1%, slightly below the growth rate registered in the previous year (6.4%). In most RAMS, consumption was boosted by increasing employment, rises in real consumption wages, and sustained credit expansion. Strong job creation was in turn boosted by a reduction in pension contributions, and an increase in participation rates that led to higher-than expected employment growth of around 2.6% in 2007. Private consumption was also stimulated by an increase in households' disposable income, following the cut in the personal income tax rate in Malta and an increase in social benefits in the Czech Republic. Historically low interest rates contributed very positively to the acceleration in consumption growth in Cyprus.

From a longer time perspective, Graph 116 illustrates the evolution of real (consumption price deflated) compensation per employee and employment in RAMS as compared with EU15 between 1999 and 2007. Whereas in the EU15 real compensation per employee and employment grew in parallel, the same cannot be said of RAMS where the increase in real wages has largely outpaced that of employment, which has actually recorded a meagre increase in the period of analysis. Real wage expansion has been impressive in Baltic3 and SEE2, whereas CEE5 and CY&MT have recorded more modest increases in real compensation per employee.

Graph 117 displays sizeable increases in real consumption wages in the majority of RAMS over the period 2002-2007, generally rooted in marked productivity improvements as well as a pronounced augmentation of the domestic terms of trade in Romania and Baltic3. The sources of changes in the domestic terms of trade over the period 2000-2006 can be gauged in Graph 118, which confirms the picture of marked increases in the domestic terms of trade in the four countries listed above. Whereas in Lithuania and Latvia there does not seem to be any single predominant factor, the increase in the domestic terms of trade in Estonia is mainly explained by the accumulated gap between the deflators of public and private consumption. The remarkable increase in the domestic terms of trade in Romania is mostly attributable to the positive contribution of the gap between the import and the private consumption deflators –i.e., import prices growing by less than overall consumption prices– as well as the fast growth in the public consumption and the investment deflators relative to the private consumption deflator.

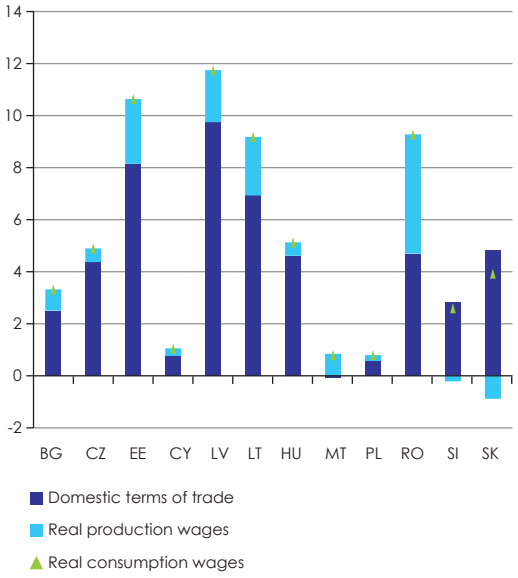
Real consumption wages presented in Graph 117 do not represent an accurate measure of the purchasing power of workers or real take-home pay, as (consumption price deflated) compensation per employee includes both social security contributions and labour income taxes. Graph 119 plots the growth differential between consumption price deflated post-tax wages (i.e., compensation per employee excluding social security contributions and labour income taxes received by workers) and consumption price deflated gross wages (i.e., compensation per employee paid by employers). Only in four RAMS, namely Malta, Estonia, the Czech Republic and Poland, consumption price deflated post-tax wages increased less than consumption price deflated gross wages over the period 2001-2006. Note that, of the group of countries that registered weak increases in consumption price deflated compensation per employee (Graph 117), namely Cyprus, Malta and Poland, in the latter two the purchasing power of workers worsened when changes in social security contributions and labour income taxes are taken into account (Graph 119). As for prospects in 2008-2009, it seems that announced cuts in the tax wedge are expected to boost disposable incomes in these two countries.

Graph 116 – Employment and real consumption wages in RAMS and EU15
Average year-on-year % change 1996-07



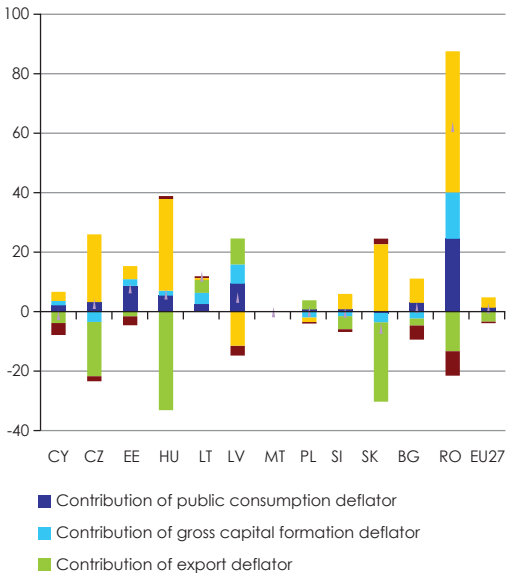
Data source: Commission services on the basis of AMECO data.

Graph 117 – Real consumption wages, real production wages and domestic terms of trade, RAMS
Year-on-year % change, average 2002-2007



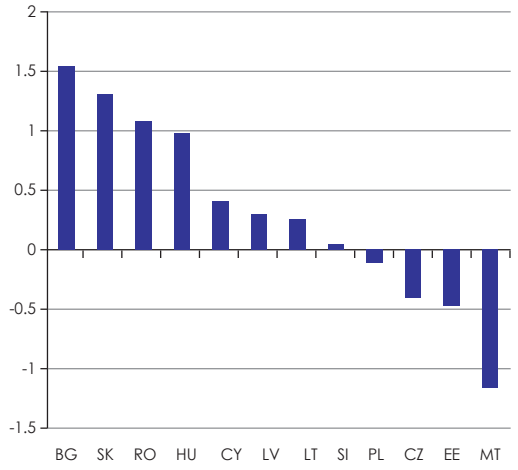
Data source: Commission services on the basis of Eurostat data.

Graph 118 – Accumulated gap between GDP and consumption price deflators in 2006, RAMS
Deflators are index numbers, 2000 = 100



Data source: Commission services on the basis of Eurostat data

Graph 119 – Growth gap between real post-tax and gross consumption wages, RAMS
Year-on-year % change, average 2001-2006



Data source: Compensation per employee and private consumption deflator: Eurostat. Tax wedges on labour: OECD Taxing Wages report.

Nominal unit labour costs are expected to decelerate significantly over the next two years on the back of moderate nominal wage growth and steady increases in labour productivity

Following the culmination of overheating in the labour market in 2007, employment growth is forecast to decelerate slightly over the period 2008-2009, thus narrowing the gap between the observed unemployment rate and the NAWRU. As a result, growth in nominal compensation per employee is expected to fall from 14.8% in 2008 to 12.3% and 8.8% respectively in 2008 and 2009. On account of an overall continuing investment activity and the ongoing economic restructuring, labour productivity is projected to accelerate steadily from around 3.4% in 2007 to 3.6% and 3.8% respectively in 2008 and 2009. As a result, both nominal and real unit labour costs are expected to moderate significantly over the forecast period.

Overall assessment of future developments in labour costs [54]

Although growth in RAMS is foreseen to remain robust, the deterioration in the international economic outlook may lead to some slowdown in the economic activity. Rising interest rate spreads and lower returns are expected to bring a decrease in FDI and investment growth. High food and commodity prices will imply higher inflation, thereby dampening consumption growth, which could also be adversely affected by lower bank credit growth and tax measures in some countries (most notably the Czech Republic, where the increase in the lower band of VAT will weigh on consumption). To limit the cooling down in consumption, it is of the utmost importance that employment growth and real wage gains keep its robust pace.

From a supply-side perspective, signs of deteriorating competitiveness in labour-intensive sectors suggest that the sustainability of the catching-up process depends on labour costs remaining in line with productivity, particularly in a context characterised by increasing inflationary expectations. The removal of any shortages of skilled workers and the restructuring of manufacturing towards more capital-intensive segments will also be crucial, insofar it leads to enhanced external competitiveness and a higher contribution of net exports to GDP growth in a less favourable euro-area environment.

2.4. ASSESSING REAL WAGE FLEXIBILITY IN EU MEMBER STATES

Box 4 assesses the degree of real wage flexibility in EA12 Member States and the RAMS during the pre-EU enlargement (1996:Q1-2004:Q2) and the euro phase (1999:Q1-2007:Q3). The EA12 group is characterised by declines in real wage flexibility, particularly noticeable for Finland, Germany, Italy and Spain. On the other hand, the RAMS experienced an increase in real wage flexibility. Positive changes to wage flexibility in e.g. the Czech Republic, Lithuania, Malta and Poland are more pronounced than real wage flexibility declines in the cases of Cyprus, Romania and Slovenia.

One possible explanation for this decrease in wage flexibility could be a limited pace in labour market reforms, as compared to a progress in product markets deregulation (OECD, 2004). Evidence of limited ability of real wages to adjust to real shocks and high heterogeneity of wage adjustment patters across the EU is reported by studies employing alternative measures of wage flexibility, based upon reaction of real wages to macroeconomic variables. For example, Arpaia and Pichelmann (2007) estimate a Phillips-curve type wage equation across the euro area countries and find insufficient degree of real wage flexibility in the euro area. In addition their results support our findings of a significant degree of cross-country heterogeneity across euro-area countries. Another factor contributing to a decline in wage flexibility could be related to recently rising heterogeneity in inflation rates across the EU, documented in Bulíř and Hurník (2008). Inflation acceleration, which occurs in a number of EU economies, creates cost-push pressures and leads to monetary transmission inefficiencies. Heterogeneity in inflation rates, in turn, transmits into stronger demand shocks, in particular for the euro area countries which share common monetary and exchange rate policies. In presence of nominal inertia (price/wage sicknesses), nominal shocks could have effects on real variables including real wages, which corresponds to the observed decease in real wage flexibility.

54 See Spring economic forecasts 2008 – 2009. European Economy, No. 3, 2008.

Box 8 : how flexible are real wages in the enlarged eu? [1]

This box assesses the degree of real wage flexibility in EA12 Member States and the RAMS. Following the Structural VAR approach elaborated in Moore and Pentecost (2006),[2] real wages are defined flexible if the variance of real wages is mainly due to real (permanent) shocks, represented by changes in factors endowments and/or factors productivity. On the contrary, whenever nominal (transitory) shocks explain most of the variance in real wages, this is suggestive of rigidities in nominal wages (e.g. not adapting to changes in prices). Nominal shocks are represented by changes in money supply and/or nominal exchange rates. Thus, the degree of real wage flexibility is given by the percentage of the variance in real wages that can be attributed to real shocks.

In order to measure real wage flexibility, a variable characterising the development of labour costs both in nominal and real terms is needed. For this purpose, the LCI provided by the Eurostat at quarterly frequency (covering 1996:Q1 to 2007:Q3) is used. The LCI is available in both nominal and real terms, and the data have the advantage of being harmonised for a cross-country comparison. Nominal and real indices are seasonally and working day adjusted, and normalised to 100 in 2000. For brevity, we refer to the real and nominal labour cost indices as to real and nominal wages.

A bivariate structural VAR decomposition makes it possible to identify real (permanent) and nominal (transitory) shocks from the observable movements of real and nominal wages.[3] By definition, one type of shock (labelled as "nominal") has only a transitory impact on the level of real wages, while another type of shock (labelled as "real") might have a long-term impact on the level of real wages.

Using the estimated parameters of the VAR equations for each of the 24 countries in our sample we first assess the expected reaction of real wages in each country to one standard deviation innovations in real (permanent) and nominal (transitory) shocks over the forecast horizon from 1 to 16 quarters. The stability of the estimated VARs is confirmed by the fact that all impulse-response functions (IRFs) converge to some constant level. Yet the speed of convergence to the constant level varies from country to country, as well as the magnitude of those constants.

The long-term IRFs of real wages to real shocks range from 1 to 6%. In general, the effects of shocks on real wages are more substantial in the RAMS, largely because one standard deviation innovation shock is larger in these countries, which is consistent with higher real wage growth in the rams compared to the EA12. In the short-run, the IRFs of real wages to nominal shocks range between -1.5 to 4.0%. There are 6 countries of the RAMS group (Bulgaria, Estonia, Hungary, Latvia, Poland and Slovakia) and 5 of the EU12 (Belgium, Germany, Ireland, Italy and Spain) in which real wages drop down after a nominal shock. In these countries nominal wages seem to be stickier compared to prices.[4]

In 3 RAMS (the Czech Republic, Lithuania and Romania) and in Luxembourg, real wages tend to rise in reaction to a nominal shock. For these countries, wages seem to be more flexible than prices. In the remaining 3 RAMS (Cyprus, Malta and Slovenia) and 6 euro-area members (Austria, Finland, France, Greece, Netherlands and Portugal) real wages do not react to nominal shocks or the evidence on the response of real wages to nominal shock is inconclusive. Thus, the reaction of real wages to a nominal shock appears to be rather heterogeneous. Differences in the results could be driven by specific labour market conditions and institutions.

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1 For further details on the information content of this box, see Babecky J. and Dybczak K. (2008), 'Real wage flexibility in the enlarged EU: Evidence from a Structural VAR', National Institute Economic Review, volume 204, number 1, pages 126-a-138.
2 Moore, T. and Pentecost, E. J. (2006), 'An investigation into the sources of fluctuation in real and nominal wage rates in eight EU countries: A structural VAR approach', Journal of Comparative Economics, 34, 2, pp. 357–76.
3 The identification strategy is based upon the standard structural decomposition proposed by Blanchard and Quah (1989), in the way Bayoumi and Eichengreen (1996) apply this decomposition to extract real (supply) and nominal (demand) shocks from the series of real output and prices. Bayoumi, T. and Eichengreen, B. (1996), "Operationalizing the theory of optimum currency areas", CEPR Discussion Paper, No. 1484. Blanchard, O. J. and Quah, D. (1989), 'The dynamic effects of aggregate demand and supply disturbances', American Economic Review, 79(4), pp. 655–673.
4 For Poland and Italy, Moore and Pentecost (2006) find a positive reaction of real wages to nominal shocks. Our finding of a negative response of real wages to nominal shocks is largely due to a difference between total labour cost and wage measures

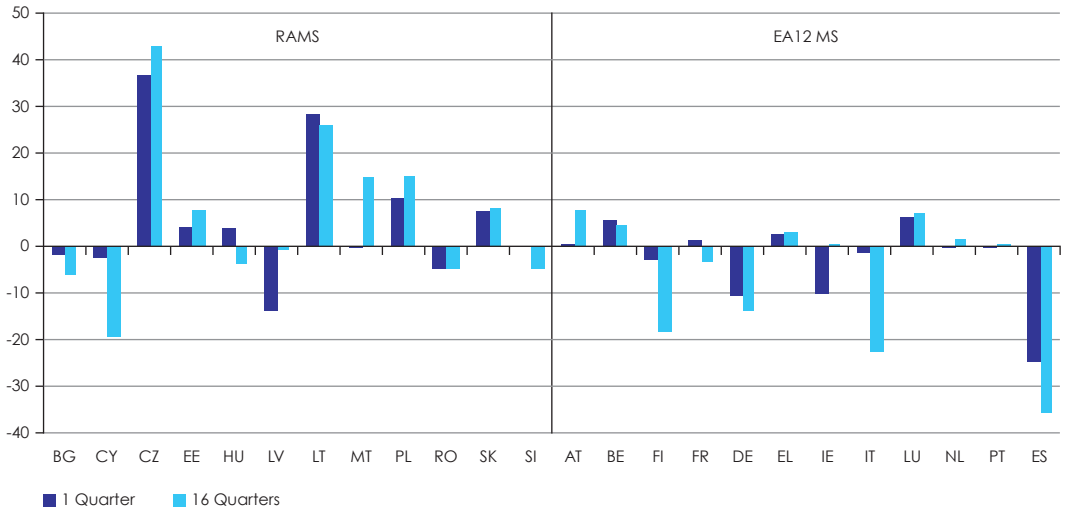
The overall transitory dynamics of real wages in the EA12 seems to be smoother compared to the RAMS. But while for some EA12 countries (e.g. Germany, France and Belgium) the impulse-response functions are smooth, the adjustment in other euro-area countries (e.g. Greece, Spain and Finland) is longer and/or more volatile. Even so, there are some countries within the group of RAMS (particularly the Czech Republic, Hungary and Estonia) whose responses to shocks are smoother and faster compared to the peripheral EA12 countries.

While impulse-responses allow illustrating the dynamic effects of shocks on real wages, variance decomposition measures the relative contribution of real and nominal shocks to fluctuations in real wages. Real wages are said to be flexible if their variation is mainly due to real shocks. We found that both groups – the RAMS and the EA12 – are characterised by a variety of outcomes. For example for Lithuania and Romania, the proportion of total variance accounted by real shocks goes from 40%-50% of Lithuania and Romania to more than 90% of countries such as Bulgaria, Estonia, Slovakia, Slovenia. In the countries of the Euro area, real wage flexibility is higher in the 'core' countries such as Germany and France (over 90%) and somewhat lower for other countries such as Greece and Spain (65%-70% after 4 years).

On average, in terms of variance decomposition at the horizons up to 4 years, the RAMS are positioned between the 'core' and 'periphery'. Excluding Romania and Lithuania, the majority of the RAMS are characterised by higher real wage flexibility than e.g. Greece and Spain, but lower than Germany and France.

Finally, in order to assess the stability of the results over time we compare the estimates for the full sample (1996:Q1–2007:Q3) and two periods, which correspond to the pre-EU enlargement (1996:Q1-2004:Q2) and the euro phase (1999:Q1-2007:Q3) (Graph 120). For each of the two shorter periods we find stable VARs, similar impulse-response functions and calculate the variance decomposition. The EA12 group is characterised by declines in real wage flexibility, particularly noticeable for Finland, Germany, Italy and Spain. On the other hand, the RAMS experienced an increase in real wage flexibility. Positive changes to wage flexibility in e.g. the Czech Republic, Lithuania, Malta and Poland are more pronounced than real wage flexibility declines in the cases of Cyprus, Romania and Slovenia.

Graph 120 – Change in real wage flexibility
Pre-EU enlargement period (1999-2007) compared to euro phase (1996-2004), (difference in percentage points)



Data source: Babecky J. and Dybczak K. (2008).
Note: Vertical axis shows the p.p. difference between the later and earlier periods (i.e., 1999-2007 versus 1996-2004) in the variance decomposition of real wages to real shocks. As the contribution of shocks to the variance of real wages may depend on the forecast horizon, the percentage difference is reported for two alternative horizons (1 and 16 quarters after the shock).

PART II

Special focus

1. THE ECONOMIC IMPACT OF MIGRATION

1.1. INTRODUCTION

In recent years the world has experienced a substantial increase in international migration. The United Nations estimate that in 2005 around 191 million persons, representing 3% of world's population, resided in a country other than the country where they were born.[55] The figure for 1960 was 75 millions or 2.5% of worlds' population. International migrants tend to reside in the more developed countries. Almost one of every 10 persons living in the more developed regions is an immigrant. In contrast, nearly one of every 70 persons in developing countries is a migrant. Sixty per cent of the world's migrants currently reside in the more developed regions. Most of the world's migrants live in Europe (64 million), Asia (53 million) and Northern America (45 million).

Mass migration is not a new phenomenon. Significant migration flows between the old and the new world occurred from the middle of the 19th century until the 1920s (a period often identified with the first wave of globalisation), when flows dropped as a consequence of the national-origin quota system.[56] Following the introduction of "guest worker" programmes, some continental European countries such as Germany experienced sizeable immigration flows between mid-1950s and early 1970s. Waves of mass immigration also came from former colonies to France, the Netherlands and the UK. Between early 1970s and mid 1985, in conjunction with the oil shocks and the related economic uncertainties, economic migration slowed down considerably, and the main sources of migration became asylum seekers and refugees. Important flows of migrants were admitted in the Nordic countries on the ground of humanitarian reasons in the 1970s; more recently, ethnic conflicts at the European borders resulted in large movements of refugees and asylum seekers. The fall of the iron curtain spurred east-west migration from Central and Eastern Europe.

As a consequence of these geopolitical changes, international migration flows has been rapidly increasing since the 1980s. Yet, the greatest increase in the stock of migrants was observed between the mid-1980s and the mid 1995 (Lowell, 2007).[57] In this period, the stock of migrant grew by 62% worldwide and more than doubled in the developed countries. Europe was the main destination area, while traditional emigration countries such as Spain, Italy, Greece and Portugal gradually turned out to be new immigration countries. The fraction of the EU population that is foreign-born reached 5% in 2006. From an European perspective, it is appropriate to further distinguish nationals from other Member States, for whom free movement within the EU is, generally, in place, from third country nationals, subject to the immigration and asylum legislations of each Member State. The stock of third-country nationals hovered around 3% in the EU, with sizeable differences across Member States.

The large number of immigrants and the rapid increase in the foreign population in some countries has prompted concerns about the possible negative effects on labour market opportunities of nationals. The perception that a large number of immigrants were low-skilled also made these concerns widespread especially among the less educated. Are migrants taking the jobs from natives? How migrants integrate in the hosting country? Is migration an economic burden for the host country, or it can provide a valuable contribution to raising economic growth in the long term?

A simple answer to these questions cannot be given. The economic impact of migration

55 United Nations (2006), International Migration 2006, http://www.un.org/esa/population/publications/2006Migration_Chart/Migration2006.pdf .

56 In the 1920s, the US Congress introduced the national-origin quota system allocating visas according to ethnic composition. As a consequence of this system, the inflows rate dropped dramatically; in the 1930s, 60 percent of all visas were awarded to applicants from Germany and the UK. Inflows rate in the US started to pick up again after the amendments to the National Immigration act in 1965, which lifted the national-origin quota system. Borjas, G. (1994), "The Economics of Immigration", Journal of Economic Literature, pp. 1667-1717.

57 Lowell, B.L. (2007), "Trends in International Migration Flows and Stocks, 1975-2005", OECD Social Employment and Migration Working Papers no. 58. For a review of recent trends in migration to the EU and a discussion of policy options see Diez. Guardia, N. and K. Pichelmann (2006) "Labour Migration Patterns in Europe: Recent Trends, Future Challenges".

depends on how fungible are migrants' skills, on how their skills combine with those of the natives and on the response of the latter to the increase in the supply of foreign labour. In a medium- to long-term perspective, the final impact of immigration on labour market opportunities of nationals depends also on the mobility of capital and workers across sectors and geographical areas. Moreover, since many immigrants return back to their native countries,[58] the effects of migration on the labour market and on the welfare state of the hosting country depend on whether those who return are the most successful or people who have failed to do well. Nonetheless, there is wide agreement in the literature that the impact of migration on the labour market perspective of the native population is fairly small. For example, the International Organisation for Migration (2006) concludes that in a wide variety of jobs in Western Europe there is hardly any direct competition between immigrants and local workers... … The economic gains from immigration are small, but positive, with the benefits, invariably, distributed unequally. Most gains accrue to the migrants and owners of capital, and can have positive knock-on effects on global GDP levels. The losers are often local workers with similar skills to the migrants, but again the overall loss seems minimal".[59]

The increased international mobility of people is an important aspect of globalization. There cannot be easy answers to the issue of the costs and benefits of migration, but what is certain is that migration will remain an important issue for the European Union over the coming years. Immigration and asylum of third-country nationals was inserted in the Treaty of Amsterdam. The European Council, at its meeting in Tampere in October 1999, set out the elements for a common EU immigration.[60] The 2000 Communication of the Commission on a Community Immigration Policy[61] recognised that immigration has an important role to play in releasing Europe's potential. In its Communication of June 2003 on Immigration, Integration and Employment[62], the Commission explored the role of immigration in the context of demographic ageing and outlined policy orientations and priorities to promote the integration of immigrants. The Thessaloniki European Council of June 2003 welcomed this Communication and stressed «the need to explore legal means for third country nationals to migrate to the Union, taking into account the reception capacities of the Member States». As a follow-up, the Commission adopted its first Annual Report on Migration and Integration in June 2004, where it announced its intention to work towards the definition of common basic principles for integration at EU level. In the 2005 Communication on a Common Agenda for Integration[63], the Commission encouraged Member States to strengthen their efforts to develop comprehensive national integration strategies, while enhancing consistency between actions taken at EU and at the national level. The nexus between migration and development was tackled in a 2005 Communication, while the policy priorities in the fight against illegal migration of third country nationals were discussed in a 2006 Communication[64]. The recent Commission Communication on a Common immigration policy for Europe sets out a number of initiatives designed to ensure that economic immigration is well managed in partnership with the Member States.[65] The recent Commission's Strategic Report on the Lisbon strategy underlined the issue of migration as an emerging policy priority within the next three-year cycle of the Integrated Guidelines 2008-2010. The European Council conclusions of December 2007 also point in this direction. Questions related to migration play a major role in the context of the integrated guidelines. Dealing with increased international migration is a global challenge, requiring closer cooperation between sending and receiving countries. Solutions should take into account the interests of all the countries involved as well as those of the migrants themselves.

58 For example, out of five migrants ("ethnic Germans" excluded) only one was still living in Germany after 10 years from his/ her arrival and less than 35 per cent after 25 years. In Sweden, over a quarter of immigrants are estimated to leave within 5 years of their arrival (Edin, LaLonde and Aslund, 2000).
59 International Organisation for Migration (2006), "World Migration: Costs and benefits of international migration"
60 In 1994, a European Council Resolution prescribed that "Member States will refuse entry to their territories of third-country nationals for the purpose of employment", see Council Resolution of 20 June 1994 on the limitation of admission of third-country nationals to the territory of the Member States for Employment.

61 COM(2000) 757.
62 COM (2003) 336 final.
63 COM(2005) 0389.
64 COM(2008) 359, 17.6-2008.
65 COM(2005) 0389.

Against this background, this focus will first present the main facts about immigration and labour market. While difficult to predict, economic analysis may provide a simple framework to assess the economic consequences of immigration. The mechanisms through which immigration influences labour market performance of the hosting country will be analysed in the second section. The third section reviews the findings of a vast and sometimes inconclusive empirical literature.[66] The fourth session concludes.

1.2. SETTING THE SCENE: IMMIGRATION AND THE LABOUR MARKET

More than 20 millions of foreigners resided in the EU in 2007, mainly third country nationals (Table 21, columns 1 and 2). The largest proportion of foreigners is found in Germany, where the nationals from other EU countries and nationals from third countries account both for 27% of the respective stocks of migrants in the EU. The proportion of foreigners in the total population shows significant cross-country differences (Table 21 columns 9 and 10). Apart from Luxembourg, a very small and open economy, the largest proportion of foreigners in total population is observed in Spain, Austria and Germany. With the exception of Belgium and Luxembourg, the foreigners from third countries are usually disproportionally represented in the total foreign population. Spain, Austria and Germany are the countries that attract more third country nationals.

Non-nationals, especially from third countries, are also more likely to be unemployed than employed (Table 21 columns 3 to 6); foreigners respectively non-EU and EU-countries represent about 8% and 3% of total unemployed. The share of foreign unemployment is particularly high in Austria, Germany and Spain, where migrants from other EU countries and non-EU countries account respectively for more than 4 and 12% of total unemployment.

Consistently with the increase in the intra-EU mobility, the proportion of EU-nationals is higher than the proportion of third country nationals. Thus, the latter tend to cluster in few countries compared to EU-nationals. For example, in France nationals from other EU countries account for 13 per cent of the total stock of EU migrants while third country nationals in the country represent 11 per cent of all migrants from the rest of the world. Similarly, 17% of EU migrants reside in the UK, while the proportion of third country nationals in the UK is at about 13%. Exceptions to this pattern are Germany, Spain and, especially, Italy, where compared to the relevant stock there are as many foreigners from another EU country as foreigners from third countries. For these two recent immigration countries, migrants form the rest of the world represents a disproportionally high share of all the third countries' immigrants in the EU respectively 20 per cent and 12 per cent of all migrants from non EU countries.

Yet, with the exception of the Nordic countries, geographical mobility is lower in Europe, about a third of that in the US (Rupert and Wasmer, 2007). Indeed, 15.5% of American residents move yearly for one reason or another against only 4.5% of the Europeans.[67]

The highest share of Europeans living in another EU country, aside Luxembourg, is found in Belgium and in the relatively small and open Cyprus. Excluding Luxembourg, on average about 2% of residents in an EU country has a nationality from another Member States. This percentage is extremely low if compared with the 30% of US residents born in a state and living in another in 2000 (Peri, 2005)[68]. In addition, the geographical mobility of individuals peaks in the US between 20 and 24 years, while it monotonically declines in Europe from age 16. Being mainly made of young people, immigration may contribute to enhance geographical mobility in Europe. Even so, the housing markets and wage-compressing labour market institutions remain the main obstacles to mobility.

66 For an exhaustive description of the recent trends in international migration and of immigrants' labour market performance see "International Migration output 2007", OECD. A discussion of more recent migration trends and of migration policies can be found in Employment in Europe 2008.

67 Rupert, P. and E. Wasmer. (2007). "Labour markets with imperfect housing markets", mimeo, Sciences-Po Paris and Cleveland Federal Reserve Bank. About two-thirds of moves in the US are within a county; the remainder to a different county. In other words, the inter-county mobility rate is approximately 5% a year, or around 14% over three years.

68 Peri, G. (2005), International migration: some comparisons and lessons for the EU, preliminary draft.

Sizeable cross-country differences in the employment rates of nationals and non-nationals

The immigrant employment rate is generally lower than the employment rate of nationals. This gap is to a large extent due to the difference between the immigrant employment rate of respectively nationals form EU and third country nationals. This gap is appreciable in the Nordic countries, Netherlands, Belgium, and France, not less than 20 pp, but also in Germany, Luxembourg, Austria and the UK where the unemployment rate of third countries nationals is between 10pp and 20 pp lower than that of the EU-nationals. In contrast, the employment rate of third countries' immigrants in the Southern European countries is not lower than that of EU, and even higher in the case of Greece (Table 21).

The age structure of the immigrants differs from that of nationals. This distorts the comparisons between the nationals and foreign employment rates. Usually, immigrants are younger than natives, implying that cohorts with relatively low employment rates weight more in the foreign population. For example, in Italy and France the highest employment rate is observed for the 40-44 age group which account respectively for less than one fifth and 16% of the 25-54 population. The effect of demographics is highlighted in the last two columns of Table 21 showing respectively for the EU and the third country nationals, the employment rates adjusted assuming the same age structure as that of the natives. This adjustment shows that the gap between nationals and immigrants employment rate is even larger in countries where the immigrants population is relatively young.

Net migration inflows in traditional emigration countries account for a large part of the net inflows in the EU

There has been a rapid change in the composition of migration flows (Table 22). Traditionally, the largest number of arrivals was found in Germany, France and the UK. Due to recent inflows, the share of foreign population has sharply increased in Greece, Spain, Italy, Portugal and Ireland. During the period 1990 to 1996, Germany concentrated over two thirds of the net migration flows into the EU. Over the period 1997 to 2007, the share of Germany as a recipient was less than 10%, with Spain receiving close to 36% of net inflows, Italy close to 21% and the UK 11%. Net inflows prevail in most EU10 new Member States, except in the Baltics, Poland and Romania where the reverse pattern took place. In 2007, the migratory balance was positive in all Member States except Latvia, Lithuania, Poland and Bulgaria and the Netherlands.

It is the swift increase in the net inflows in countries of Southern Europe that explains the recent inflows of immigrants to the EU. Graph 121 shows inflows to the EU since mid 1970s both as proportion of total population and of the change of total population. After the temporary decline in the late 1970s, immigration started to increase in the 1980s and peaked in the early 1990s in conjunction to the geopolitical changes which spurred massive flows of immigrants from Eastern Europe. It is appreciable that, although immigrants' flows hovered in this period around 0.1 to 0.2 per cent of total population, their contribution to the change of total population increases up to close 100% in 2000s. As a consequence of the jump in the new immigration countries in 2000s, the inflow rates more than doubled (Graph 122) while they were relatively small in the rest of the EU. Finally, the contribution of migration to total growth in population stabilised with inflows being about 80% of the change in the EU total population.

In parallel with the increase in net inflows, also the immigrants' employment has gone up with an appreciable contribution to total employment growth in some countries Table 23. During the last decade, the employment of foreign people is the most dynamic components in all OECD countries but France. In Austria, Denmark, Sweden and the Southern European Countries the growth of foreign employment has been spectacular; in Germany where the total growth of employment is negative in the period considered, the increase in immigrants' employment is relatively limited.

A more U-shaped distribution of immigrants by level of education, but not in the southern European countries

The educational attainment determines the degree of substitution or complementarity between foreign and natives workers. Overall, the EU tends to attract immigrants in largest proportion among the less educated: the distribution of foreign-born by education attainment tends to concentrate in the lower levels, whereas for nationals the proportion of

the adult population with upper secondary attainment tends to be the highest (Table 24). This partly reflects labour demand for low skilled occupations in manufacturing in Italy, in agriculture (in Greece) and in construction (in Spain, Portugal and Greece). Compared to native-born with tertiary level of education, high skilled foreigners represent a relatively higher share in employment.

Immigrants tend to occupy both extremes of the education distribution. Of the foreign-born living in the EU, the percentage of people having low and medium educational attainment levels combined is above 70 per cent in most Member States, close to 90 per cent in Italy and between 55 and 65 per cent in Ireland, Denmark and the UK. For natives, the percentages are similar. The percentage of foreign-born highly skilled is rather high in Ireland, the Nordic countries, the UK, Spain, and Hungary. In Italy and Austria, it is the lowest. The proportion of foreign-born with tertiary level of education is about the same as among the native-born in many Member States, with the exception of Denmark Poland, and, especially, the UK, Ireland, Hungary and Portugal where it is relatively high and of Finland, and to a less extent, Belgium and Austria where it is relatively low.

Compared to native-born with tertiary level of education, foreign-born people are usually less likely to be employed. This is not valid for countries such as Luxembourg, Portugal and Sweden, where the employment rate of high skilled natives is lower than the employment rate of foreign-born with the same level of education.

Overall, most international migrants are medium and low skilled people. Yet, recent waves of immigration have been characterised by higher skill levels especially in Belgium, Denmark and Sweden, (OECD, 2007)[69]. Even so, the U-shaped distribution of migrants by level of education of some continental European countries and the UK is not representative of the distribution of immigrants in Southern European countries, which lag behind in attracting skilled immigrants. Overall, the EU net migration flows by level of education suggests that Europe as a whole attract people with primary and secondary level of education, while it experiences a substantial loss of highly educated individuals. In contrast, high skilled prefer to move to the US, where 65% of total high skilled migrants are located.[70] Thus, with the exception of the UK, Europe attracts immigrants in a large proportion among the low skilled, highly substitutes for the less educated native workers. Conversely immigrant population in the US, Canada, Australia and Switzerland has an educational distribution that is complementary to that of the native born (Peri, 2005).

Over half of the highly-skilled from non-OECD countries go to the US. The US, the UK, France, Portugal and Spain seem best able to attract highly skilled workers from non-OECD countries, which can be explained by a colonial

69 In these countries, the proportion of immigrants with tertiary education employed and settled for less than 10 years was in 2005 at about 40%. Source: International Migration Outlook, Annual Report, 2007 edition.
70 Lowel, L., (2007) "Trends in international migration flows and stocks, 1975-2005", OECD Social, Employment and Migration Working Papers N 58.

Table 21 – Immigration and the Labour Market 2007

	Total stock of migrants (15+) *1000		Share of foreigners in total employment (15-64)		Share of foreigners in total unemployment (15-64)		Share of foreigners in total active population (15-64)		Share of foreigners in total population (15+)		Employment rate		Employment rate (25-54)		Employment rate (25-54) adjusted by national population		Net inflow of foreigner as a share of total population	Net inflow of foreigner (2006) *1000	Change in total population (2006-2007) *1000
Source area	EU27	Rest of the World	EU27	Rest of the World	EU27	Rest of the World	EU27	Rest of the World	EU27	Rest of the World	EU27	Rest of the World	EU27	Rest of the World	EU27	Rest of the World			
Destination country	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
BE	510,4	246,3	6,0%	1,9%	8,1%	9,7%	6,2%	2,5%	5,8%	2,8%	61,2%	38,1%	72,3%	44,7%	72,0%	43,0%	0,6%	53,4	73,2
DK	54,4	158,6	1,3%	2,8%	:	9,5%	1,3%	3,1%	1,2%	3,6%	73,7%	52,6%	79,3%	56,7%	:	55,5%	0,4%	7,3	19,6
DE	2214,6	3924,9	3,6%	4,8%	4,2%	12,9%	3,7%	5,5%	3,1%	5,6%	68,1%	49,6%	76,4%	57,8%	76,5%	57,9%	0,1%	23,5	-123,1
GR	97,7	384,5	1,3%	5,9%	1,1%	5,2%	1,3%	5,8%	1,1%	4,2%	62,9%	69,0%	72,3%	76,1%	72,7%	76,7%	0,4%	41,0	46,6
ES	1307	2902,4	4,0%	9,7%	5,6%	15,5%	4,2%	10,2%	3,4%	7,6%	68,9%	68,9%	76,4%	75,2%	75,0%	75,1%	1,6%	612,9	716,4
FR	1098,1	1612,8	2,2%	2,6%	2,2%	8,7%	2,2%	3,1%	2,2%	3,3%	65,9%	46,2%	77,5%	54,1%	76,8%	54,3%	0,1%	89,5	393,4
IE	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	1,5%	66,7	105,6
IT	498,3	1774,1	1,5%	5,1%	1,8%	7,2%	1,5%	5,2%	1,0%	3,5%	69,8%	66,4%	74,8%	73,3%	75,2%	74,3%	0,8%	377,5	379,6
LU	139,8	12,2	44,1%	3,3%	46,5%	:	44,2%	3,6%	37,0%	3,2%	69,8%	55,0%	84,4%	65,2%	83,3%	:	1,3%	5,4	7,1
NL	217,9	286,4	1,8%	1,6%	2,0%	5,2%	1,8%	1,8%	1,6%	2,2%	75,5%	50,3%	83,1%	53,7%	83,0%	52,1%	0,0%	-25,9	23,8
AT	237,4	438,8	4,0%	6,3%	6,0%	17,3%	4,1%	6,8%	3,4%	6,4%	71,8%	59,6%	78,3%	65,6%	79,3%	66,5%	0,4%	29,4	33,0
PT	50,5	234	0,7%	3,3%	0,5%	5,4%	0,7%	3,5%	0,6%	2,6%	71,3%	71,7%	78,7%	79,4%	:	80,1%	0,2%	26,1	29,5
FI	27,8	44,6	0,8%	0,8%	1,0%	3,4%	0,8%	1,0%	0,6%	1,0%	74,6%	49,4%	81,4%	54,4%	:	:	0,3%	10,6	21,4
SE	164,8	164	2,3%	1,7%	2,7%	6,3%	2,3%	2,0%	2,2%	2,2%	69,9%	50,1%	79,1%	57,2%	78,8%	57,8%	0,6%	50,8	65,5
UK	1412,3	1903,3	3,4%	3,9%	3,8%	7,1%	3,4%	4,0%	2,9%	3,9%	75,9%	60,3%	82,7%	67,8%	81,6%	67,6%	0,3%	177,8	459,7
CY	45,3	35,9	7,2%	7,4%	13,6%	7,1%	7,4%	7,4%	7,4%	5,9%	66,3%	76,6%	79,7%	81,3%	78,8%	82,2%	1,6%	8,6	12,3
CZ	37,1	33,5	0,6%	0,5%	0,3%	0,8%	0,6%	0,5%	0,4%	0,4%	81,4%	72,3%	86,2%	79,2%	87,7%	78,4%	0,8%	34,7	36,1
EE	:	201,4	:	16,3%	:	30,4%	:	17,0%	:	17,7%	:	69,9%	:	80,7%	:	80,0%	0,0%	0,2	-2,3
HU	32,5	16,3	0,5%	0,3%	:	:	0,5%	0,2%	0,4%	0,2%	65,0%	65,4%	71,5%	79,1%	:	:	0,1%	21,3	-10,4
LT	:	17,1	:	0,6%	:	:	:	0,6%	:	0,6%	:	65,7%	:	76,2%	:	:	-0,2%	-4,9	-18,4
LV	:	30,6	:	1,1%	:	:	:	1,1%	:	1,6%	:	65,4%	:	77,7%	:	:	0,0%	-2,5	-13,3
MT	3,8	4,7	1,0%	1,6%	:	:	1,0%	1,6%	1,2%	1,4%	51,6%	53,3%	:	66,7%	:	:	0,5%	2,1	2,8
PL	13,4	33,9	0,1%	0,1%	:	:	0,1%	0,1%	0,0%	0,1%	70,3%	62,7%	77,5%	66,2%	:	:	-0,1%	-36,1	-31,6
SK	4,4	:	:	:	:	:	0,1%	:	0,1%	:	:	:	:	:	:	:	0,1%	3,9	4,5
SI	:	12,6	:	0,8%	:	:	:	0,8%	:	0,7%	:	63,8%	:	69,5%	:	:	0,7%	6,3	7,0
BG	:	8,1	:	:	:	:	:	:	:	0,1%	:	:	:	:	:	:	0,0%	0,0	-39,5
RO	:	29	:	0,2%	:	:	:	0,2%	:	0,2%	:	64,3%	:	80,1%	:	:	0,0%	-6,5	-45,1
EU27	8182	14511,1	2,3%	3,7%	2,8%	8,0%	2,4%	4,0%	2,0%	3,5%	69,5%	58,4%	77,7%	66,0%	77,5%	66,0%	0,4%	1573,1	2153,3
EU27		22693		6,1%		10,8%		6,4%		5,5%									

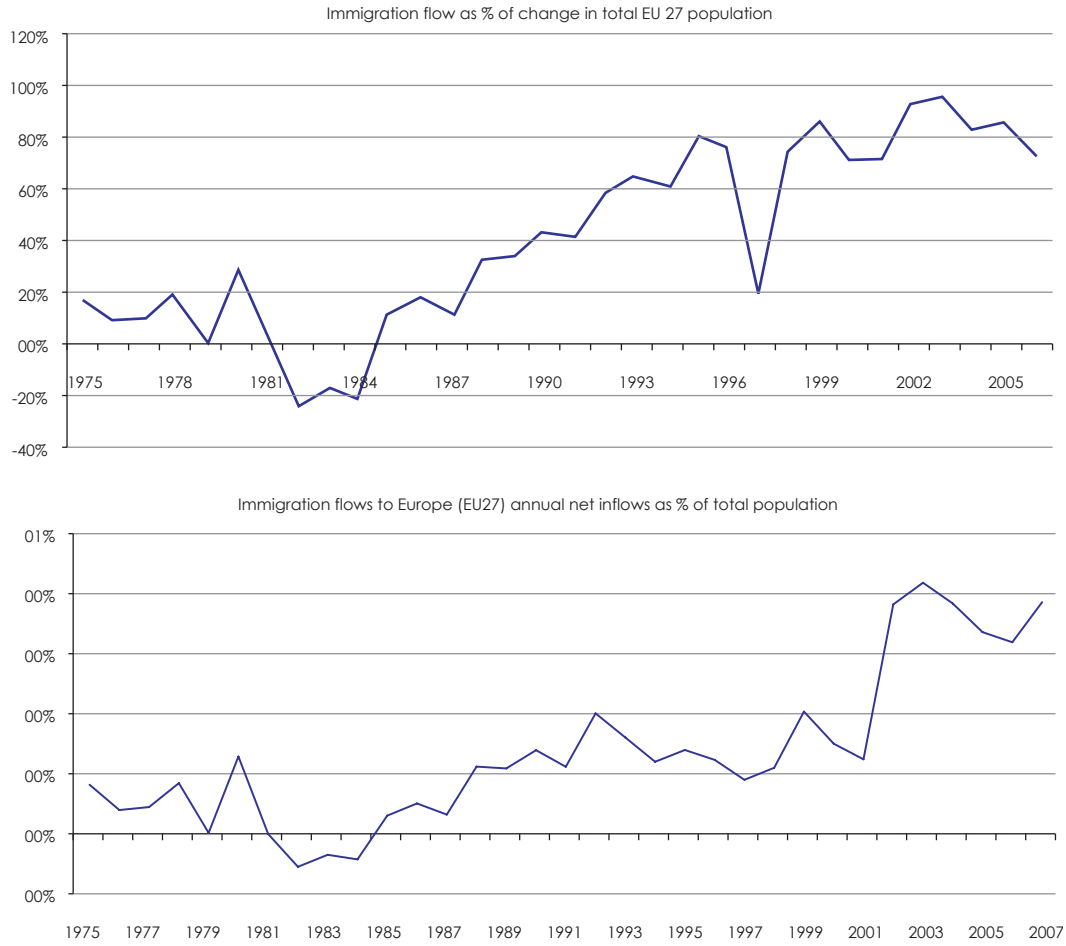
Source: Commission services. The shares are calculated with respect to the relevant aggregate at country level.

Table 22 – Net migration, per thousands

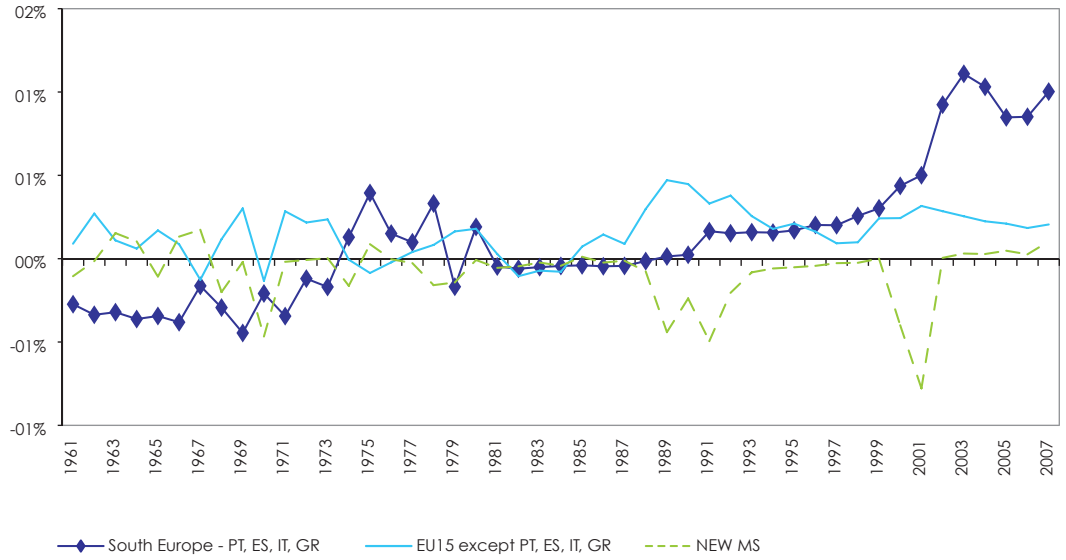
	AVG 50's	AVG 60's	AVG 70's	AVG 1980-84	AVG 1985-89	AVG 1990-94	AVG 1995-99	2000	2001	2002	2003	2004	2005	2006	2007
BE	10,8	15,6	8,1	-7,1	8,2	18,8	10,9	14,3	35,6	40,5	35,5	35,8	50,8	53,4	62,3
DK	:	0,9	4,2	1,1	6,4	10,6	15,7	10,1	12,0	9,6	7,0	5,0	6,7	7,3	23,1
DE	67,8	191,8	92,9	1,8	332,2	562,6	204,4	167,9	274,8	218,8	142,2	81,8	81,6	23,5	47,8
GR	:	-38,6	15,6	17,9	24,4	88,6	61,9	29,4	37,8	38,0	35,4	41,4	40,0	41,0	41,0
ES	:	-69,9	-1,9	0,8	-19,7	49,4	129,0	389,8	441,3	649,2	624,6	610,0	641,2	612,9	701,9
FR	:	:	:	:	:	:	74,4	158,3	172,7	184,2	188,7	105,1	91,6	89,5	71,0
IE	:	-17,9	10,2	-7,0	-32,4	-1,4	16,0	31,8	39,3	32,7	31,4	47,6	66,2	66,7	64,4
IT	-103,2	-95,9	-22,7	-27,8	-2,5	21,8	45,2	49,5	49,9	344,8	612,0	556,6	324,2	377,5	494,3
LU	0,7	1,5	2,6	0,4	2,2	3,9	3,9	3,4	3,3	2,6	5,4	4,4	-3,5	5,4	6,0
NL	:	6,8	31,2	14,2	27,4	41,4	30,9	57,0	56,0	27,6	7,1	-10,0	-22,8	-25,9	-1,6
AT	:	5,5	8,0	3,3	14,4	48,7	7,1	17,3	43,5	34,8	38,2	61,7	56,4	29,4	31,4
PT	:	-124,0	21,9	6,1	-32,0	-7,3	29,3	47,0	65,0	70,0	63,5	47,3	38,4	26,1	19,5
FI	:	-15,0	-3,0	4,1	2,4	9,0	4,2	2,4	6,1	5,3	5,8	6,7	9,2	10,6	13,9
SE	:	17,6	12,1	5,2	24,1	32,5	9,6	24,4	28,6	30,9	28,7	25,3	26,7	50,8	54,0
UK	:	4,0	-21,7	-34,2	22,5	22,3	81,3	143,9	151,0	157,6	177,7	227,2	193,3	177,8	174,6
CY	:	-3,3	-15,2	-0,5	1,1	8,9	4,9	4,0	4,7	6,9	12,3	15,7	14,4	8,6	12,8
CZ	:	-8,5	-9,7	-6,5	2,4	-5,8	10,1	6,5	-43,1	12,3	25,8	18,6	36,2	34,7	83,9
EE	:	9,0	6,3	5,3	3,5	-21,8	-8,7	0,2	0,2	0,2	0,1	0,1	0,1	0,2	0,2
HU	:	0,9	-1,3	0,0	-38,5	18,2	17,5	16,7	9,7	3,5	15,6	18,2	17,3	21,3	14,0
LT	:	3,4	6,3	6,8	12,5	-18,4	-22,5	-20,3	-2,6	-2,0	-6,3	-9,6	-8,8	-4,9	-5,2
LV	:	14,6	10,2	6,5	11,3	-27,4	-8,6	-5,5	-5,2	-1,8	-0,8	-1,1	-0,6	-2,5	-0,6
MT	:	-5,9	-1,3	0,8	1,4	1,0	0,3	9,8	2,2	1,7	1,7	1,9	1,0	2,1	2,0
PL	:	-13,7	-57,6	-24,3	-41,0	-14,9	-14,0	-409,9	-16,7	-17,9	-13,8	-9,4	-12,9	-36,1	-20,5
SK	:	8,3	-6,4	-5,6	-3,5	-7,5	1,9	-22,3	1,0	0,9	1,4	2,9	3,4	3,9	6,8
SI	:	0,6	6,0	0,1	6,2	-2,7	0,3	2,7	5,0	2,2	3,5	1,7	6,4	6,3	14,1
BG	:	-0,9	-14,5	0,0	-51,3	-49,1	0,2	0,0	-214,2	0,9	0,0	0,0	0,0	0,0	-1,4
RO	:	-12,0	-10,4	-18,7	-20,1	-110,8	-12,4	-3,7	-557,7	-1,6	-7,4	-10,1	-7,2	-6,5	0,7
EU27	:	93,0	144,2	-5,1	311,5	692,9	638,8	724,6	600,1	1851,8	2035,3	1875,0	1649,4	1573,1	1910,4

Source: Eurostat.

Graph 121 – Immigration inflows in EU-27



Graph 122 – Immigrants inflows as share of the total population



Source: Commission services.

Table 23 – Employment change, total and foreign born, 1995-2005

	Employment (thousands)				Increase in employment (thousands)		Relative change over the period (%)	
	Foreign-born		Total					
	1995	2005	1995	2005	Foreign-born	Total	Foreign-born employment	Total employment
Australia	1.876	2.483	7.879	9.981	606	2.102	32,3	26,7
Austria	424	544	3.620	3.726	120	106	28,3	2,9
Belgium	306	466	3.769	4.187	159	418	52	11,1
Canada	2.007	2.343	12.636	14.352	336	1.716	16,8	13,6
Czech Republic	..	88	..	4.698	..	..	..	..
Denmark	80	156	2.569	2.686	75	118	93,6	4,6
Finland	-	57	1.926	2.379	..	453	..	23,5
France	2.336	2.552	21.927	24.205	216	2.278	9,3	10,4
Germany	4.199	4.892	36.208	35.705	693	-502	16,5	-1,4
Greece	148	377	3.693	4.301	229	608	154,2	16,5
Hungary	..	77	..	3.869	..	..	..	..
Iceland	3	9	133	156	6	23	170,5	17,7
Ireland	64	219	1.229	1.891	154	662	239,8	53,9
Italy	83	1.768	19.644	22.293	1.686	2.649	2.038,40	13,5
Luxembourg	62	85	161	193	23	32	37,3	20,1
Netherlands	499	864	6.727	7.953	366	1.227	73,3	18,2
Norway	88	151	2.007	2.240	64	233	72,6	11,6
Poland	..	49	..	13.683	..	..	..	..
Portugal	162	370	4.210	4.806	208	596	128,2	14,2
Slovak Republic	..	17	..	2.189	..	..	..	..
Spain	227	2.448	11.895	18.760	2.221	6.865	979,3	57,7
Sweden	230	525	4.064	4.280	296	216	128,7	5,3
Switzerland	..	942	..	3.883	..	..	..	..
United Kingdom	1.783	2.706	25.489	27.495	923	2.005	51,8	7,9
United States	12.410	21.276	122.764	138.943	8.866	16.179	71,4	13,2

Source: OECD 2007.
Notes: 1994-1995 average and 2003 for Canada; 1994 for Australia; 1992 for Germany.

past and/or a linguistic advantage. In the EU as a whole, mobility of the highly skilled primarily takes place within the EU, although traditional flows from North Africa and Central and Eastern Europe are significant.

In 2001, the US hosted 79,000 foreign doctoral students, the largest number in the OECD (OECD, 2007). The second major host is the UK (35,000 students in 2004). The share of foreign doctoral students in total enrolment differs widely across countries. Foreign doctoral students represent 40% of the doctoral population in the UK, but less than 5% in Italy. Belgium, with 30% is the second EU country with the largest doctoral population from a foreign country. In Austria, Denmark and Sweden, international students represent 15 per cent of doctoral students, but they hardly exceed 5 per cent in Eastern Europe, Finland and Portugal. In the past 5 years, the number of international students has increased in most EU Member States, in particular in Spain. This increase is likely to continue in the near future, in particular in view of international study providing a potential gateway for entry into the labour market, notably in fields where there are labour shortages.

1.3. THE ECONOMIC IMPACT OF MIGRATION

Many different approaches have been used to try to find out whether immigration hampers the labour market opportunities of natives.

Table 24 – Employment by level of education: foreign-born and native born population, 2007
(as % of total employment)

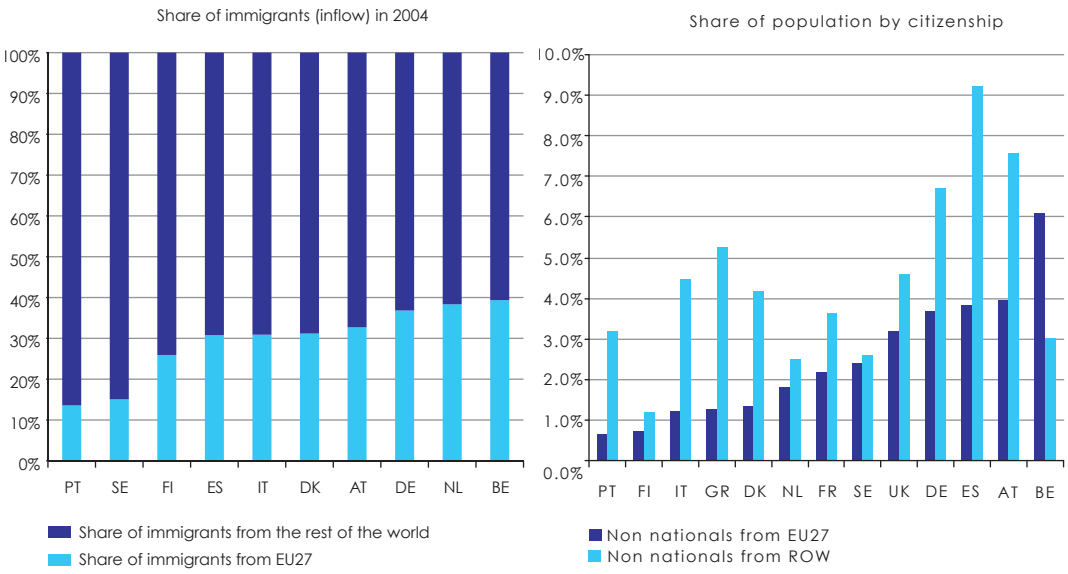
	Less than upper secondary		Upper secondary		Tertiary level	
	Foreign-born	Native-born	Foreign-born	Native-born	Foreign-born	Native-born
AT	**44,0%**	18,4%	42,3%	66,2%	13,7%	15,4%
BE	**37,0%**	29,5%	30,1%	37,1%	32,9%	33,4%
CZ	**18,8%**	8,0%	60,4%	78,1%	**20,8%**	13,9%
DK	**29,4%**	27,7%	41,9%	47,8%	**28,6%**	24,4%
ES	54,8%	56,3%	**22,4%**	17,9%	22,9%	25,8%
FI	**41,9%**	22,8%	33,3%	43,3%	24,8%	33,9%
UK	30,0%	42,7%	25,9%	32,4%	**44,1%**	24,9%
GR	38,0%	38,1%	**43,4%**	38,8%	18,6%	23,1%
HU	17,5%	20,5%	50,9%	61,6%	**31,6%**	17,9%
IE	21,8%	34,0%	29,1%	33,5%	**49,1%**	32,5%
IT	46,1%	46,6%	38,5%	40,0%	**15,4%**	13,4%
LU	**30,7%**	13,2%	42,2%	66,6%	**27,1%**	20,2%
NL	**37,9%**	29,4%	37,3%	46,5%	**24,8%**	24,1%
PL	**20,2%**	13,1%	47,7%	69,0%	**32,0%**	17,9%
PT	50,5%	73,2%	**25,7%**	14,7%	**23,8%**	12,0%
SE	**20,1%**	15,5%	51,0%	57,5%	**28,9%**	27,1%
OECD EU	**37,2%**	36,2%	33,8%	42,1%	**28,9%**	21,7%
US	**20,1%**	3,0%	46,9%	62,2%	33,0%	34,8%

Table 25 – Employment rate by level of education: foreign-born and native born population, 2007
(as % of total working age population in each relevant group)

	Less than upper secondary		Upper secondary		Tertiary level	
	Foreign-born	Native-born	Foreign-born	Native-born	Foreign-born	Native-born
AT	49.81%	30.73%	60.25%	66.42%	67.36%	79.04%
BE	29.83%	31.21%	52.15%	61.23%	67.96%	76.13%
CZ	21.22%	20.01%	53.96%	66.41%	70.76%	77.92%
DK	43.92%	50.04%	59.04%	76.09%	65.94%	83.39%
ES	51.95%	36.21%	53.00%	49.06%	57.89%	61.23%
FI	34.04%	29.90%	50.27%	62.99%	55.96%	76.26%
UK	40.96%	52.73%	58.72%	71.37%	70.26%	78.32%
GR	50.22%	32.15%	59.06%	51.22%	65.97%	73.17%
HU	16.73%	19.76&	51.17%	60.68%	62.93%	72.94%
IE	43.83%	38.01%	59.00%	60.76%	71.12%	76.41%
IT	47.03%	31.47%	57.19%	59.62%	62.76%	69.83%
LU	53.23%	23.17%	64.75%	57.16%	79.72%	79.52%
NL	41.45%	45.48%	63.39%	71.52%	69.52%	80.06%
PL	6.54%	18.34%	18.31%	51.79%	41.74%	75.47%
PT	62.34%	47.99%	67.09%	63.10%	82.94%	81.66%
SE	34.57%	40.91%	56.32%	72.92%	60.97%	78.11%
US	44.75%	34.90%	59.12%	62.42%	71.54%	77.14%

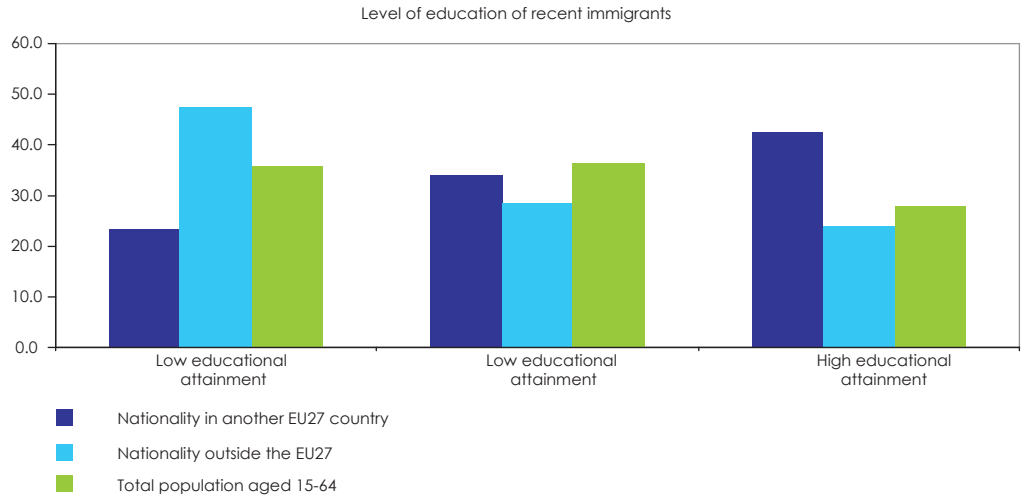
Source: OECD Figures in bold indicate a higher percentage of the foreign-born than the native-born at that level of education.

Graph 123 – Share of non-national population by origin



Source: own calculations on OECD data.

Graph 124 – Level of education of immigrants 2006
(as % of total population in each group)



Source: Commission services.

Immigration, in so far as it constitutes additions to the labour force, increases the amount of available labour inputs, thereby raises potential output and allows for faster sustainable growth. Within the context of a growth accounting framework, i.e. a very mechanical approach which does not consider the effects of the increase in labour input on wages and productivity, it it is calculated that migration in the period 2000-2005 is estimated to have contributed up to 21% of the GDP growth on average in EU-15 (14% on average in the period 1995-2005) and contributed adversely by -2% on average in EU-10 (-1% on average in the period 1995-2005).

Economic theory suggests that free international mobility of labour is beneficial because of allocative reasons, at least for the economy as a whole, as the migrant goes from a place where he/she is less productive to a place where he/she is more productive. Even so, the economic impact of migration is uncertain as it depends on how fast resources can be shifted across occupations, sectors, and geographical areas as well as on the degree of substitution (or complementarity) between native and foreign workers and on the flexibility of natives' wages to changes in the supply of foreign labour. Over and above factor price elasticities, the economic impact of migration depends also on the change in the output- and input-mix triggered by an inflow of foreign workers. And the failure to account for these effects will produce overestimates of the wage and unemployment effect of any immigration "shock". Results also depend on the degree of openness assumed for the economy. The presence of non traded goods in a multi-sector economy can result in both skilled and unskilled labour of native population losing from immigration (Kuhn and Wooton, 1991). Finally, immigration and welfare policies, fertility rates of immigrant women and return migration would all influence how the host economy would respond to a change in the type and the quantity of foreign labour.

In general, immigrants lower the price of factors with which they are perfect substitutes and raise the price of factors with which they are complements. When wages are rigid downwards and thus cannot be adjusted in response to a change in the labour supply, an increase in foreign work has large dis-employment effects. Conversely, policies that enhance the flexibility of real wages may imply lower effects on unemployment.

The theoretical uncertainty created a need for quantitative results and stimulated empirical research. The limited space of this focus does not allow describing all the macro and micro issues related to the economics of immigration or reviewing the vast empirical literature, to a large extent developed to study the US experience. More modestly, this focus tries to identify the main channels through which an increase in the foreign labour can influence the domestic labour market focussing on the macro aspects.

a) Homogeneous labour

The simplest way of thinking about the economic effects of immigration is in terms of partial equilibrium, with fixed capital and homogenous labour (i.e. one type of labour). Immigrants induce an outward shift of labour supply. There are no external effects and all output is distributed to workers and owners of capital.[71] Given the stock of capital (i.e. the supply of capital is inelastic), the value of the total output produced is provided by the area below the labour demand (the marginal product of labour); in Graph 125 this corresponds to the area ABNO.

The increase in foreign labour exerts a downward pressures on wages (as with diminishing returns, the more intensive use of output reduces it marginal product), but the gains to firms from greater availability of labour more than offset native workers' wage losses. For an inflow of M foreign workers, output increases by the area NBCL. Part of the increase in national income is distributed to the immigrants, the wage bill w1M corresponding to the area NDCL. The additional output not distributed to foreign workers gives the immigration surplus for the natives. This surplus is distributed to the natives in the form of higher remuneration of capital. In fact, the increase in employment reduces the capital-labour ratio and increases its remuneration. The surplus is defined by the area of the triangle defined by the

71 The production function describing the economy is a constant return to scale. The labour supply is assumed to be perfectly inelastic, i.e. the labour supply does not change with the wage offered. All the capital is owned by the natives.

downward sloping labour demand and the change in the labour supply due to immigration, namely the area of the triangle BCD.

The size of this surplus depends on the fraction of foreign workers, the labour share in national income, the sensitivity of wages to the increase in the labour supply (i.e. on the elasticity of the labour demand).[72] Clearly, if the foreign labour is only a small fraction of total workforce the immigration surplus is small. Similarly, if the wage share is small, any additional increase in the labour supply would be accompanied, because of the diminishing returns to labour, by a small fall in the wage and a small immigration surplus. Finally, with an elastic labour demand, the fall in wage is relatively small and the immigration surplus close to zero (compare the immigration surplus for the AC with that of the more elastic labour demand AC'). Thus, when capital and labour are substitutes (i.e. the labour demand is elastic) no benefits from immigration accrue to the native population. Conversely, complementarity between capital and labour makes sizeable the immigration surplus. For reasonable values of the key parameters and assuming homogenous labour and perfect competition, the immigration surplus for Europe would be around 0.1 percentage of GDP, of about the same order found by other authors for the US (e.g. Borjas, 1995).

While the overall immigration surplus turns out to be fairly small, the distributional effects tend to be more significant. There can be winner and losers within the native population. In the above model, the native wage bill falls by the area w0BDw1, which accrues to the owners of capital together with the immigration surplus. Assuming an immigration inflow of 10% of the labour force, a typical calculation would suggest an income redistribution of about 1.7% of GDP from native workers to capital-owners.

Yet, redistributive effects can be beneficial at the aggregate level when the redistribution from native workers to users of migrant services of migration open new labour market opportunities for individuals out of the labour market owing to family responsibilities. In fact, while several factors can explain the increase in the employment rate of married women from 43.3 of 1995 to about 49% in 2007, it is certainly the case that the availability of foreign workers has made the cost of child-care more affordable giving women an opportunity to enter into the labour market, especially in countries where publicly provided childrearing is poor.[73]

Clearly, when wages are sticky downwards, no surplus from immigration will arise, but unemployment will emerge. Thus, a crucial factor is how immigration is going to change the wage formation mechanism. Immigrant labour can lower the natural rate of unemployment, either by tempering wage demands, as wage bargainers become aware that they can be replaced more easily than in the past or by filling skill gaps (assuming that foreign-born workers are complementary to the domestic workforce). The evidence suggests that immigration can serve to make the labour market as a whole more fluid and wages less sensitive to demand fluctuations (OECD Economic Outlook (2006)). In addition, being relatively of young age and with low tenure, immigrants have limited access to unemployment benefits, which contributes to lower their reservation rate and the overall equilibrium unemployment rate.

The effects considered so far are partial equilibrium and need to be qualified. In practice, since immigrants tend to cluster in few geographical areas, it is likely that natives would respond to the effect of immigration on wages by moving to other geographical areas. Thus, the initial downward pressure on wages triggered by the immigration is reduced by the decline in the labour supply of native workers.

In reality the stock of capital is not fixed. When the stock of capital can be immediately adjusted,

72 Following Borjas (1995), the surplus equals one-half the share in labour income (s) times the elasticity of the labour demand (e) - i.e. the wage adjustment due to the supply shift times the fraction of the workforce that is foreign born (m): -sem2/2. For the EU, the share of foreigners in the labour force is 4% and the share of labour in income 60%. With a standard value of the elasticity of labour demand found in the literature of -0.3 (e.g. Hamermesh 1993), the above formula implies a surplus of less than 0.1 percent. The change in natives' wages as percentage of GDP is sem(1-m); the change of income of capital owners is – sem(1-m/2).

73 Immigration creates also a demand for the goods and services produced by natives, and as such induces a multiplier effect (Zimmerman, 1995). Zimmerman, K. F. (1998), "Tackling the European Migration Problem". Journal of Economic Perspectives, American Economic Association, vol. 9(2), pages 45-62, Spring.

an increase in the available labour via migration entails only a temporary fall of wages. In fact, when the amount of labour increases, the capital-labour ratio falls and firms find convenient to increase capital (i.e. its marginal product rises), until the capital labour ratio returns to the level before the shock. If the supply of capital were very responsive to its price, an increase in foreign labour would induce a rapid inflow of capital in the hosting country that would re-establish the capital-labour ratio prevailing before the immigration shock.

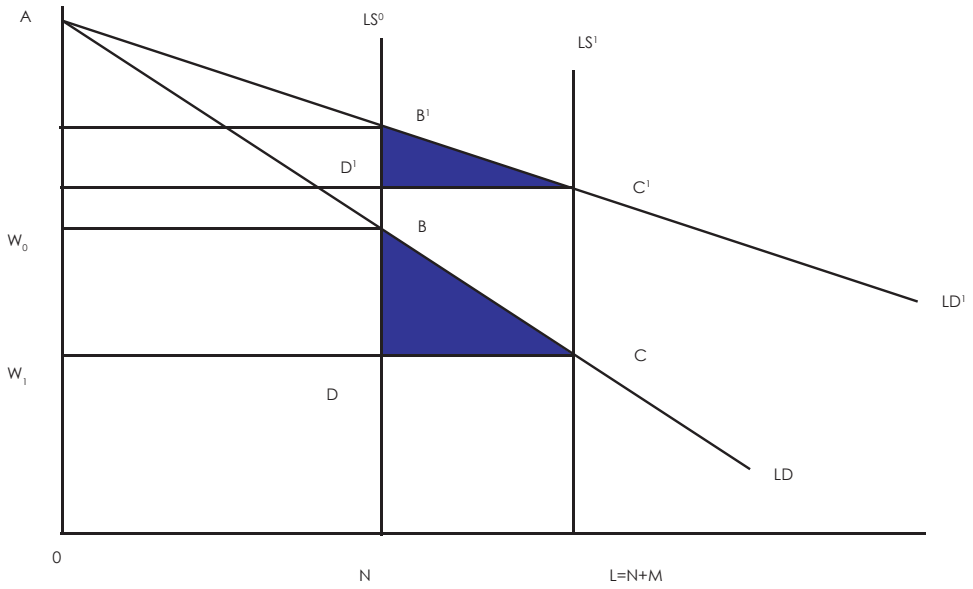
Clearly, though, when market imperfections are taken into account, such as less than fully mobile factors of production, income distribution effects are reintroduced into these models. If the adjustment of capital is gradual, shocks to the labour supply may reduce temporary the capital-labour ratio below its long-term trend determined by the total factor productivity. The capital-labour ratio may remain below trend when the immigration is high and the speed of adjustment of capital is low. Thus, the effects on productivity and wages of an increase in foreign labour depend on the investment response to changes in the skill mix and on the extent workers with different levels of education and experience are complements or substitutes (Ottaviano and Peri (2006)).[74] The aggregate effect on wages and productivity is the combined outcome of different adjustments occurring between imperfectly substitutable national- and foreign- born workers and of the imperfect adjustment in the capital-labour ratio. The authors find that US- and foreign-born workers and are not perfect substitutes within the same education-experience and gender categories, which implies that immigration has lear positive effects on wages and productivity.

It should be noted, though, that the distributional impact of immigration may change drastically with different types of economic models. Indeed, standard trade theory offers the strong presumption that immigration may have no significant effects on income distribution at all, because of the output-composition effect in a multi-sector economy (Rivera Batiz, 1983). In a nutshell, the increase in labour endowments caused by immigration may simply allow for an expansion of output and labour demand of the labour-intensive sectors, eliminating any tendency for the wage rate to fall. In an open economy the adjustment occur through the labour embodied in traded goods: immigration will induce the country to export more labour as embodied in goods.[75]

74 They show that home wages and productivity change positively in response to an increase in labour determined by imperfectly substitutable immigrants; negatively in response to a supply of immigrants in the educational group where native and immigrants are closer substitutes; and falls because of imperfect capital adjustment G.I.P. Ottaviano and Peri, G. (2006), "Rethinking the effects of immigration in wages", NBER WP 12497.

75 Friedberg and J. Hunt (1995) "The Impact of Immigrants on Host country Wages, Employment and Growth", Journal of Economic Perspectives, American Economic Association, vol. 9(2), pages 23-44, Spring

Graph 125 – The Immigration surplus (BCD) in a model with homogeneous labour and fixed capital



Source: Commission services.

b) Heterogeneous labour

Refinements of the model include the introduction of heterogeneous labour, usually distinguishing between high-skilled and low-skilled workers, both among natives and immigrants. With immigrants increasing and/or complementing the skills of the native population, inflows of foreign workers could contribute to dynamic efficiency gains in the host economy. Indeed, most studies find a small overall net gain from immigration for the host country, the "immigration surplus", but the benefits are not distributed evenly across the native population.

The overall impact of immigration on wages of natives is very small. The empirical evidence reviewed in Longhi et al (2005) for the US, Germany, Netherlands, Norway, Austria, Israel, and Australia suggest that a 1 percentage point increase in the proportion of immigrants in the labour force lowers wages by only 0.12%. More recently Borjas (2003)[76] has found large negative impacts. Yet, where general equilibrium effects are accounted for, the effect of immigration on average wages of native born is positive (Ottaviano and Peri, 2005). For the UK, Dustman (2005) et al find little evidence of any adverse outcomes for natives on wages, employment and unemployment.

Theoretical models of competitive labour markets predict that the labour market impact of immigration hinges on how the skills of immigrants compare to those of natives (Borjas, 1999)[77], namely whether immigrants are substitutes or complements to native workers. Immigration should lower the wages of competing workers and increase the wage of complementary workers, i.e. of workers whose skills become more valuable because of immigration. The higher the substitution between immigrants and natives, the more immigration flows will cause a decline in native workers' wages. On the other hand, inflows of immigrant workers complementary to native workers would, other things equal, increase the productivity of natives and push their wages up.

Economic analysis establishes a direct link between the losses to native substitutes and the larger gains to native complements, so little adverse effects of immigration on native workers go hand in hand with little native gain from immigration, except when immigrants do jobs

76 Borjas, G (2003) "The Labour Demand Curve Is Downward Sloping: Reexamining the Impact of Immigration on the Labor Market", Quarterly Journal of Economic, November, 118(4) pp. 1335-1374.

77 Borjas, L. (1999) "The Economic analysis of immigration", Handbook of Labour Economics, vol. 3 Part 1.

that no native-born would do at any reasonable wage (Freeman, 2006). Thus, an influx of foreign low-skilled workers would benefit the high-skilled natives, who pay less for the services provided by the low skilled and can specialise more in the production of goods that fit better with their own skills (Borjas, 2000).

When the supply of capital is perfectly elastic, the immigration surplus is positive only if migrants and natives complement each other, i.e. if they have different skills. If there are more unskilled among the immigrants than among the natives, an increase in their amount will be accompanied by a reduction of the wage of the low-skilled relative to the wage of the high-skilled. The decline in the wage of unskilled people will induce firms to substitute away from capital and skilled labour to unskilled labour. The increase in unskilled labour will induce firms to demand more capital and more of its complementary input skilled labour. Thus, natives benefit from immigration only if they are complement to foreign workers. Conversely, if the skills distribution of immigrants and natives is the same, an increase in the labour input will increase only the total GDP with no effect on the per capita income and income distribution. However, when the supply of capital is inelastic, immigration alters the distribution of income (Borjas, 1999).

An assessment of gains and losses for the different factors of production then requires information on the respective factor price elasticities, on the skill-mix of both native workers and immigrants and on how complementary or substitutable are the different groups of workers. Under the hypothesis of capital-skill complementarity (i.e. high elasticity wage of skilled workers relative to shift in the skilled labour supply), the immigration surplus is maximised when immigrants are mainly high skilled.[78]

To get a flavour of the order of magnitude of the immigration surplus with heterogeneous labour, Table 26 shows the simulation of the immigration surplus assuming that the immigrants are either all high skilled or all low-skilled. In the simulation it is assumed that capital is perfectly inelastic and that immigrants have the same skill distribution as natives.[79] To show the sensitivity to the share of national income that accrue respectively to the different types of labour, the table reports the outcome of the simulation for different shares of (un)skilled labour income in total labour income. A note of caution is required on the definition of skilled labour. The distinction adopted is based on the formal level of education. In practice, what determines a skill goes well beyond formal education. For this reason, the simulations has been conducted assuming that half or all those with secondary education are high skilled.

Clearly, the size of the immigration surplus is very sensitive to the skill composition of the native and immigrant population. When 25% of the natives are skilled, an inflow of only unskilled immigrants of 10% of the workforce implies an immigration surplus of about 1% of GDP.[80] If half of the native population is skilled, the immigration surplus drops to 0.3% of GDP. In addition, for a given skill composition, the increase in the share of income accruing to (un) skilled implies higher benefits from an increase in the amount of foreign labour, as the consequent decline in wages of natives generate larger benefits to those of them that use foreign labour services more intensively.

78 Using the same symbols as in footnote 16, the immigration surplus is

$$-\frac{s_s e_{ss}\beta^2 m^2}{2p_S^2}-\frac{s_U e_{UU}(1-\beta)^2 m^2}{2p_U^2}-\frac{s_S e_{SU}\beta(1-\beta)m^2}{2p_S p_U}-\frac{s_U e_{US}\beta(1-\beta)m^2}{2p_S p_U}$$

where sS (sU) is the share of (un)skilled labour income in total output; ps (pU) the proportion of skilled in total workforce; eSS (eUU and eSU) the elasticity of factor price. See Borjas (1999).

79 The calculations assume that the share of labour in national income is at about 60%; the factor price elasticity for the unskilled and the skilled, taken from Bauer and Zimmerman, is set respectively at -0.85, and -0.45. The elasticity of the wage of skilled workers with respect to a change in the quantity of unskilled is 0.15 and the respective elasticity for the unskilled wage is 0.55. The share of skilled workers in the labour force is 25%.

80 Note, however, that from an empirical point of view a 10 per cent addition to the labour force represents a fairly large increase; in practice, numbers have been much smaller.

Table 26 – Estimates of the immigration surplus for the EU
(as % of GDP)

All immigrants are high skilled			
Share of labour income accruing to HIGH skilled	25%of natives are High-skilled	50% of natives are High-skilled	74%of natives are High-skilled
0,29	1	0,26	0,12
0,18	0,6	0,16	0,07
0,1	0,4	0,09	0,04
0,14	0,5	0,13	0,06
All immigrants are low skilled			
Share of labour income accruing to LOW skilled	25%of natives are Low-skilled	50% of natives are Low-skilled	74%of natives are Low-skilled
0,03	0,2	0,05	0,02
0,18	1,2	0,31	0,14
0,04	0,3	0,07	0,03
0,09	0,6	0,15	0,07

Source: Own calculations on OECD data.

Assuming that migrants mainly compete with blue-collar domestic labour for unskilled and low-paid jobs, it is precisely this group of native workers who might see their wage and employment opportunities depressed, while the wage and income of complementary factors will move in the opposite direction.[81] However, as long as the immigrant flows are not too large, negative impacts on native workers are likely to remain rather moderate. Furthermore, as the flows of immigrants are composed of both skilled and unskilled workers, although biased towards the unskilled, and insofar as skilled and unskilled workers are complementary, the increased supply of skilled workers will raise the demand for unskilled workers and tend to increase their wages.

Immigration may have positive effects on the labour market by relieving the labour shortages in certain areas. New jobs can be created, for example in the construction sector, domestic services, health and hotels and restaurants. These jobs may be difficult, with strong seasonal fluctuations or generally low paid and would not be taken up by natives. The highly skilled immigrants are more likely to bring the scientific, technical and innovative skills that expand the production capabilities of the economy (Freeman, 2006). They may contribute to the creation of new industries and the increase in long term growth through human capital accumulation. Labour market efficiency may also increase with immigration, as suggested by Borjas (2001). Indeed, immigrants are very responsive to regional differences in economic opportunities and more mobile than natives.[82] Hence, their labour supply is more reactive to regional wage differences. For example, new immigrants in the US are found more likely to be clustered in the states where wages are the highest for the type of skills they offer. Thus, spatial arbitrage by foreign workers greases the wheels of the labour market. When regional differences persist (i.e. labour shortages are geographically concentrated), immigration flows in the high wage regions speed up the process of matching of people to jobs within a country and improves the adjustment to a long-term equilibrium where wages across regions are equalised or their gap largely reduced.[83]

It is typically argued that labour mobility is too low in the EU to function as an adequate adjustment mechanism to asymmetric shocks, especially in the context of monetary union. Immigration can have a potential role in improving the efficiency of labour markets by compensating, at least partially, for the low mobility of natives. Moreover immigration may

81 For example De New and Zimmerman show that a 1 percentage point increase in the share of foreign labour results in a 4.1% reduction in the average hourly wages of all workers, which reflect a fall of almost 6% of the blue-collar workers and an increase by about 3.5% of the white collar workers.

82 This is based on the assumption that the intra-regional wage differential is lower than the inter-country wage differential.

83 The reduction in the wage differential will also reduce the volume of migration costs that natives would have to incur with no immigration (Borjas, 2001. "Does immigration grease the wheels of the labour market?", Brookings Papers on Economic Activity, 1:2001) .

even have been beneficial as it acts as a source of flexibility (Coppel et al, 2001). During the early years of immigration, participation in the goods market is relatively stronger while later on participation in the labour market dominate (Hercowitz and Yashiv, 2002)[84], which contributes to the growth of the local economy. Finally, when legally employed, migrants contribute to broaden the tax base.

There are also dynamic effects which complicate the analysis, such as the assimilation effects, as immigrants acquire skills and experience in the local labour market, the possible adjustment in decisions on human capital investment by the native population and the potential mobility of native workers to another location after an inflow of competing workers.[85]

In practice, labour markets are far from complying with the tenets of the textbook competitive model. Labour market institutions introduce a wedge between labour supply and labour demand, interfere with labour market relocation, distort relative price and reduce the wage and quantity adjustment in the face of unexpected shocks.[86] In this framework, an increase in foreign labour may cause unemployment among the native population (Boeri and Brücker, 2005). For example, the presence of a binding minimum wage makes real wage downward inflexible, which implies unemployment among low skilled when foreign labour raises. However, if there are skilled people among the immigrants and their wage is flexible, the initial increase in unskilled unemployment can be offset as long as skilled and unskilled workers are complement. In this case, the demand for unskilled workers would chase that of skilled workers. In presence of economies of scale, such as in research- or technology- intensive activities or spatial agglomeration effects at the regional level, the gains in GDP would be larger.

84 Hercowitz Z. and E. Yashiv (2002), "A macroeconomic experiment of mass migration"; IZA DP 475

85 However, evidence for the US indicates that the native workers who emigrated from regions receiving an influx of unskilled immigrants were predominantly high skilled (Rivera Batiz, 1997).

86 Labour market institutions can enhance efficiency when they improve search and the matching between unemployment and vacancies or when make wage setters to internalise the cost of their wage claims. For a survey on labour market institutions and labour market performance see Arpaia, A and G. Mourre (2005), "Labour Market Institutions and Labour Market Performance: A Survey of the Literature", Economic Paper 238.

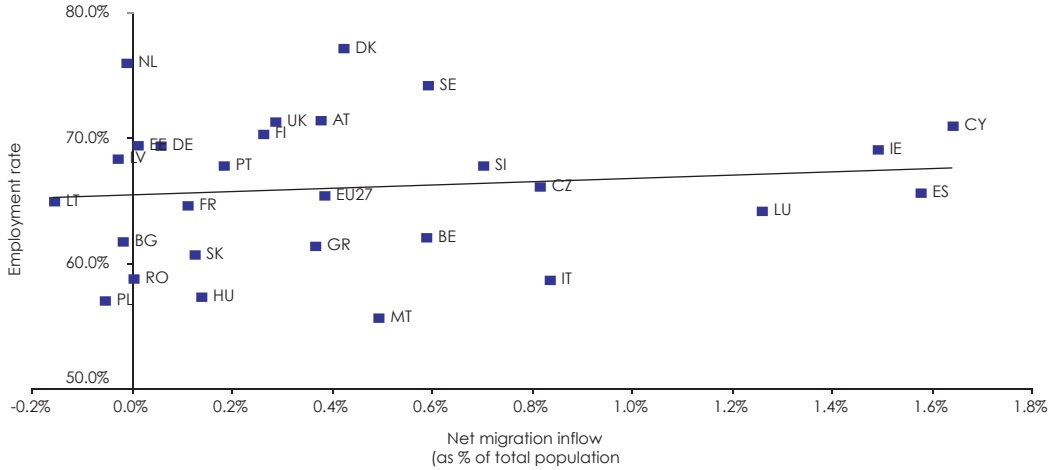
In open economy models, the increase in labour supply is expected to generate other economic mechanisms that increase the demand for labour, through the expansion of labour-intensive industries, so the overall effects on wages and unemployment are ambiguous. The wage rate effects in standard models are calculated under the assumption that wages adjust and labour markets clear. Obviously, when wages do not adjust, unemployment will emerge. Indeed, immigrants, especially in Europe, tend to have significantly higher unemployment rates than natives, probably reflecting, *inter alia*, lower wage flexibility and slower speed of adjustment in EU economies.

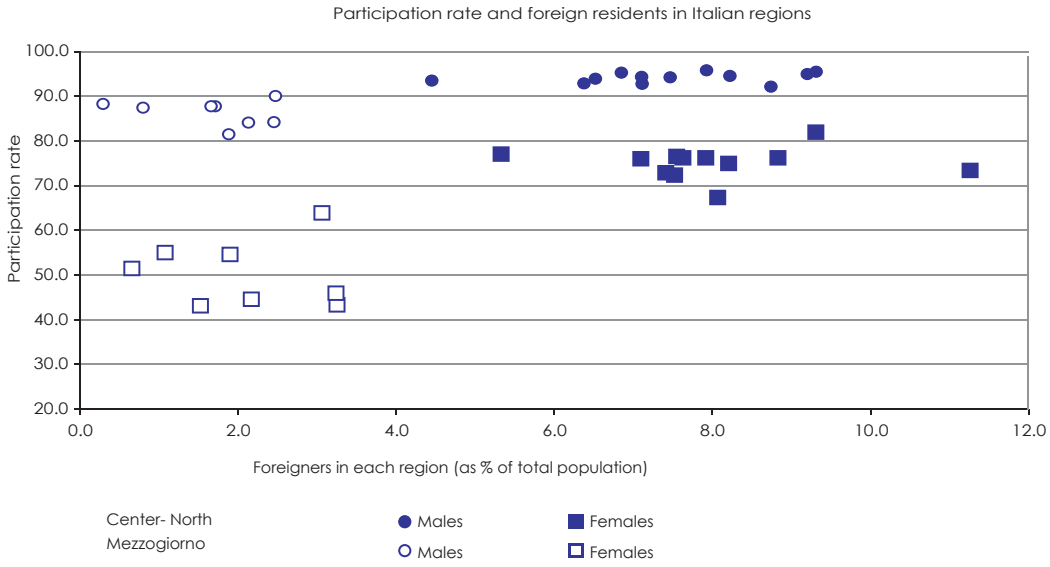
Impact on employment, participation rate and unemployment

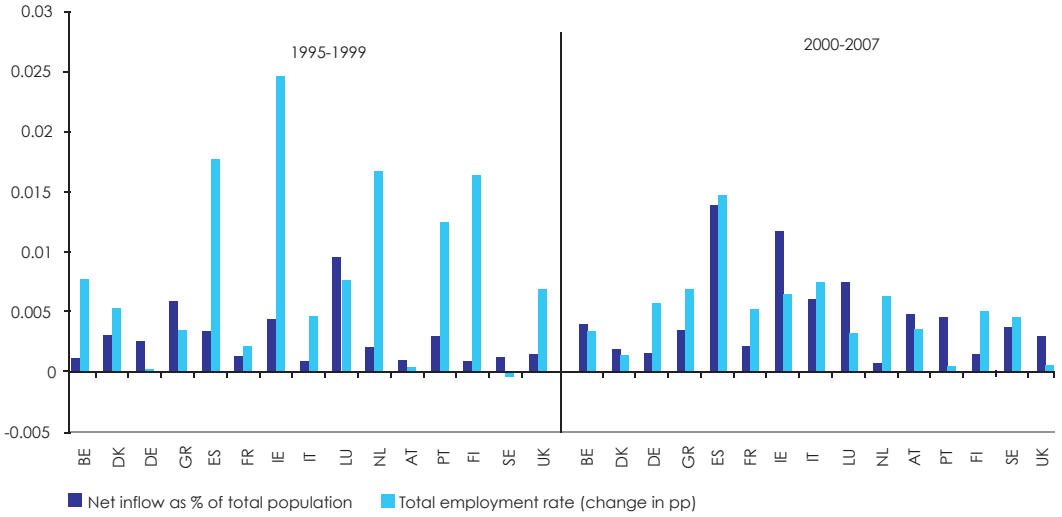
The potential negative effects of immigration on wages and unemployment have received a lot of attention in the academic debate. A large number of empirical studies examine whether immigrants "take the job of natives". The empirical evidence remains inconclusive.

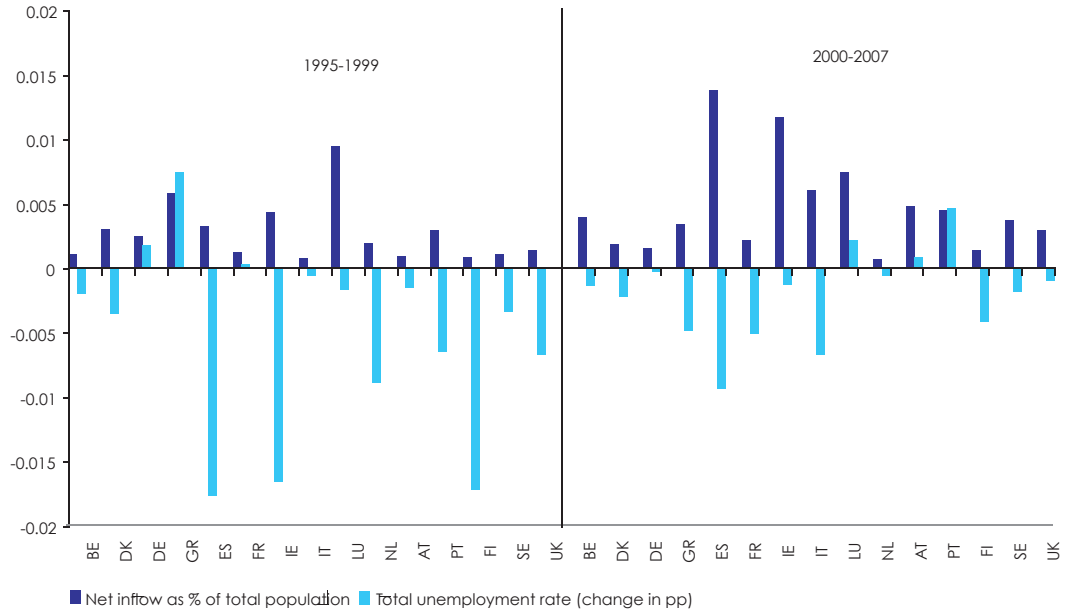
Rough visual inspection of a cross-plot of the overall unemployment rate and the share of foreign-born labour force shows little, and if any negative, correlation between these two variables. It is remarkable that the lack of any correlation found in cross-country comparison is also observed between regions of a recent immigration country such as Italy (Graph 126). The available empirical evidence suggests that the effect of immigration on the unemployment of native workers is small. Negative effects of immigration are generally found in presence of very high inflows. Empirical studies based on static labour models find different effects on different groups of labour market participants, for example Borjas (1987) study on the US leads to the conclusion that immigrants' main competitors on the labour market are other immigrants (Dustman et al., 2005). Some empirical studies find a positive relation between migration and wages of complementary workers. It has to be noted that empirical research is plagued with numerous difficulties and that the results depend on many factors, such as the timing of inflows or the fact that immigrants can choose destination countries and regions with relatively low unemployment rates. Furthermore it is difficult to disentangle the labour market effects of immigration from those caused by the different skill levels of immigrants and natives.

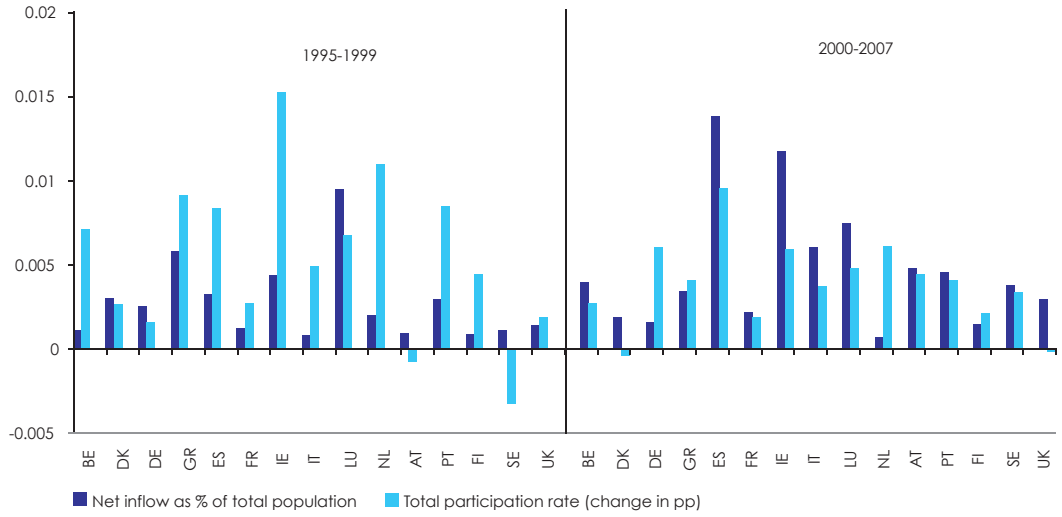
Graph 126 – Immigration flows and labour market performance











Source: Commission services´ calculations on OECD-SOPEMI (2006) and Relazione Annuale della Banca d´Italia 2006.

Table 27 – Selected studies on immigration, unemployment and wages

Reference	Country	Main findings
Card, 1990	US	The arrival of around 125 000 Cubans, largely unskilled, in Florida in May 1985 increased the population of Miami by 7%. Cubans alone (ie neither other unskilled Hispanics, Blacks nor Whites) were significantly affected by the inflow of migrants. But the growth of Miami's population was lower, indicating a fall from other sources of immigration.
Altonji and Card, 1991	US	Very slightly significant positive effect of the migration variable on employment, but negative effect on wages (elasticity 1.2).
Hunt, 1992	F	The repatriation of 900,000 "Pieds Noirs" from Algeria in 1962 increased the total labour force by some 1.6% per cent. A one percentage point rise in the proportion of returnees in the labour force reduced regional wages by 0.8 point and increased the native unemployment rate by 0.2 point.
Simon, Moore and Sullivan, 1993	US	Immigration has no significant effect on the unemployment rate. A very slightly positive effect is obtained when changes in unemployment are considered over 2 years.
Pischke and Velling, 1994	D	Immigration has no adverse wage or unemployment effects.
Muhleisen and Zimmermann, 1994	D	The proportion of foreigners in local industry does not have an impact on worker mobility or exposure to unemployment.
Winter-Ebmer and Zweimuller	AT	No detrimental effect on regional or industry wage.
Carrington and De Lima, 1996	P	The return of 600,000 Angolan nationals to Portugal over three years in the mid-1970s, largely in 3 cities, increased the local population by some 10%. There is no instantaneous effect but a lagged effect equivalent to an additional 1.5% of unemployment.
Angrist and Kugler, 2003	Europe	An increase in the share of foreign population by 10% would reduce the native employment rates by 0.2-0.7 pp. This negative effect is larger in countries with less flexible labour and product markets and with high replacements rates.
Borjas, 2003	US	An inflow of 10% of the labour force lowers natives' wages by 3 to 4%.
Diaz-Emparanza and Espinosa, 2000	ES	Immigration has a negligible short term effect on unemployment but there is no long-term relation between immigration and unemployment.
Longhi et al., 2004	US, DE, NL, AT, Israel, Australia	A meta-analysis using a sample of 18 papers finds a negative but small effect of immigration on wages of natives with similar skills (a 1 percentage point increase in the proportion of immigrants in the labour force reduces wages by only 0.119 per cent.
Dustman et al, 2005	UK	Little evidence of overall adverse effects of immigration on native outcomes. If there is evidence of negative effects on employment in any group, then it is for those with intermediate education levels, but this is offset in the aggregate by positive effects on employment among the better qualified.
Aydemir and Borjas, 2006	US	A 10 per cent labour-supply shift is associated with a 3 to 4 per cent reduction in wages. Immigration reduced wage inequality in Canada and increased it in the US. In Mexico, emigration has increased relative wages of workers in the middle of the skill distribution, but reduced the relative wage of workers at the bottom of the skill distribution.
Ottaviano and Peri. (2006)	US	Immigration has a positive effect on wages and productivity once the interactions between capital and labour and within the labour market between heterogeneous workers are accounted
Dustman, Glitz and Vogel, 2006	DE and UK	Study of the cyclical pattern of employment and wages of immigrants relative to natives. Larger cyclical response of unemployment of immigrants in both countries. Immigrants are more responsive to shocks than natives within skill groups for both Germany and the UK
Manacorda, Manning and Wadsworth, 2006	UK	A 10% rise in the share of immigrants in the UK male population is associated with an increase in the native-migrant wage differential of around 1.9%, which is interpreted as indication of imperfect substitution between natives and immigrants. The effect on wages of natives has been small.
Carrasco, Jimeno and Ortega, 2007	UK, ES	Growth accounting exercise, no account for capital accumulation. Without the increase in migrants activity rates per capita income growth in the 2000-2005 period would have bee 0.6 pp lower in ES and 0.07pp in UK . In econometric estimates, the effect of migration on productivity is positive but small for the UK and Negative for Spain.
Blanchflower, Saleheen and Shadforth, 2007	UK	Immigration

Source: Commission services.

1.4. MEASURING THE ECONOMIC IMPACT OF IMMIGRATION ON RECEIVING COUNTRIES

Two methods have been used to analyse the economic impact of immigration. These are the so-called area studies and the factor-proportion approach. Variants of these two methods make specific assumptions on the structure of the economy, the speed with which migration inflows in one area are diffused in the rest of the economy, or extend the unit of analysis from the local to the national level. In practice, these two approaches analyse the change in the labour supply induced by immigration and how this changes is reflected in labour market outcomes. They differ in the level of the analysis, metropolitan areas or larger geographical aggregation, to consider such that changes in the relative supply of labour do not affect the prices of labour of different groups of workers. This section briefly reviews these two approaches.

a) Area studies

Migrant populations concentrate in particular geographic areas.[87] Area analysis exploits this geographical diversity to look for the effect of migration on regional labour markets (Card, 2001).[88] This means that employment opportunities or wages in a local labour market are related to the fraction of migrants in that labour market. If areas with more immigrants have lower wages or higher employment rates, this would be consistent with immigrants having a depressing effect on natives' labour market opportunities. Thus, assuming that natives do not change their saving and investment behaviour and/or their location decisions because of immigration, the impact of immigration on wages and employment can be assessed comparing the change or the level of wages in cities that receive major immigration flows to the change or level of wages in other areas. Studies based on this approach have found that the effect of immigration on natives' wages is small. But the estimates are not very robust to the definition of a local area.

Area analysis has to deal with two main problems. The first is the possible endogeneity when migrants choose their destination area depending on the local wage or unemployment level. Immigrants may choose to settle in locations with thriving economies, in which case the causality would run from labour market conditions to immigration. Similarly, industries using more intensively foreign labour may decide to move to areas where immigrants are mainly located, which will increase labour demand and local wages. When cross-sections are available for two or more years, estimations in first-differenced form avoid this spurious spatial correlation. Thus, the change in employment opportunities or wages between two points in time is compared with the change in the fraction of migrants in these regions.[89] In addition, general equilibrium mechanisms are at work and the effect of a geographically concentrated immigration shock diffuses itself over all the economy. Thus, in a highly integrated economic area, the local effects of immigration are offset by general equilibrium effects on a larger market. The empirical evidence shows that the coefficient of the change in the immigrant/native ratio becomes less positive or more negative as the area widens (Borjas et al 1996).[90]

The second problem is that results from cross-sectional studies can be biased because they fail to account for the migratory response of natives

87 For, the US, 34.5 percent of the working age immigrant population lived in three metropolitan areas (New York, Los Angeles and Chicago). In contrast only 10.5 percent of the natives are clustered in these areas; Borjas, G. 2004 "Increasing the Supply of labour through Immigration Measuring the impact on native-born workers" Center of Immigration Studies.

88 Card, D. (2001). "Immigrant Inflows, Native Outflows, and the Local Market Impacts of Higher Immigration" Journal of Labor Eonomics, vol. 19 No1 pp22-64.

89 First-differenced estimations prevent possible omitted variables biases that arise when there are regional-specific fixed effects that correlate with the fraction of migrants or the labour market performance of natives. Many factors determine the level of wages in a city. Some of these factors may also correlate with immigration. Estimating in first differences will solve the omitted variables bias if the omitted variables do not change over time (Friedberg and Hunt, 1999). The problem with this approach is that changes in wages across cities can be different for reasons unrelated to the inflows of foreign workers. Thus a regression of native population growth in an area on the contribution of immigrant to population growth in the area ignores the growth of the population prior to the immigration shock and imposes that all areas have the same growth of employment. In contrast, a double difference regression using the change in the population before the immigration shock as benchmark growth in the absence of immigration shock (Borjas et al 1996).

90 G.J. Borjas, R.B.Freeman,L.Katz (1996), "Searching for the Effect of Immigration on the Labor Market", The American Economic Review, Vol. 86, No.2 pp.246-251. This finding is valid only when the estimates control for area-specific changes in the demand of workers.

to increased immigration. These models implicitly assume that immigrants enter and compete in closed local economies, while the typical response of native-born workers, namely migration to other areas or movement out of the labour force, is ignored.[91] As immigrants begin to compete with native workers for jobs, wages and employment (for natives) will fall. If this makes natives to move to another area, there can be little discernible effect of immigration on the local wage structure. Similarly, firms may decide to locate in areas where low skilled employment abound, which will push up labour demand partly offsetting the first round effect of an increase in immigrant workers. Since these models fail to measure shifts in native-born labour supply, the coefficients on the immigration variable are not necessarily indicative of the "true" impact of immigration, in particular they are biased downward. Thus, the weak negative or zero correlation between immigration and wages might be due to the "diluting effect of native migration across regions and failure to take adequate account of other regional labour-market conditions (Borjas et al 1997). Disregarding, net internal migration in response to immigration from abroad would underestimate the effect of immigration on wages. Yet, changing the unit of the analysis from the local to the national level would allow for these general equilibrium effects to be taken into account. Recent evidence suggests that the offsetting effect on wages of internal migration is only partial (Friedberg and Hunt (1995) and Borjas et al. (1996)). But Borjas (2003) finds sizeable effects on wages of immigration inflow in the US. [92]

The effect of immigration on wages depends on the elasticity of substitution between immigrants and natives, i.e. on "who competes with whom?". The key issue to empirically identify this elasticity is to assign native and immigrants to relatively homogeneous groups, usually of comparable skill levels, so that the substitution within each group is higher than the substitution between immigrants and natives belonging to different groups.

Following this approach, Card (2001) [93] assumes that individuals working in the same occupation are perfect substitutes independently of their national origin. Card finds a small negative effect of immigration on wages and the employment rate of natives. In a more recent paper, Card (2005) [94] assigns immigrants and natives to skill groups and assumes that, within skill groups, immigrants and natives are perfect substitutes. Immigration in the US of less educated people increased the local relative labour supply of unskilled workers with no effect on the relative wage of natives with the same level of education, which is consistent with the standard findings of the literature (Friedberg and Hunt, 1995).

These findings seem to suggest that the adjustment mechanism predicted by a local version of Heckscher-Olin model (i.e. each country specialises in the production of the goods that use more intensively the abundant factor) does not apply, at least for the US economy. An increase in the supply of unskilled labour is likely to be absorbed within industries, namely new opportunities, not necessarily in the same occupations, are opened for the existing workers through an increase in unskilled foreign labour. The lesson that can be drawn is that the

91 There seems to be no consensus on how natives migration responds to immigration. Filer [1992] finds that immigration of natives is lower in areas with higher concentrations of immigrants. Similarly, Frey [1995] claims that increased immigration into metropolitan areas is associated with larger out-migration of natives. Card (2000) finds that a relative inflow of unskilled immigrants leads to a slight increase in the growth of unskilled population. On the other hand, White and Imai [1994] find that areas with high concentrations of immigrants exhibit both lower rates of native in-migration and out-migration. In addition, Butcher and Card [1991] conclude that native in-migration to cities during the 1980s was positively correlated with immigration, except for New York, Los Angeles, and Miami.

92 The effect on wages differs across education groups. For example, the immigrant that entered the country between 1980 and 2000 lowered the wage by 7.4 percent for high school dropouts, by 3.6 percent for college graduates, and by around 2 percent for both high school graduates and workers with some college. Borjas, George J. "The Labour Demand Curve Is Downward Sloping: Re-examining the Impact of Immigration on the Labour Market," The Quarterly Journal of Economics, November 2003, pp. 1359-1368.

93 D. Card (2001), "Immigrant Inflows, native outflows, and the local labour market impact of higher immigration " Journal of Labor Economics vol 19, pp. 22-64.

94 D. Card (2005), "Is the New Immigration Really so Bad?" Economic Journal vol 115.

capacity of reallocating resources across sectors and geographical areas influence the distribution of the immigration surplus between native workers differentiated by the level of skills.

A possible explanation of the low or no response of wages to the increase in the labour supply is that the groups of immigrants and natives considered are imperfect substitutes. The importance of carefully identifying groups to which assign natives and migrants is evident in a widely-cited study by Borjas (2003). He argues that the effect of immigration-induced change in the labour supply can be identified only looking at narrowly defined skill groups in the national labour markets. He assumes that both experience and education determine one's stock of acquired skills.[95] Thus, workers with the same level of education and experience are perfect substitutes, whereas workers with the same level of education but different experience are imperfect substitutes. Comparing across categories of workers rather than across regions of the country, he finds that native-born workers in categories that experienced larger increases in immigration experienced relatively slower wage growth (i.e. that the labour demand is downward sloping). Next he calculates the wage impact of the immigrant inflows that entered the USA between 1980 and 2000. His estimates imply that an immigration-induced 10% increase in the supply of low-skilled workers reduces low-skilled wages by 3% to 4%. Workers at the bottom and top of education distribution are most affected with wage decreases of 8.9% and 2.6%, respectively.

These results have been criticised because they do not take into account the imperfect substitution between home and foreign workers with the same level of experience. Also, the capital adjustment induced by immigration is ignored. Ottaviano and Peri (2005) show that when capital and labour market interactions are properly taken into account, the impact of immigration on wages is positive.[96] In addition to the imperfect substitution between natives and foreign workers, the non-response of wages to increases in the labour supply may be due to the change in the technology in response to a change in the skill mix. The negative effect of an increase in the labour supply on wages is compensated by a change in the technology toward the techniques that use more intensively the more abundant skills (Acemoglu, 1988; Lewis, 2005).[97] However, as convincingly shown by Borjas et al (2008), the findings by Ottaviano and Peri are plagued with a series of measurement and definitional issues, which make their estimates biased towards finding no effect of immigration on wages.[98] Once these problems have been solved "…immigration appears to lower wages of those native workers most likely affected by the immigration-induced supply shift" (Borjas et al, 2008).

Borjas's approach is not without problems. In essence, the estimated impact appears to largely derive from the fact that there was a decline in the wages of high school dropouts between 1980 and 2000, at a time when many high school dropout immigrants were coming to the United States. He assumes implicitly that the change in

95 Borjas (2003) expands the number of labour aggregates using a three-level CES technology. The bottom level combines similarly educated workers with levels of work experience into labour supply for each education group. The second stage aggregates workers across education groups into the national workforce. Finally, the upper level combines labour with capital. He combines data from several decennial censuses and divides workers into education-work experience-year "cells" (categories).

96 Ottaviano and Peri (2005) expand the CES framework to a fourth level which accounts for the imperfect substitution between native and migrants who belong to the same skill-group.

97 Lewis (2003) and Card and Lewis (2005) also find little evidence that local immigration shocks are transmitted to the rest of the country through intercity trade. The theory behind the idea is that if immigration pushed down low-skilled wages in one market (say, Los Angeles), then employers in low-skilled trade industries that make goods that can be traded between markets (like apparel) would flock to that market and bid up wages for low-skilled workers. In fact, changes in industry mix are virtually uncorrelated with immigration flows. Both papers found that movements of industries across metro areas account for less than 10% of immigration-induced skilled mix shocks. Lewis, E.G. (2003) "Local, Open Economies Within the US: How Do Industries Respond to Immigration?" Working Paper No. 04-01 Federal Reserve Bank of Philadelphia.

98 For example, results are downward biased because they misclassify those 17- and 18- years-olds enrolled in school as school dropouts. This artificially inflates the number of natives' dropouts, which in turn reduces the relative immigration shock faced by the low-skilled natives. Moreover, the use of annual average wages rather than hourly wages bias the results toward no effect of immigration on natives' wages, especially when workers with low labour market attachment are included in the sample. Borjas, G. J. Grogger, Hanson, G.H. (2008), "Imperfect substitution between immigrants and natives: a reappraisal", NBER, WP 13887.

the immigrant share of specific skills reflects only supply shifts, while these may partly be driven by changes in the labour demand Bohn and Sanders (2005).[99] Failing to account for increasing trends in wage inequality due to trends unrelated to immigration, such as skilled biased technical change and trade liberalisation, would incorrectly attribute the effective fall of wages at the lower end of the education distribution to immigration. Borjas does not control for any of these other macroeconomic forces, and his estimates imply that most of the decline in the wages of high school dropouts was due to immigration. In addition, Raphael and Ronconi (2005) show that many of the high immigration experience-education groups are populated by Americans with high incarceration rates (young high school dropouts), and adding incarceration rates as an explanatory variable reduces the wage impact of immigration in national-level analysis.

A different problem for Borjas' finding is that there is little evidence of immigration's impact being geographically dispersed in the way he describes. Two mechanisms underlie the geographic dispersion in Borjas' argument: the movement of people and intercity trade. These mechanisms imply that in the long run wages should be the same in all markets. Empirically, though, neither mechanism appears to be a major source of local labour market adjustment to immigration. Although a recent study by Borjas (2006) shows that native-born Americans expected to compete with immigrants avoid high immigration areas, an earlier study (Borjas, Freeman, & Katz, 1997) found similar estimates were sensitive to what was controlled for. Studies by Card and DiNardo (2000) and Card (2001) find little evidence that intercity migration of American workers dissipates local immigration shocks. The idea that the impact of immigration is geographically spread by native flight is also difficult to square with the simple fact that high-immigration areas tend to have more unskilled workforces.

b) The aggregate factor-proportions approach

Borjas criticizes the area studies as in a highly integrated geographically, immigration's impact is not limited to the areas where immigrants settle, but is rather dispersed throughout the country. As a result, the impact of immigration cannot be evaluated through cross-market comparisons. Instead of comparing across geographic markets, Borjas suggested changing the unit of analysis to the national level and assess at this level the effect of an immigration-induced change in the supply of different skills.

The factor-proportions approach evaluates the contribution of a change in the number of immigrants with different skills to the wage gap between workers with different skills' levels. If workers with different skills are imperfect substitutes, their relative wage will be inversely related to the relative labour supply. The factor proportions approach compares a nation actual supplies of workers, in particular skill groups, with those that would prevail in the absence of immigration. Next, it uses outside information on the elasticity of substitution among skill groups to compute the consequences for the relative wage of the supply shock (Borjas, 1999).[100]

Following this approach, Borjas et al. (1997)[101] calculates the contribution of immigrants to the increasing wage gap between 1980 and 1995. The immigration-induced change in the relative supply of high school dropouts relative to graduates accounted for 44 to 58% of the total decline in the relative wage of high school dropouts between 1980 and 1995. However, with a definition of skills based on the distinction between high school versus college graduates, the proportion of the decline in the college/high school wage differential drops to about 5 to 9% of the actual decline in this wage gap.

In a later paper, Borjas (2003) expands the number of labour aggregates using a three-level CES technology. The bottom level combines similarly educated workers with levels of work experience into labour supply for each education group. The second stage aggregates workers across education groups into the national workforce. Finally, the upper level combines labour with capital. The level of education and experience help to overcome the problem of

99 Bohn, S. and S. Sanders (2007), "Refining the Estimation of Immigration's Labor Market Effects", mimeo.

100 However, this approach is based on the assumption that natives and immigrants are perfect substitutes.

101 Borjas, G., Freeman, R.B. and L.F. Katz (1997), How much do immigration and trade affect labour market outcomes? Brookings Papers on Economic Activity 1, 1-90.

endogeneity of immigration and the bias related to the endogenous location decisions of native workers. With these estimates he calculates the wage impact of the immigrant influx that entered the USA between 1980 and 2000. Results show a wage decrease for the average native worker by 3.2%. Workers at the bottom and top of education distribution are most affected with wage decreases of 8.9% and 4.9%, respectively. However, these results do not take into account the imperfect substitution between home and foreign workers with the same level of experience and the capital adjustment induced by immigration. The approach followed by Ottaviano and Peri (2005) account for changes in the capital labour substitutions, for a degree of substitution between natives and immigrants workers belonging to different skills-experience classes higher than the substitution within the same class.

The factor proportions approach has been criticized for relying too heavily on theoretical models (DiNardo, 1997). It does not estimate the impact of immigration on the wage structure; rather it simulates the impact for given elasticity of substitution. If the model of the labour market underlying the calculations or the estimate of the relative wage elasticity is false, the estimated impact of immigration is also false.

c) General Equilibrium Analyses

Weyerbrock (1995) makes use of a computable general equilibrium model to study the effects of immigration into EU. In this model, labour migration into the EU does not cause the dramatic consequences that EU citizens often fear. Negative effects, like increasing unemployment or decreasing wages and income per capita, may occur only in the short term if real wages are rigid. In the long-run, real wages are flexible and the unemployment rate is independent of the size of the labour force. However, the negative effects are small even with huge migration flows. Adjustment problems for the labour market are smaller when immigrants also increase the capital stock.

Boeri and Brücker (2005) reach similar conclusions in an analysis on cost and benefits of migration in the enlarged EU. Their results suggest that under labour market clearing, a 1% population increase can increase GDP in the EU25 by 0.3%. There can be sizeable redistributive effects, with most of the gains accruing to the migrants and to the workers in the sending countries, while wages of the native workers may drop from 0.04% to 0.56% depending on the skill composition of migrants. When wages are rigid, the GDP gains drop depending on whether real wage rigidity are extended to all workers or only to manual workers.

1.5. THE EFFECTS OF IMMIGRATION ON TRADE

Immigration induces an increase in the foreign labour supply that, at least in the short-run, benefits those natives whose skills complement those of immigrants, while harms those natives that compete with foreigners for jobs. By reducing the production costs, immigration can contribute to the expansion of output and makes consumers better off. This outcome can be achieved through trade liberalisation that reduces the costs of importing goods and services produced in the rest of the world. And in many instances, trade liberalisation is considered as a way for the source country to "export less people".

Traditional trade theory implies factor price equalisation and perfect substitution between labour mobility and international trade (Mundell,1957).[102] In practice, the restrictive assumptions needed to achieve worldwide factor price equalisation are not observed in real economies, owing to technological differences across countries - implying costs' advantage, higher wages and higher trade and immigration in the country experiencing better technology (Markusen, 1983); to the presence of financially constrained households in low income countries - so that trade liberalisation, by raising wage rate, allows more people to pay for the migration

102 In a Heckscher-Ohlin framework, Mundell (1957) showed that an increase in migration barriers reduces migration and raises trade and that an increase in trade barriers reduces trade but raises immigration. If two countries are endowed with different amount of labour and capital, the labour-abundant country will export more labour-intensive goods. An increase in trade barriers in the labour-abundant country (i.e. the country specialised in the production of labour-intensive goods), will raise the price of capital-intensive goods, according to the Stolper-Samuelson theorem, will raise the return of capital (the factor used more intensively in the production of the capital intensive good) and lower the wage rate. This results in a reduction of trade and an increase in migration from the labour-abundant country.

costs;[103] or because of increasing returns to scale at the firm (Krugman, 1995) or industry (Markusen et al., 1995) level, which implies increasing reward of the factor intensively used in industry and firm and, consequently, migration and factor mobility.

In recent years, the world has experienced a large increase in the international migration of people. Free movement of labour has been one of the fundamental objectives of the European Union. Yet, transportation and transaction costs remain and may inhibit international trade. Immigrants lower transaction costs such as search costs, negotiation costs, enforcement costs and/or information cost. By virtue of the links with their home countries, they may realize lower costs associated with foreign trade and thereby be more likely to trade than non-immigrants.

Firstly, the native language of the immigrants can become known, or used more widely by the host country residents. Consequently, there would be a larger group of individuals in the host country, immigrants and non-immigrants, who are familiar with the languages of the host and home countries. This reduces trading costs associated with communication barriers. Secondly, if products are differentiated across countries and immigrants bring information about their home-country products and preferences, the costs of obtaining foreign market information in the host country will decrease. Finally, because trade often depends on contacts for delivery and payment, the development of trust through immigrant links can decrease the costs associated with negotiating trade contracts and ensuring their enforcement.

While trade flows between developed countries may benefit modestly from these effects, trade between developed and developing countries may be expected to be influenced relatively more because formal trade contracting is often not as deeply routed and institutionalised in developing countries as it is in developed countries. The importance of these information effects, of course, will depend on the initial amount of foreign market information in the host country and the ability of immigrants to relay information and to integrate their communities into the host country. The initial amount of information and the ability to relay information, in turn, may depend on the educational level of immigrants, the length of their stay in the host country, and the size of the immigrant community.

Knowledge of foreign markets is critical to export success, when it is costly to obtain this knowledge. Ethnic networks reduce contracting costs in the absence of legal enforcement mechanisms at the international level (Rauch and Trindade, 2002). With respect to information costs, migrants are in a better position to provide information about distribution networks and about demand in their home countries to host country exporters and about demand in the host country to home country exporters (Esptein and Gang, 2004 and Jensen and Piermartini, 2008).[104]

One strand of empirical literature has analysed whether immigration has a positive effect on bilateral imports and exports using the gravity approach. Gould (1994), using a panel data set of forty-seven U.S. partners, finds that trade is positively influenced by immigration, with greatest effects on exports. Head and Ries (1998), using Canadian trade data with 136 partners, also finds that immigration has a significant positive relation to bilateral trade. Dunlevy and Hutchinson (1999) also uncover evidence of a pro-trade impact of immigration on U.S. imports in the late nineteenth and early twentieth centuries. Girma and Yu (2002), using an augmented gravity model, study bilateral trade between the UK and 48 trading partners. They find that immigration from non-Commonwealth countries has a significant export-enhancing effect. By contrast, immigration from Commonwealth countries is found to have no substantial impact on exports. They propose that, since social and political institutions in Commonwealth countries are similar to those of the UK, immigrants from former colonies do not bring information that substantially reduces the transaction cost of bilateral trade. Dunlevy and Hutchinson (2001) test the hypothesis that immigrants generate beneficial externalities in their host countries to expand foreign trade. Their data examines U.S exports to 17 European

103 In Faini and Venturini, (1993) an increase in income raises migration of low incomes' households and reduces it for higher-income households, ultimately affecting the skill composition of migrants.

104 Epstein, G. S. and I. N. Gang (2004), 'Ethnic Networks and International Trade', IZA Discussion Paper No. 1232.; Jansen, M and R. Piermartini (2008), "Temporary migration and bilateral trade flows" forthcoming World Economy.

countries at 5-year intervals. Migrant stock effects were found to be positive and significant for trade as a whole, but proportionately greater for particular regional groupings of countries that reflect the historical pattern of immigration to the US. Moreover, the impact of the stock of immigrants on exports dissipated earlier than it did on imports. Piperakis, Milner and Wright (2003) investigate the influence of migration in Greece on the volumes of its bilateral trade. An augmented gravity model is estimated using a panel data set for the period 1981 – 1991. The results show that immigration had a positive impact on the volume of Greece's bilateral exports, but no effect on its bilateral imports. Jansen and Piermartini (2008) find that temporary migration has a positive and significant effect on trade and that temporary migration tends to have a stronger and more significant effect on both imports and exports than permanent migration. Interestingly, the role of temporary migrants in reducing trade costs does not appear to be associated with their skills [105].

All this suggests that immigration may stimulate bilateral trade. The impact may be different for import and export activities. Migrants may have a home bias in their imports. This section will explore the relationship between immigration and trade by augmenting a standard gravity model with a immigration into the EU.

105 Jansen, M and R. Piermartini (2008), "Temporary migration and bilateral trade flows" forthcoming World Economy

The gravity equation

The relationship between immigration and trade has only recently been investigated. The standard analysis of the link between immigration and trade is a gravity equation augmented with a migration variable. The gravity equation [1] has been long recognised for its consistent empirical success in explaining many different types of flows, such as migration, commuting, tourism, and commodity shipping.

The gravity model is a model of the flows of bilateral trade based on analogy with the law of gravity in physics. The model assumes that a flow from origin i to destination j can be explained by economic forces at the flow's origin, economic forces at the flow's destination, and economic forces either aiding or resisting the flow's movement from origin to destination. The specific functional adopted is:

$$y_{it} = \gamma_0 M_{it} + \beta_0 GDP_{it} + \beta_1 GDPC_{it} + \beta_2 Dist_{it} + D_t + \varepsilon_{it} \qquad [1]$$

where, $y_{ij,t}$ exports of country j to (or imports from) country i; $M_{ij,t}$ immigrant stock originating from country i to country j ; GDP_{it} GDP of country i; GDP_{it} GDP per capita of country i; $Dist_{ijt}$ great circle distance from capital of country i to country j. All variable are in logs while the subscript t represents time.

GDP represents the economic size of the exporting and importing country, respectively their productive capacity and absorptive capacity. Both variables are expected to be positively related to trade. *GDP* per capita accounts for the wealth effect of the trading partner, with wealthier countries being hypothesized to be more open to international trade, although high per capita income countries have a more service-oriented economy, which should lead to lower trade in merchandise for a given level of GDP. Distance proxies frictions to trade associated with geographical distance between trading partners, and it is expected to exert negative impact on trade.[2] Time dummies (D_t) capture other macroeconomic and trade policy factors that impact on trade. Other variables included in the gravity equations comprise

Population is used as measure of country size, and since larger countries have more diversified production and tend to be more self- sufficient, it is normally expected to be negatively related to trade. As pointed

1 Despite the gravity equation's empirical success in explaining trade flows, the model has been criticised because it first appeared in the empirical literature without a serious of theoretical justification. After Tinbergen (1962) and Poyhonen (1963), who conducted the first econometric studies of trade flows that based on the gravity equation, Anderson (1979) made a more formal attempt to derive the gravity equation from models that assumed product differentiation. Bergstrand (1985), Helpman (1987), Deardorff (1984), Hummels and Levinsohn (1995), Helpman and Deardorff (1995), derived gravity equations from a variety of trade models.

2 This formula approximates the shape of the earth as a sphere and calculates the minimum distance along the surface.

out by Prewo (1978) and Bergstrand (1986), there is an inconsistency in this argument, as larger populations allow for economies of scale which are translated into higher exports; therefore, the sign of the coefficient of the exporting country would be indeterminate.

Remoteness: In practice, most papers implicitly assume that remoteness, Rj is constant across countries and therefore becomes the intercept in the regression equation. However, Rj is important because it measures each importer's set of alternatives. Countries with many nearby sources of goods are likely to import less from each particular source.

Adjacency: Adjacent, or contiguous, countries share a border. Many studies include a dummy variable to identify such pairs. The estimated coefficients usually suggest that trade is about 65% higher as a result of sharing a border. It is not clear why adjacency should matter if one is already controlling for distance. Perhaps centre to centre distance overstates the effective distance because neighbouring countries often engage in large volumes of border trade.

Languages and Colonial Links: Transaction costs caused by inability to communicate and cultural differences hinder trade. Thus, countries speaking the same language would trade more. The evidence strongly confirms this proposition. Two countries that speak the same language will trade two to three times as much as pairs that do not share a common language. Part of the reason for this common language effect is common history that make the two countries to share a language. Indeed, measures of colonial links are also positively correlated with trade; including them as controls reduces the language effect somewhat but it remains quite strong.

Border Effects: McCallum's (…) examination of the trade patterns of Canadian provinces argued that borders must matter greatly as the typical Canadian province trades 20 times more with other provinces than with American states of a given size and distance. Since the Canada – US Free Trade Agreement was implemented, cross-border trade has grown dramatically (around 60%) and border effects have fallen to about 12% on average for Canadian trade. One approach to answer the question why do borders matter is to accept the great importance of national institutions (legal, monetary, social) that promote trade. Trade depends on networks of connected firms. These networks formed over time when borders and distance imposed higher costs because both tariffs and transport costs were higher. Members of networks focused on building local relationships and these strong local ties generate trade.

Free trade and monetary agreements: Regional trade liberalizing agreements like Europe's common market and North America's free trade agreements are quite recent and one of the primary uses of gravity equations has been to evaluate them. Studies of how exchange rate volatility affects trade have obtained mixed results. Some studies find that countries sharing a common currency increase triple trade, but some other studies find this result an exaggeration.

The impact of migration on bilateral imports and exports

We analyse the link between immigration and trade using a gravity equation, augmented with a migration variable. The model explains the bilateral trade as a function of trading partenrs' market size, GDP per capita, distance and migration. Using the general functional form that we described above, we have [106]:

$$y_{it} = {}_0M_{it} + {}_0GDP_{it} + {}_1GDPC_{it} + {}_2Dist_{it} + D_t + {}_{it} \quad [1]$$

where,

y_{it} = EU-15's exports to (or imports from) country i at time t

M_{it} = Immigrant stock from country i at time t: GDP of country i at time t

$GDPC_{it}$ = GDP per capita of country i at time t

$Dist_{it}$ = Great Circle distance from capital of country to each European capital.

We run the regressions of the panel data using fixed effects. Thus we avoid austere hypothesis that the migration variable is random and uncorrelated with an unobserved country or time effect. We also use time dummies (D_t) to capture other macroeconomic and trade policy factors that impact on trade. The purpose is to test if

106 All variables are in real terms and in natural logarithms.

immigrants to EU-15, influence positively or negatively imports and exports of host counties. Data refer to a panel of the 15 EU countries, made of the 15 Member States before enlargement, for the period 1996-2005. Trade data are taken from OECD direction of trade statistics, while GDP and GDP per capita data are from World Bank, World Development Indicators. The distance measures are Great Circle distance between London and the capital city of the partner country.

Results

The results of the basic gravity equation for imports and exports, for the period 1996-2005, are given in Table 28. The coefficients on GDP and GDP per capita have the expected positive signs and are statistically significant at the 1% level. The distance coefficient has negative sign as expected.

The coefficient of migration is statistically significant for both imports and exports. The results show that a 10% increase in the immigrant flows in 1995 had an effect of increasing EU-15 imports by about 1.6% and exports by about 1.5%. These results are in accord with previous studies [Gould (1994), Head, K. and J. Ries (1998), Girma, S and Yu, Z (2002), Piperakis, Milner and Wright (2003)] as they support the hypothesis that the trade–immigration linkage is driven by the new information brought by immigrants about their home countries' market. This information reduces the transaction or trade costs of bilateral trade. The results also support the hypothesis that immigrants affect positively imports because of strong preferences for their home market products. These preliminary results are encouraging and worth further investigation.

Table 28 – Effect of immigration with a gravity model
(panel data)

	Imports	Exports
GDP	0,874	0,624
	(64.27)**	(71.78)**
GDP-C	0,097	0,224
	(4.95)**	(17.92)**
Distance	-0,688	-0,764
	(-26.90)	(-46.70)
Migration	0,156	0,15
	(13.72)**	(20.62)**
Constant	0,782	3,468
	(5.64)**	(39.06)**
Observations	4175	4182
R-squared	0,72	0,8
Time period	1996-2005	1996-2005

Source: Commission services; robust t-standard error in parentheses; * significant at 5; ** significant at 1%.

Table 29 – Select empirical studies using gravity models to test the link between immigration and trade

Studies	Data structure	Method	Main findings
D. Gould (1994)	US and 47 trade partners; 1970-1986	Non-linear least squares regression	Immigrant information can play an important role in determining U.S. bilateral trade flows with greatest effects in exports. These effects tend to increase at a decreasing rate as the size of the immigrant community grows.
K. Head & J. Reis (1998)	Canadian trade panel data with 136 partner countries; 1980-1992	Tobit regressions estimated by maximum likelihood	Immigration has a significant positive relationship with Canadian bilateral trade. However immigrants increase imports substantially more than exports. Also independent immigrants have the largest influence on trade, refugees the least, with family immigrants in between.
Kohli (1999)	Switzerland; 1950-1986		Imports and labour migration are complement
Collins et al (1999)	Trade and factor movements between overseas countries and Europe; 1870-1940		Complementarity between trade and factors movements
J. Dunlevy & K. Hutchinson-2001	US and 17 trade partners; 1870-1910	OLS	Migrant stock effects were found to be positive and significant for trade as a whole but proportionately greater for particular regional groupings of countries that reflect the historical pattern of immigration to the US. Moreover, the impact of the stock of immigrants on exports is found to have diminished over the 1870 to 1910 period.
S. Girma & Z. Yu (2002)	UK trade panel data with 48 trading partners; 1981-1993	OLS	Immigration from non-Commonwealth countries is shown to have a significant export enhancing effect. By contrast, immigration from Commonwealth countries is found to have no substantial impact on exports. As for imports there is a pro-trade effect from non Commonwealth countries and a trade substitution effect from Common wealth countries.
Mundra (2003)	Bilateral trade between the US and 47 trading partner	Semi-parametric dynamic panel model	Immigration promotes imports of finished and intermediate goods; the effect is stronger the higher the proportion of high-killed
A. Piperakis, C. Milner & P. Wright (2003)	Greek trade panel data with 72 trading partners, for the period 1981 – 1991	OLS	Immigration has a positive impact on the volume of Greece's bilateral exports, but no effect on its bilateral imports.
Bowen and Wu (2004)	14 OECD countries; 1980-2001		Complementarity between immigration and trade; but uncertainty for guest worker countries
Bruder (2004)	Germany 1970-1998	OLS	Migration has no effect on trade but trade with the host countries reduces significantly migration

Source: Commission services.

Table 30 – Empirical studies about migration using Gravity models-variables include

Variables used in Gravity Models	D. Gould (1994)	K. Head & J. Reis (1998)	J. Dunlevy & K. Hutchinson -2001	S. Girma & Z. Yu (2002)	A. Piperakis, C. Milner & P. Wright (2003)
Imports or Exports dependent variables (lagged one year)	✓	✓	✓	✓	✓
GDP of host country	✓			✓	✓
GDP of home country of immigrants	✓	✓			
GDP per capita			✓	✓	✓
Host country GDP deflator	✓				
Immigrants'country GDP deflator	✓				
Population of host country	✓		✓		
Population of country of immigrants	✓		✓		
Number of immigrants	✓	✓	✓	✓	✓
Export - Import unit value indexes for host and home country	✓				
Ratio of skilled to unskilled immigrants	✓				
Average length of immigrants' stay	✓				
Dummy variable for the home country	✓				
Dummies for group of countries			✓	✓	✓
Distance between countries	✓	✓	✓	✓	✓
A dummy variable indicating adjacency		✓		✓	✓
Measure of propensity for external trade (total trade/GDP)		✓			
Price level of one country relative to its trade partner (P^j/P^i)		✓			
Common language			✓	✓	✓
Index of the economic remoteness of alternative markets "third country options"			✓	✓	✓
Time Dummies			✓		
Relative Income			✓		
Terms of Trade (imports/exports)			✓		

Source: Commission services.

Welfare State institutions and migration: friends or foes

When it comes to the interaction of migration and the welfare state, one argument often heard in public debate is that immigrants are drawn towards the generous welfare systems of the receiving countries. When regularly registered, working immigrants pay taxes while they and their families receive also transfers and benefits from public authorities. As migrants are more likely than natives to be unemployed or out of the labour force, their demand of welfare services may outstrip their financing capacity. In addition, costs of public education and services for the poor might rise if immigrants are joined by their dependents (T. Andersen et al., 2007)[107]. Migrants have also higher fertility rates, which potentially can put a further strain on family benefits and public finances. [108]The relatively high mobility of migrant workers has created concerns about the possibility of generous welfare states would become "magnet for immigrants". These concerns have prompted some to call for restrictions to be placed on the extent to which EU immigrants have access to the welfare state.

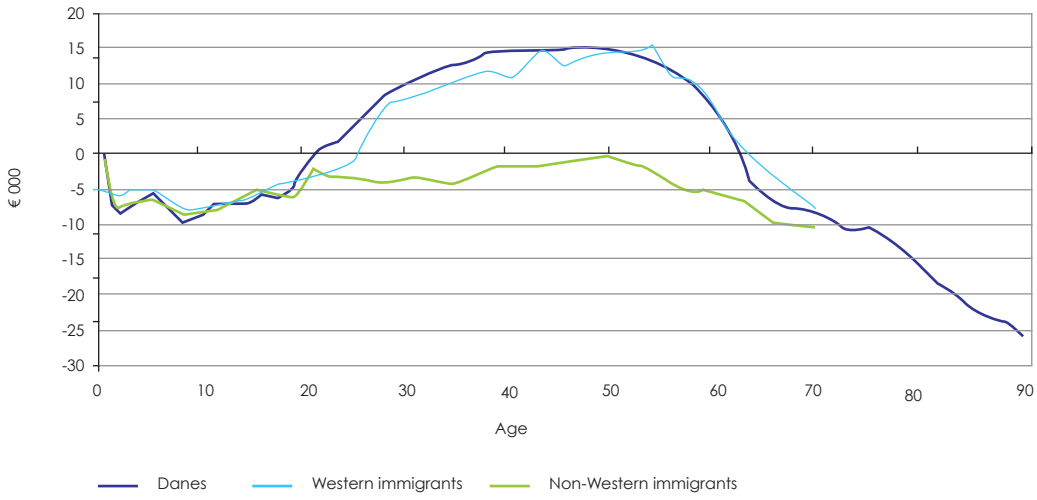
Standard theory relates the decision to migrate to the distribution of income in the home and hosting countries (Borjas 1999).[109] If immigration is motivated by differences in income, foreign-born welfare recipients have an incentive to move to the countries with the most generous welfare benefits. Indeed, compared to natives, the use of welfare benefits by the foreign-born population would be more sensitive to cross-countries differences in the level of benefits. The main reason is that natives have higher migration costs than foreign-born, which reduce the incentives to choose a location on the basis of the inter-country benefit differentials only. Conversely, immigrants are a self-selected group who decided to incur the large fixed costs of leaving their own country and are insensitive to the marginal cost of deciding to move in the most generous country. Borjas for the US and Brucker et al (2001)[110] for Denmark and the Netherlands find that differences in the generosity of the welfare benefits may generate strong magnetic effect on immigrant population.

The fiscal impact of immigration is quite complex. It depends on a series of factors that influence immigrants' welfare dependency such as the composition by age of the immigrant population - younger people are less likely to be on pension - and gender - women have a low labour market attachment; their skill level, as the more educated earns more than low-skilled individuals and pay more taxes; the structure of their families, i.e. if they come alone or are joined later by other dependents; the generosity of the welfare state, i.e. how redistributive is the tax and benefits system, and its design.

Graph 127 provides an example of what immigration may imply in terms of the shape of the social contract. The chart shows for Denmark the net contributions to the public sector of cohorts of different age for respectively the western and non-western-immigrants. Clearly, the net contributions to the public sector do not differ for Danes and Western immigrants: the average person benefits when young and old and contributes when active. Moreover, the net positive contributions of middle age groups compensate for the negative net contributions of non-western immigrants of the same age.

107 Andersen, T. M., B. Holmstrom, S Honkapohja, S. Korkman, H.T.Soderstrom, J. Vartiainen (2007), "The Nordic Model, Embracing globalization and sharing risks", ETLA .
108 However, the evidence on this effect is inconclusive, Brucker et al (2001).
109 G. Borjas (1999) "Immigration and Welfare Magnets", Journal of Labor Economics vol. 17 no 4 .
110 H. Brücker, Gil S. Epstein, B. McCormick, G. Saint Paul, A. Venturini (2001), "Managing Migration in the European Welfare State".

Graph 127 – Net transfers to the Danish public sector per person (3-year average): 2000



Source: Wadensjö Eskil and C. Gerdes (2004): "Immigrants and the Public Sector in Denmark and Germany", in T. Tranæs and K. Zimmermann (ed): *Migrants, Work and the Welfare State, The Rockwool Foundation Research Unit.*

The evidence on the effects of welfare benefits on the migrants' location is rather mixed. Some do not find evidence that low-income households migrate in search of higher welfare benefits (e.g. Walker, 1994), Levine and Zimmerman, 1999). However, for specific socio-economic groups such as low-educated single women there is some evidence that migrants take into account the generosity of the welfare benefits when choosing a host country (e.g. Meyer, 2000 for a comparison between single mothers with children and to single women without children; Gelbach, 2004, for a comparison of single mothers who high school dropouts with single mothers high school graduates), previously married high school dropouts, and previously married high school graduates.

Few studies have looked at the analysis of welfare dependency of migrants in European countries. These studies suggest the take up rate of welfare benefits have increased relative to the native population. Yet, consistently with what has been found for the US, Welfare dependency of non-humanitarian immigrants is below that of humanitarian immigrants [111] (e.g. for Germany Bird et al. 1999, Fertig and Schmidt, 2001, Frick et al. 1996, Riphahn, 1998, Sinn et al., 2001; for Sweden and Denmark Hansen and Lofstrom, 1999, Pederson, 2000). Bird et al (1999)[112] find for Germany that once the socio-economic characteristics of the immigrants are taken into account, immigrants don't have a take-up rate higher than that of natives. Compared to natives with the same characteristics, low-educated migrants with a high number of children are more likely to be on benefits. Thus, immigrants

111 See for Sweden Hanson and Lofstrom, (1999), "Immigration and Welfare Participation: Do Immigrants Assimilate Into or Out-of Welfare?" IZA Discussion Paper 100. For the US evidence shows that while immigrants use welfare slightly more than natives (6.6 percent versus 4.9 percent), welfare use was disproportionally concentrated among refugees and elderly immigrants. Saiz. A (2003) "The impact of immigration on American Cities: An Introduction to the Issues", Business Review Q4 Federal Reserve of Philadelphia. Outcomes change when both cash and non-cash benefits are included in the definition of welfare.
112 Bird, E.J., H. Kayser, J.R. Frick, 1999, The Immigrant Welfare Effect, Take-up or Eligibility? IZA Discussion Paper 66, IZA, Bonn

are more frequently in a position that would make any households to claim benefits for which they are eligible. Recent evidence for several EU15 Member States shows that the fiscal impact of immigration varies considerably across the EU15 countries (Halsmayer, Schuh, Srivanek 2008)[113]. This impact is positive when immigrants are high skilled and young (usually aged between 20 and 30 years) and their integration process is short.

1.5. CONCLUSIONS AND POLICY SUGGESTIONS

The wide-scale movement of people is a defining feature of globalization as it is the movement of goods, services, and capital. Countries usually are just as reluctant or even more to open their borders to people as to those items. As with trade and capital, citizens fear that their culture and their jobs are susceptible to being eliminated by uncontrolled immigration. Nevertheless, migration will be a major, unstoppable fact of global life until the economic disparities between sending and receiving states are eliminated, if ever.

This chapter has focussed only on one of the controversial topic that affects many aspects of life in the country of natives: the economic effects of immigration. Clearly an increase in the labour supply benefits the economy as a whole. Yet, the distributive effects of migration are more complex, as they manifest over time and different generations. In a nutshell, almost everyone gains from immigration, with the exception of those natives not so different from immigrants in terms of experience and education.

Theoretical models of competitive labour markets predict that the labour market impact of immigration hinges on how the skills of immigrants compare to those of natives. Thus an increase of foreign labour will reduce earnings of substitute factors and raise the earnings of complementary factors, where complements include capital.

From the above analysis it is obvious that there is a no clear cut answer about the interaction of welfare institutions and migration. Special characteristics of immigrants like age skills, integration into labour markets in interaction with the specific economic and cultural condition of the host country the specific time period will define the final results. The fiscal consequences of immigration depend also on the age, family and skill structure of immigrants. Migrants are younger than natives and often (as in the case of Eastern enlargement) more skilled. Initially they come without families, thus do not receive family allowances. Later on they become net beneficiaries, but as their children age they turn again in net contributors. Moreover, some time they migrate back to the country of origin, implying that they pay contribution for a certain period but do not claim pension or other type of benefits. Skilled immigrants earn more, pay higher taxes and have lower usage of welfare benefits. The higher welfare dependency of foreign households relative to their native counterparts is, not surprisingly, closely related to the weaker labour market performance of adults in the foreign households relative to the native households.

Fears about the economic consequences for hosting countries of immigration are overplayed. There are other issues related to immigration that affect the public opinion. Certainly the lack of comparable and timely data on migrant characteristics does not help to understand a trend often seen with hostility and resistance from natives in the hosting country. A coordinated approach and a long-term view on immigration is the only way to avoid that an opportunity is perceived by the European citizens as a threat.

113 Halsmayer, Schuh, Srivanek (2008), "The Impact of Migration on Welfare systems and Social Services", Reseach note on Migration and Welfare Systems, Institute for Advanced Studies, Vienna

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STATISTICAL ANNEX

Country tables

Work Status of persons:		Belgium						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	10356	10396	10477	10546	10614	0,6	%
2	**Population (working age:15-64)**	6791	6818	6876	6941	7008	1,0	%
	as % of total population	65,6	65,6	65,6	65,8	66,0	0,2	p.p.
3	**Labour force (15-64) 1000 pers.**	4409	4493	4589	4616	4701	1,8	%
	Male	2492	2528	2557	2562	2595	1,3	%
	Female	1917	1965	2032	2054	2106	2,5	%
4	**Activity rate (as % of population 15-64)**	64,9	65,9	66,7	66,5	67,1	0,6	p.p.
	Young (15-24)	35,0	35,3	35,0	34,7	33,9	-0,8	p.p.
	Prime age (25-54)	82,3	83,4	84,6	84,5	85,3	0,8	p.p.
	Older (55-64)	28,9	31,2	33,3	33,6	35,9	2,3	p.p.
	Male	72,9	73,4	73,9	73,4	73,6	0,2	p.p.
	Young (15-24)	38,4	37,7	37,6	37,4	36,1	-1,3	p.p.
	Prime age (25-54)	90,9	91,8	92,2	91,9	92,5	0,6	p.p.
	Older (55-64)	38,9	40,4	43,4	42,7	44,4	1,7	p.p.
	Female	56,9	58,2	59,5	59,5	60,4	0,9	p.p.
	Young (15-24)	31,4	32,8	32,3	31,9	31,6	-0,4	p.p.
	Prime age (25-54)	73,6	74,8	76,8	77,0	78,0	1,1	p.p.
	Older (55-64)	19,2	22,1	23,4	24,6	27,5	2,9	p.p.
5	**Employment rate (as % of pop. 15-64)**	59,6	60,3	61,1	61,0	62,0	1,1	p.p.
	Young (15-24)	27,4	27,8	27,5	27,6	27,5	-0,1	p.p.
	Prime age (25-54)	76,5	77,3	78,3	78,4	79,7	1,3	p.p.
	Older (55-64)	28,1	30,0	31,8	32,0	34,4	2,4	p.p.
	Male	67,3	67,9	68,3	67,9	68,7	0,8	p.p.
	Young (15-24)	29,9	30,1	29,7	30,4	29,9	-0,4	p.p.
	Prime age (25-54)	85,0	85,8	86,1	85,9	87,0	1,1	p.p.
	Older (55-64)	37,8	39,1	41,7	40,9	42,9	1,9	p.p.
	Female	51,8	52,6	53,8	54,0	55,3	1,3	p.p.
	Young (15-24)	24,7	25,4	25,2	24,7	25,0	0,2	p.p.
	Prime age (25-54)	67,8	68,5	70,4	70,7	72,3	1,6	p.p.
	Older (55-64)	18,7	21,1	22,1	23,2	26,0	2,8	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	4047	4114	4199	4233	4348	115	Th.
	Male (as % of total)	56,8	56,8	56,2	56,0	55,7	-0,3	p.p.
	Female (as % of total)	43,2	43,2	43,8	44,0	44,3	0,3	p.p.
7	**Employment growth (%) (National accounts)**	0,0	0,7	1,2	1,3	1,7		p.p.
	Employment growth (%) (LFS - age 15-64)	0,0	1,7	2,1	0,8	2,7		p.p.
	Male	-1,0	1,6	1,1	0,4	2,1		p.p.
	Female	1,3	1,7	3,4	1,3	3,5		p.p.
8	**Self employed (% of total employment)**	8,6	8,3	8,5	8,6	8,7	0,1	p.p.
	Male	10,0	9,9	10,2	10,4	10,4	0,0	p.p.
	Female	6,9	6,2	6,4	6,3	6,6	0,3	p.p.
9	**Temporary employment (as % total)**	8,4	8,7	8,9	8,7	8,7	0,0	p.p.
	Male	6,2	6,4	6,8	6,9	6,8	-0,1	p.p.
	Female	11,1	11,7	11,4	10,9	10,8	-0,1	p.p.
10	**Part-time (as % of total employment)**	20,3	21,2	21,7	22,0	21,9	-0,1	p.p.
	Male	6,1	6,6	7,1	7,0	7,1	0,1	p.p.
	Female	39,0	40,4	40,4	41,0	40,5	-0,5	p.p.
11	**Unemployment rate (Harmonised:15-74)**	8,2	8,4	8,4	8,2	7,5	-0,7	p.p.
	Young (15-24)	21,8	21,2	21,5	20,5	18,8	-1,7	p.p.
	Prime age (25-54)	7,1	7,4	7,4	7,2	6,6	-0,7	p.p.
	Older (55-64)	2,8	3,7	4,4	4,8	4,2	-0,5	p.p.
	Male	7,6	7,5	7,6	7,4	6,7	-0,7	p.p.
	Young (15-24)	22,2	20,2	21,0	18,8	17,1	-1,7	p.p.
	Prime age (25-54)	6,5	6,6	6,6	6,5	5,9	-0,6	p.p.
	Older (55-64)	2,7	3,2	3,9	4,2	3,5	-0,7	p.p.
	Female	8,9	9,5	9,5	9,3	8,4	-0,9	p.p.
	Young (15-24)	21,3	22,4	22,1	22,6	20,9	-1,7	p.p.
	Prime age (25-54)	7,8	8,4	8,4	8,1	7,4	-0,8	p.p.
	Older (55-64)	2,8	4,8	5,5	5,7	5,3	-0,3	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	45,4	49,1	51,7	51,2	50,4	-0,9	p.p.
13	**Worked hours (average actual weekly hours)**	36,7	36,5	36,7	36,8	37,0	0,5	%
	Male	40,2	40,1	40,1	40,5	40,5	0,1	%
	Female	32,0	31,8	32,1	32,1	32,6	1,6	%
14	**Sectoral employment growth**							
	Agriculture	-3,4	-1,2	0,0	-2,4	1,2		p.p.
	Building and construction	-0,8	0,0	1,3	3,3	2,8		p.p.
	Services	0,8	1,4	1,7	1,6	134,4		p.p.
	Manufacturing industry	-2,8	-2,0	-1,1	-1,0	-0,5		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Belgium

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	1,7	1,9	1,9	3,2	3,0	:	:	:	:
Compensation of employees per Hour Worked	2,1	3,8	0,9	2,8	2,9	:		:	:
Hourly labour costs (Eurostat labour cost index)	1,9	2,3	2,4	2,6	3,7	3,3	4,7	3,7	3,3
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	0,7	-0,3	1,5	1,6	1,9	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-0,9	-2,7	-1,0	-0,4	0,3	:		:	:
Wage and salaries	-0,6	1,4	2,1	3,4	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	1,2	0,1	1,8	2,0	2,3	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	70,3	68,8	67,8	67,6	67,5	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	29,0	31,6	30,8	30,8	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	71,0	68,4	69,2	69,2	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	54,4	59,9	60,7	60,7	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	56,4	55,4	55,5	55,4	:	:		:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	52,2	51,2	51,3	51,2	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	28,9	31,1	30,3	30,3	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	0,1	0,5	0,5	0,5	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	0,9	2,3	0,4	1,6	1,1	:	:	:	:
Hourly Labour Productivity	1,2	4,0	-0,6	1,2	1,0	:	:	:	:
GDP	1,0	3,0	1,7	2,8	2,8	4,0	3,3	2,4	1,7
ECFIN NAIRU estimate	7,8	7,7	7,8	7,8	7,6	:	:	:	:
Output gap (%)	-0,7	0,3	-0,3	0,1	0,3	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	1,5	1,9	2,5	2,3	1,8	1,8	1,5	1,3	2,7
Underlying inflation (exc. energy and unprocessed food)	1,7	1,4	1,4	1,6	1,9	1,8	1,9	1,8	2,2
GDP deflator	1,6	2,4	2,5	2,0	1,6	1,6	1,3	1,8	1,9
Sectoral breakdown of unit labour costs									
Agriculture and fishery	7,8	-0,8	3,9	12,0	2,8	:	:	:	:
Industry excluding construction	0,2	-1,7	0,5	-0,9	0,7	:	:	:	:
of which: manufacturing	0,5	-2,1	0,1	-0,1	0,2	:	:	:	:
Construction	0,4	-0,1	-1,8	-1,9	1,9	:	:	:	:
Trade, transport and communication	-1,4	0,7	3,6	3,6	0,9	:		:	:
Finance and business services	0,0	0,5	-1,5	1,8	6,1	:	:	:	:
Non-market related services	2,4	1,6	3,3	2,9	3,5	:	:	:	:
Market-related sectors	-0,3	-0,1	0,6	1,1	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	1,7	1,9	1,9	3,2	3,8	:	:	:	:
Agriculture and fishery	3,0	5,7	-1,7	7,9	6,9	:	:	:	:
Industry excluding construction	1,8	3,4	1,5	3,5	4,1	:		:	:
of which: manufacturing	2,1	3,4	1,4	3,7	3,0	:	:	:	:
Construction	2,2	3,5	0,6	3,0	2,6	:		:	:
Trade, transport and	1,9	1,9	1,0	3,8	4,1	:		:	:
Finance and business services	1,6	1,1	1,8	2,2	3,9	:	:	:	:
Non-market related services	2,1	1,6	3,1	3,0	3,8	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-4,4	6,5	-5,4	-3,6	4,0	2,5	4,2	6,7	4,8
Industry excluding construction	1,5	5,2	1,0	4,5	3,3	4,6	3,8	3,1	1,8
of which: manufacturing	1,6	5,7	1,3	3,8	2,8	:	:	:	:
Construction	1,8	3,5	2,5	5,0	0,7	3,6	1,5	-1,9	-0,1
Trade, transport and	3,4	1,2	-2,5	0,2	3,2	5,2	3,4	1,0	3,1
Finance and business services	1,6	0,6	3,4	0,4	-2,1	0,1	-1,1	-1,6	-5,7
Non-market related services	-0,4	0,0	-0,2	0,1	0,3	0,2	0,3	0,2	0,3
Market-related sectors	1,9	2,3	0,9	1,9	1,1	3,1	1,7	0,4	-0,8

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Czech Republic						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	10179	10196	10229	10265	10320	0,5	%
2	**Population (working age:15-64)**	7182	7231	7270	7307	7347	0,5	%
	as % of total population	70,6	70,9	71,1	71,2	71,2	0,0	p.p.
3	**Labour force (15-64) 1000 pers.**	5044	5063	5119	5140	5132	-0,2	%
	Male	2792	2815	2857	2873	2888	0,5	%
	Female	2252	2248	2262	2267	2244	-1,0	%
4	**Activity rate (as % of population 15-64)**	70,2	70,0	70,4	70,3	69,9	-0,5	p.p.
	Young (15-24)	36,8	35,2	34,0	33,5	31,9	-1,6	p.p.
	Prime age (25-54)	87,8	87,8	88,3	88,2	87,8	-0,4	p.p.
	Older (55-64)	44,2	45,1	46,9	47,7	48,2	0,5	p.p.
	Male	78,0	77,9	78,4	78,3	78,1	-0,1	p.p.
	Young (15-24)	39,6	38,7	38,9	37,7	36,7	-1,0	p.p.
	Prime age (25-54)	94,4	94,6	94,8	94,8	95,0	0,2	p.p.
	Older (55-64)	59,9	60,2	62,1	62,7	62,5	-0,3	p.p.
	Female	62,5	62,2	62,4	62,3	61,5	-0,9	p.p.
	Young (15-24)	34,0	31,5	28,9	29,2	26,9	-2,3	p.p.
	Prime age (25-54)	81,0	80,9	81,6	81,3	80,3	-1,0	p.p.
	Older (55-64)	30,0	31,3	32,9	34,0	35,2	1,2	p.p.
5	**Employment rate (as % of pop. 15-64)**	64,7	64,2	64,8	65,3	66,1	0,8	p.p.
	Young (15-24)	30,0	27,8	27,5	27,7	28,5	0,8	p.p.
	Prime age (25-54)	81,7	81,4	82,0	82,5	83,5	0,9	p.p.
	Older (55-64)	42,3	42,7	44,5	45,2	46,0	0,8	p.p.
	Male	73,1	72,3	73,3	73,7	74,8	1,1	p.p.
	Young (15-24)	32,3	30,1	31,3	31,4	32,8	1,4	p.p.
	Prime age (25-54)	89,7	89,2	89,8	90,4	91,7	1,4	p.p.
	Older (55-64)	57,5	57,2	59,3	59,5	59,6	0,1	p.p.
	Female	56,3	56,0	56,3	56,8	57,3	0,5	p.p.
	Young (15-24)	27,6	25,4	23,4	23,7	23,9	0,2	p.p.
	Prime age (25-54)	73,5	73,4	74,0	74,5	74,9	0,4	p.p.
	Older (55-64)	28,4	29,4	30,9	32,1	33,5	1,4	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	4647	4639	4710	4769	4856	87	Th.
	Male (as % of total)	56,4	56,4	56,7	56,7	56,9	0,2	p.p.
	Female (as % of total)	43,6	43,6	43,3	43,3	43,1	-0,2	p.p.
7	**Employment growth (%) (National accounts)**	-1,3	0,3	1,0	1,9	1,8		p.p.
	Employment growth (%) (LFS - age 15-64)	-0,6	-0,2	1,5	1,3	1,8		p.p.
	Male	-0,5	-0,2	2,2	1,2	2,2		p.p.
	Female	-0,8	-0,2	0,7	1,3	1,3		p.p.
8	**Self employed (% of total employment)**	12,2	12,1	11,4	11,3	11,7	0,4	p.p.
	Male	15,5	15,5	14,7	14,3	14,8	0,5	p.p.
	Female	8,0	7,7	7,1	7,3	7,5	0,2	p.p.
9	**Temporary employment (as % total)**	8,4	8,4	7,9	8,0	7,8	-0,1	p.p.
	Male	7,1	7,0	6,9	6,8	6,5	-0,3	p.p.
	Female	10,0	10,0	9,2	9,4	9,4	0,0	p.p.
10	**Part-time (as % of total employment)**	4,5	4,3	4,4	4,4	4,4	-0,1	p.p.
	Male	1,7	1,7	1,6	1,7	1,7	0,0	p.p.
	Female	8,0	7,7	8,0	8,0	7,9	-0,2	p.p.
11	**Unemployment rate (Harmonised:15-74)**	7,8	8,3	7,9	7,1	5,3	-1,8	p.p.
	Young (15-24)	18,6	21,0	19,2	17,5	10,7	-6,7	p.p.
	Prime age (25-54)	7,0	7,3	7,1	6,4	4,9	-1,4	p.p.
	Older (55-64)	4,4	5,4	5,2	5,3	4,6	-0,7	p.p.
	Male	6,2	7,1	6,5	5,8	4,2	-1,6	p.p.
	Young (15-24)	18,3	22,2	19,3	16,6	10,6	-6,0	p.p.
	Prime age (25-54)	5,0	5,6	5,3	4,7	3,5	-1,2	p.p.
	Older (55-64)	4,0	4,9	4,5	5,1	4,5	-0,6	p.p.
	Female	9,9	9,9	9,8	8,8	6,7	-2,1	p.p.
	Young (15-24)	18,8	19,5	19,1	18,7	11,0	-7,7	p.p.
	Prime age (25-54)	9,3	9,3	9,3	8,3	6,7	-1,6	p.p.
	Older (55-64)	5,2	6,1	6,3	5,6	4,8	-0,8	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	48,7	51,0	53,0	54,3	52,2	-2,1	p.p.
13	**Worked hours (average actual weekly hours)**	41,8	41,7	41,7	41,4	41,3	-0,4	%
	Male	43,9	43,7	43,6	43,3	43,1	-0,5	%
	Female	38,9	39,0	39,1	38,9	38,8	-0,3	%
14	**Sectoral employment growth**							
	Agriculture	-4,7	-3,9	-3,9	-1,7	-2,6		p.p.
	Building and construction	-0,1	1,9	0,0	2,5	2,2		p.p.
	Services	-0,3	0,6	1,5	2,5	2,1		p.p.
	Manufacturing industry	-2,7	0,3	1,3	1,3	2,0		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Czech Republic

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	8,8	5,7	4,7	6,2	7,0	:	:	:	:
Compensation of employees per Hour Worked	7,4	5,7	5,1	5,9	7,1	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	5,5	6,7	3,4	5,9	8,0	7,3	8,1	8,9	7,3
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	3,6	1,5	-0,6	1,7	2,3	:	:	:	:
Real unit labour costs deflated by GDP deflator.	2,7	-2,9	-0,4	0,0	-1,1	:	:	:	:
Wage and salaries	5,1	5,7	5,3	6,0	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	59,2	58,2	57,9	57,5	56,8	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	28,2	28,1	27,5	27,4	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	71,8	71,9	72,5	72,6	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	63,0	63,0	63,8	64,0	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	43,2	43,5	43,8	42,6	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	40,2	40,5	40,5	39,4	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	26,9	26,9	26,2	26,1	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	1,3	1,2	1,3	1,3	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	5,0	4,1	5,3	4,4	4,6	:	:	:	:
Hourly Labour Productivity	4,9	3,7	4,7	4,5	4,7	:	:	:	:
GDP	3,6	4,5	6,4	6,4	6,5	6,5	6,5	6,3	6,6
ECFIN NAIRU estimate	7,5	7,3	7,0	6,7	6,1	:	:	:	:
Output gap (%)	-3,0	-2,6	-0,8	0,8	2,0	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	-0,1	2,6	1,6	2,1	3,0	1,7	2,6	2,7	4,9
Underlying inflation (exc. energy and unprocessed food)	0,4	2,5	0,9	0,9	3,1	1,9	2,8	3,1	4,5
GDP deflator	0,9	4,5	-0,2	1,7	3,4	3,6	3,7	3,2	3,1
Sectoral breakdown of unit labour costs									
Agriculture and fishery	-7,1	-4,2	2,3	14,3	:	:	:	:	:
Industry excluding construction	1,8	-5,4	2,5	-3,1	:	:	:	:	:
of which: manufacturing	5,6	-4,9	-5,7	-9,8	-2,2	:	:	:	:
Construction	2,1	0,7	6,3	11,5	:	:	:	:	:
Trade, transport and communication	-2,3	7,6	6,6	10,6	:	:	:	:	:
Finance and business services	-0,1	3,6	7,4	11,9	:	:	:	:	:
Non-market related services	4,5	5,0	14,4	10,7	:	:	:	:	:
Market-related sectors	3,1	1,3	-2,4	-0,2	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	5,3	5,5	12,3	11,5	9,2	:	:	:	:
Agriculture and fishery	1,1	7,5	11,3	11,8	:	:	:	:	:
Industry excluding construction	3,9	6,6	11,9	10,4	:	:	:	:	:
of which: manufacturing	7,5	7,0	4,4	5,8	6,5	:	:	:	:
Construction	5,0	4,5	12,2	12,3	:	:	:	:	:
Trade, transport and	5,4	6,5	12,3	12,6	:	:	:	:	:
Finance and business services	5,1	4,5	10,9	11,8	:	:	:	:	:
Non-market related services	6,8	3,4	12,6	10,9	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	8,8	12,1	8,8	-2,2	:	-19,1	-17,5	-2,7	-13,2
Industry excluding construction	2,1	12,7	9,2	14,0	:	2,0	4,4	4,8	8,2
of which: manufacturing	1,8	12,5	10,7	17,3	8,9	9,6	9,5	8,8	7,9
Construction	2,8	3,7	5,6	0,7	:	9,2	-0,2	-1,6	-4,8
Trade, transport and	7,9	-1,0	5,3	1,9	:	10,7	8,9	5,6	6,9
Finance and business services	5,1	0,9	3,3	-0,1	:	4,6	6,9	8,0	2,7
Non-market related services	2,2	-1,5	-1,5	0,2	:	0,9	1,6	1,6	0,9
Market-related sectors	5,0	5,1	6,8	6,1	:	4,7	5,2	4,7	5,4

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Denmark						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	5359	5379	5396	5415	5431	0,3	%
2	**Population (working age:15-64)**	3548	3559	3566	3569	3573	0,1	%
	as % of total population	66,2	66,2	66,1	65,9	65,8	-0,1	p.p.
3	**Labour force (15-64) 1000 pers.**	2820	2852	2846	2875	2866	-0,3	%
	Male	1503	1511	1504	1516	1513	-0,2	%
	Female	1317	1342	1341	1360	1353	-0,5	%
4	**Activity rate (as % of population 15-64)**	79,5	80,1	79,8	80,6	80,2	-0,3	p.p.
	Young (15-24)	65,6	67,9	68,1	69,9	70,9	0,9	p.p.
	Prime age (25-54)	87,8	88,2	88,1	88,9	89,0	0,1	p.p.
	Older (55-64)	63,3	63,9	62,8	63,2	60,8	-2,4	p.p.
	Male	83,8	84,0	83,6	84,1	83,9	-0,2	p.p.
	Young (15-24)	67,7	69,7	70,0	70,5	72,3	1,7	p.p.
	Prime age (25-54)	91,8	91,5	91,7	92,3	92,5	0,3	p.p.
	Older (55-64)	70,4	71,3	68,7	69,6	67,0	-2,6	p.p.
	Female	75,1	76,2	75,9	77,0	76,4	-0,5	p.p.
	Young (15-24)	63,5	66,0	66,2	69,3	69,4	0,1	p.p.
	Prime age (25-54)	83,7	84,8	84,5	85,4	85,4	0,0	p.p.
	Older (55-64)	55,9	56,5	56,8	56,7	54,6	-2,1	p.p.
5	**Employment rate (as % of pop. 15-64)**	75,1	75,7	75,9	77,4	77,1	-0,2	p.p.
	Young (15-24)	59,6	62,3	62,3	64,6	65,3	0,7	p.p.
	Prime age (25-54)	83,5	83,7	84,5	86,1	86,3	0,3	p.p.
	Older (55-64)	60,2	60,3	59,5	60,7	58,6	-2,1	p.p.
	Male	79,6	79,7	79,8	81,2	81,0	-0,2	p.p.
	Young (15-24)	61,5	63,4	63,9	65,0	66,3	1,4	p.p.
	Prime age (25-54)	87,9	87,6	88,3	90,0	90,2	0,1	p.p.
	Older (55-64)	67,3	67,3	65,6	67,1	64,9	-2,2	p.p.
	Female	70,5	71,6	71,9	73,4	73,2	-0,2	p.p.
	Young (15-24)	57,6	61,1	60,5	64,1	64,2	0,1	p.p.
	Prime age (25-54)	79,0	79,8	80,6	82,0	82,4	0,4	p.p.
	Older (55-64)	52,9	53,3	53,5	54,3	52,3	-1,9	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	2666	2693	2706	2762	2757	-5	Th.
	Male (as % of total)	53,6	53,2	53,1	53,0	53,0	-0,1	p.p.
	Female (as % of total)	46,4	46,8	46,9	47,0	47,0	0,1	p.p.
7	**Employment growth (%) (National accounts)**	-1,1	-0,6	0,8	1,6	1,8		p.p.
	Employment growth (%) (LFS - age 15-64)	-0,7	1,0	0,5	2,0	-0,2		p.p.
	Male	0,0	0,2	0,3	1,9	-0,3		p.p.
	Female	-1,5	2,0	0,7	2,2	-0,1		p.p.
8	**Self employed (% of total employment)**	4,0	4,1	4,0	4,1	4,2	0,1	p.p.
	Male	5,4	5,8	5,3	5,2	5,5	0,2	p.p.
	Female	2,3	2,3	2,6	2,7	2,7	0,0	p.p.
9	**Temporary employment (as % total)**	9,2	9,4	9,8	8,9	8,7	-0,2	p.p.
	Male	8,1	8,6	8,4	7,9	7,5	-0,4	p.p.
	Female	10,4	10,3	11,3	9,9	9,9	0,0	p.p.
10	**Part-time (as % of total employment)**	20,7	21,5	21,5	22,9	23,4	0,5	p.p.
	Male	10,8	11,2	11,7	12,3	12,5	0,2	p.p.
	Female	32,1	33,3	32,5	34,9	35,8	0,9	p.p.
11	**Unemployment rate (Harmonised:15-74)**	5,4	5,5	4,8	3,9	3,8	-0,1	p.p.
	Young (15-24)	9,2	8,2	8,6	7,7	7,9	0,2	p.p.
	Prime age (25-54)	4,9	5,1	4,1	3,2	3,0	-0,2	p.p.
	Older (55-64)	4,8	5,6	5,2	3,9	3,5	-0,4	p.p.
	Male	4,8	5,1	4,4	3,3	3,5	0,2	p.p.
	Young (15-24)	9,2	9,0	8,6	7,9	8,2	0,4	p.p.
	Prime age (25-54)	4,2	4,3	3,7	2,4	2,6	0,1	p.p.
	Older (55-64)	4,5	5,6	4,6	3,5	3,1	-0,5	p.p.
	Female	6,1	6,0	5,3	4,5	4,2	-0,3	p.p.
	Young (15-24)	9,2	7,4	8,6	7,5	7,5	0,0	p.p.
	Prime age (25-54)	5,7	5,8	4,5	4,0	3,5	-0,5	p.p.
	Older (55-64)	5,4	5,6	5,8	4,3	4,1	-0,2	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	20,4	21,6	23,5	20,9	16,1	-4,7	p.p.
13	**Worked hours (average actual weekly hours)**	35,0	34,7	35,1	34,9	34,9	0,1	%
	Male	37,8	37,6	37,9	37,7	37,6	-0,3	%
	Female	31,7	31,3	31,7	31,4	31,6	0,6	%
14	**Sectoral employment growth**							
	Agriculture	-3,3	-4,5	-2,4	0,0	1,2		p.p.
	Building and construction	-0,6	0,0	5,6	5,3	3,9		p.p.
	Services	-0,3	0,3	1,3	1,8	1,8		p.p.
	Manufacturing industry	-4,4	-4,3	-2,5	-0,3	0,5		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Denmark

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	3,7	3,3	3,5	3,9	3,7	:	:	:	:
Compensation of employees per Hour Worked	4,0	3,4	4,6	3,3	5,0	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	3,6	3,3	3,0	2,9	3,5	3,0	3,7	3,4	3,6
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	2,2	0,4	1,9	1,7	3,7	:	:	:	:
Real unit labour costs deflated by GDP deflator.	0,6	-1,9	-1,1	-0,4	2,2	:	:	:	:
Wage and salaries	2,7	2,1	3,5	5,2	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	3,2	1,2	2,3	2,1	4,2	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	68,1	67,1	66,7	66,5	68,0	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	13,4	13,0	13,3	14,2	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	86,6	87,0	86,7	85,8	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	69,8	70,6	70,3	69,4	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	42,6	41,3	41,4	41,3	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	39,2	37,9	38,1	37,9	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	10,6	10,2	10,9	11,6	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	2,8	2,8	2,4	2,6	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	1,5	2,9	1,6	2,2	0,0	:	:	:	:
Hourly Labour Productivity	1,7	2,7	2,6	1,6	1,4	:	:	:	:
GDP	0,4	2,3	2,5	3,9	1,8	3,8	-0,1	1,7	1,9
ECFIN NAIRU estimate	4,6	4,4	4,2	3,9	3,7	:	:	:	:
Output gap (%)	-1,5	-1,0	-0,4	1,2	0,7	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	2,0	0,9	1,7	1,9	1,7	1,9	1,5	1,0	2,2
Underlying inflation (exc. energy and unprocessed food)	2,2	0,9	1,0	1,3	1,6	1,6	1,7	1,3	2,0
GDP deflator	1,6	2,3	3,1	2,0	1,5	1,2	1,0	1,0	2,8
Sectoral breakdown of unit labour costs									
Agriculture and fishery	-3,3	0,2	1,4	-3,6	8,0	:	:	:	:
Industry excluding construction	1,9	-2,1	5,5	0,5	5,8	:	:	:	:
of which: manufacturing	2,6	-2,0	5,7	-1,9	0,7	:	:	:	:
Construction	-0,7	2,9	5,0	0,6	4,7	:	:	:	:
Trade, transport and communication	0,4	1,3	0,0	1,4	3,1	:	:	:	:
Finance and business services	2,6	0,4	4,6	3,4	4,3	:	:	:	:
Non-market related services	4,2	3,5	1,3	2,1	2,3	:	:	:	:
Market-related sectors	1,3	0,0	2,8	1,7	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	3,7	3,2	3,4	3,8	3,8	:	:	:	:
Agriculture and fishery	0,9	4,2	4,0	3,2	3,8	:	:	:	:
Industry excluding construction	4,3	4,1	4,8	3,7	4,7	:	:	:	:
of which: manufacturing	4,3	4,1	5,1	3,7	4,5	:	:	:	:
Construction	2,9	3,1	3,3	6,2	4,1	:	:	:	:
Trade, transport and	3,0	2,2	3,1	3,4	3,6	:	:	:	:
Finance and business services	3,1	3,5	4,2	3,9	4,1	:	:	:	:
Non-market related services	4,5	3,3	2,2	3,7	3,3	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	4,4	4,0	2,6	7,0	-3,9	-3,2	-15,6	1,0	2,1
Industry excluding construction	2,3	6,4	-0,6	3,2	-1,0	1,6	-3,9	0,8	-1,5
of which: manufacturing	1,7	6,1	-0,6	5,7	3,7	:	:	:	:
Construction	3,6	0,1	-1,6	5,6	-0,6	7,2	-1,5	-7,4	0,8
Trade, transport and	2,6	1,0	3,2	1,9	0,5	4,5	-1,2	-1,0	0,2
Finance and business services	0,5	3,0	-0,4	0,5	-0,2	0,7	-1,1	0,2	-0,6
Non-market related services	0,3	-0,1	0,8	1,5	1,0	0,8	1,1	0,7	1,5
Market-related sectors	2,0	3,1	0,7	2,2	-0,4	2,0	-2,4	-0,6	-0,4

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Germany						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	81596	81563	81529	81489	81363	-0,2	%
2	**Population (working age:15-64)**	54695	54501	54765	54533	54226	-0,6	%
	as % of total population	67,0	66,8	67,2	66,9	66,6	-0,3	p.p.
3	**Labour force (15-64) 1000 pers.**	39414	39280	40706	41078	41207	0,3	%
	Male	21769	21701	22210	22343	22317	-0,1	%
	Female	17644	17579	18496	18735	18890	0,8	%
4	**Activity rate (as % of population 15-64)**	72,1	72,1	74,3	75,3	76,0	0,7	p.p.
	Young (15-24)	49,5	47,5	49,9	50,3	51,4	1,1	p.p.
	Prime age (25-54)	86,1	85,9	87,1	87,6	87,8	0,2	p.p.
	Older (55-64)	45,1	47,5	52,1	55,2	57,5	2,2	p.p.
	Male	79,0	79,0	80,6	81,3	81,8	0,4	p.p.
	Young (15-24)	52,2	50,5	52,5	52,9	53,7	0,8	p.p.
	Prime age (25-54)	93,2	92,9	93,6	93,8	93,8	0,0	p.p.
	Older (55-64)	54,5	57,2	61,2	64,0	66,1	2,1	p.p.
	Female	65,0	65,1	68,0	69,3	70,1	0,9	p.p.
	Young (15-24)	46,7	44,4	47,3	47,6	49,0	1,4	p.p.
	Prime age (25-54)	78,8	78,8	80,6	81,4	81,8	0,4	p.p.
	Older (55-64)	35,8	37,9	43,1	46,6	49,1	2,5	p.p.
5	**Employment rate (as % of pop. 15-64)**	64,9	64,3	66,0	67,5	69,4	1,8	p.p.
	Young (15-24)	44,0	41,3	42,2	43,4	45,3	1,9	p.p.
	Prime age (25-54)	78,1	77,2	78,2	79,4	80,9	1,5	p.p.
	Older (55-64)	39,4	41,4	45,4	48,4	51,5	3,1	p.p.
	Male	70,9	70,0	71,3	72,8	74,7	1,9	p.p.
	Young (15-24)	45,0	42,7	43,7	45,1	47,0	1,9	p.p.
	Prime age (25-54)	84,4	83,1	83,7	84,9	86,4	1,6	p.p.
	Older (55-64)	47,7	49,8	53,5	56,4	59,7	3,3	p.p.
	Female	58,9	58,5	60,6	62,2	64,0	1,8	p.p.
	Young (15-24)	43,0	39,8	40,7	41,6	43,5	1,9	p.p.
	Prime age (25-54)	71,6	71,1	72,5	73,7	75,2	1,5	p.p.
	Older (55-64)	31,2	33,1	37,5	40,6	43,6	3,1	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	35523	35023	36138	36833	37611	778	Th.
	Male (as % of total)	55,0	54,9	54,4	54,3	54,2	-0,1	p.p.
	Female (as % of total)	45,0	45,1	45,6	45,7	45,8	0,1	p.p.
7	**Employment growth (%) (National accounts)**	-0,9	0,4	-0,1	0,6	1,7		p.p.
	Employment growth (%) (LFS - age 15-64)	-1,0	-1,4	3,2	1,9	2,1		p.p.
	Male	-1,6	-1,5	2,1	1,8	1,9		p.p.
	Female	-0,1	-1,3	4,5	2,0	2,4		p.p.
8	**Self employed (% of total employment)**	5,2	5,5	6,0	6,0	5,8	-0,1	p.p.
	Male	6,2	6,7	7,2	7,0	6,7	-0,3	p.p.
	Female	3,9	4,1	4,7	4,7	4,7	0,0	p.p.
9	**Temporary employment (as % total)**	12,2	12,5	14,2	14,5	14,6	0,1	p.p.
	Male	12,2	12,7	14,5	14,8	14,7	-0,1	p.p.
	Female	12,3	12,2	13,9	14,2	14,6	0,4	p.p.
10	**Part-time (as % of total employment)**	21,2	21,9	23,4	25,2	25,4	0,1	p.p.
	Male	5,5	5,9	6,9	8,5	8,5	0,0	p.p.
	Female	40,4	41,3	43,0	45,1	45,3	0,2	p.p.
11	**Unemployment rate (Harmonised:15-74)**	9,3	9,7	10,7	9,8	8,4	-1,4	p.p.
	Young (15-24)	11,0	13,0	15,5	13,7	11,9	-1,8	p.p.
	Prime age (25-54)	9,3	10,2	10,3	9,5	7,9	-1,5	p.p.
	Older (55-64)	12,6	12,8	12,8	12,4	10,3	-2,0	p.p.
	Male	9,8	10,3	11,2	10,2	8,4	-1,8	p.p.
	Young (15-24)	13,7	15,4	16,8	14,8	12,6	-2,2	p.p.
	Prime age (25-54)	9,4	10,5	10,6	9,5	7,8	-1,7	p.p.
	Older (55-64)	12,4	12,9	12,6	11,9	9,7	-2,2	p.p.
	Female	8,6	9,1	10,1	9,4	8,3	-1,1	p.p.
	Young (15-24)	8,1	10,2	13,9	12,5	11,1	-1,5	p.p.
	Prime age (25-54)	9,1	9,8	10,0	9,4	8,0	-1,3	p.p.
	Older (55-64)	12,9	12,7	13,0	13,0	11,2	-1,8	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	50,0	51,8	53,1	56,5	56,6	0,1	p.p.
13	**Worked hours (average actual weekly hours)**	36,9	36,9	36,9	36,0	36,0	0,0	%
	Male	41,4	41,5	41,6	40,8	40,8	0,1	%
	Female	31,2	31,2	30,9	30,1	30,2	0,2	%
14	**Sectoral employment growth**							
	Agriculture	-2,7	-0,8	-2,6	-1,1	1,1		p.p.
	Building and construction	-4,8	-2,9	-3,9	-0,3	1,9		p.p.
	Services	-0,1	1,3	0,8	1,2	1,8		p.p.
	Manufacturing industry	-2,6	-1,5	-1,7	-0,9	1,3		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Germany

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	1,6	0,4	-0,1	1,1	0,9	1,6	:	:	:
Compensation of employees per Hour Worked	1,7	-0,2	0,0	1,2	1,0	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	2,7	1,0	0,8	1,6	1,2	0,6	1,3	0,9	1,9
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	0,8	-0,3	-1,0	-1,1	0,2	-0,3	:	:	:
Real unit labour costs deflated by GDP deflator.	-0,3	-1,4	-1,7	-1,7	-1,6	-1,8	:	:	:
Wage and salaries	0,0	0,4	-1,1	0,8	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	1,2	-0,5	-0,9	-1,2	0,0	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	65,4	64,5	63,5	62,6	62,0	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	24,0	23,8	23,5	23,7	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	76,0	76,2	76,5	76,3	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	63,2	64,3	64,5	63,8	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	54,2	53,2	52,4	52,5	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	49,6	48,8	48,0	48,1	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	23,5	23,4	23,1	23,3	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	0,4	0,4	0,4	0,4	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	0,7	0,7	0,9	2,2	0,7	1,9	:	:	:
Hourly Labour Productivity	1,2	0,5	1,3	2,4	0,8	:	:	:	:
GDP	-0,2	1,1	0,8	2,9	2,5	3,4	2,5	2,4	1,6
ECFIN NAIRU estimate	8,8	8,8	8,9	8,7	8,5	:	:	:	:
Output gap (%)	-1,5	-1,6	-1,8	-0,3	0,7	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	1,0	1,8	1,9	1,8	2,3	1,9	2,0	2,2	3,1
Underlying inflation (exc. energy and unprocessed food)	0,9	1,6	1,0	0,8	2,1	1,7	2,0	2,2	2,3
GDP deflator	1,2	1,1	0,7	0,6	1,8	1,5	2,0	2,0	1,9
Sectoral breakdown of unit labour costs									
Agriculture and fishery	3,2	-19,7	6,7	4,4	-0,3	:	:	:	:
Industry excluding construction	-0,8	-4,0	-2,3	-2,3	-2,2	:	:	:	:
of which: manufacturing	-1,2	-3,0	-2,6	-2,8	-3,0	:	:	:	:
Construction	2,1	1,2	0,2	-4,4	1,8	:	:	:	:
Trade, transport and communication	0,5	-1,8	-0,5	-2,6	0,4	:	:	:	:
Finance and business services	2,3	3,0	0,1	0,4	2,1	:	:	:	:
Non-market related services	1,7	1,1	-0,7	0,5	0,4	:	:	:	:
Market-related sectors	0,4	-1,3	-1,1	-1,8	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	1,6	0,4	-0,1	1,1	1,0	:	:	:	:
Agriculture and fishery	0,2	-2,3	-2,0	2,2	1,6	:	:	:	:
Industry excluding construction	2,2	2,0	0,6	3,8	1,8	:	:	:	:
of which: manufacturing	2,1	2,0	0,5	3,8	1,8	:	:	:	:
Construction	1,9	0,2	-0,7	1,0	2,2	:	:	:	:
Trade, transport and	1,5	-1,0	0,4	0,8	1,0	:	:	:	:
Finance and business services	1,5	-0,1	1,2	-0,7	1,3	:	:	:	:
Non-market related services	1,3	0,6	-1,5	-0,1	-0,1	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-2,9	21,6	-8,2	-2,1	1,8	2,1	1,3	2,4	1,7
Industry excluding construction	3,1	6,3	2,9	6,3	4,0	4,4	4,4	4,1	3,1
of which: manufacturing	3,4	5,2	3,1	6,8	4,9	6,5	5,1	4,7	3,2
Construction	-0,1	-0,9	-0,8	5,7	0,3	9,9	-2,1	-1,9	-2,8
Trade, transport and	1,0	0,8	1,0	3,4	0,5	1,9	0,9	0,8	-1,2
Finance and business services	-0,7	-3,1	1,1	-1,1	-0,8	-1,0	-0,7	-0,6	-0,7
Non-market related services	-0,4	-0,4	-0,8	-0,6	-0,4	-0,4	-0,4	-0,7	-0,9
Market-related sectors	1,3	1,6	1,7	3,1	1,5	2,2	1,6	1,5	0,7

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Estonia						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	1350	1348	1343	1339	1338	-0,1	%
2	**Population (working age:15-64)**	911	910	910	913	909	-0,4	%
	as % of total population	67,5	67,5	67,7	68,1	68,0	-0,2	p.p.
3	**Labour force (15-64) 1000 pers.**	639	636	638	661	663	0,2	%
	Male	326	322	319	332	338	1,9	%
	Female	313	314	319	329	325	-1,4	%
4	**Activity rate (as % of population 15-64)**	70,1	70,0	70,1	72,4	72,9	0,5	p.p.
	Young (15-24)	36,9	34,7	34,6	35,9	38,3	2,4	p.p.
	Prime age (25-54)	85,7	86,5	86,0	89,1	88,5	-0,6	p.p.
	Older (55-64)	56,3	55,7	59,0	61,0	62,2	1,2	p.p.
	Male	75,0	74,4	73,6	75,8	77,5	1,6	p.p.
	Young (15-24)	43,2	41,6	39,7	41,2	44,2	3,0	p.p.
	Prime age (25-54)	89,6	90,1	89,2	92,8	93,6	0,9	p.p.
	Older (55-64)	64,4	60,7	63,0	61,6	63,7	2,0	p.p.
	Female	65,7	66,0	66,9	69,3	68,7	-0,7	p.p.
	Young (15-24)	30,7	27,8	29,4	30,6	32,3	1,7	p.p.
	Prime age (25-54)	82,1	83,2	83,1	85,8	83,7	-2,0	p.p.
	Older (55-64)	50,3	51,9	56,0	60,5	61,0	0,5	p.p.
5	**Employment rate (as % of pop. 15-64)**	62,9	63,0	64,4	68,1	69,4	1,3	p.p.
	Young (15-24)	29,3	27,2	29,2	31,6	34,5	2,9	p.p.
	Prime age (25-54)	77,8	78,8	79,6	84,2	84,8	0,5	p.p.
	Older (55-64)	52,3	52,4	56,1	58,5	60,0	1,5	p.p.
	Male	67,2	66,4	67,1	71,0	73,2	2,2	p.p.
	Young (15-24)	35,8	32,8	33,1	37,0	38,8	1,8	p.p.
	Prime age (25-54)	81,0	81,6	81,9	87,5	89,7	2,2	p.p.
	Older (55-64)	58,9	56,4	59,2	57,5	59,4	1,9	p.p.
	Female	59,0	60,0	62,1	65,3	65,9	0,6	p.p.
	Young (15-24)	22,6	21,6	25,1	26,1	30,0	3,9	p.p.
	Prime age (25-54)	74,8	76,2	77,5	81,1	80,2	-1,0	p.p.
	Older (55-64)	47,3	49,4	53,7	59,2	60,5	1,3	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	573	573	586	621	631	10	Th.
	Male (as % of total)	51,0	50,2	49,6	50,0	50,6	0,6	p.p.
	Female (as % of total)	49,0	49,8	50,4	50,0	49,4	-0,6	p.p.
7	**Employment growth (%) (National accounts)**	1,5	0,0	2,0	5,4	0,8		p.p.
	Employment growth (%) (LFS - age 15-64)	1,3	0,1	2,3	5,9	1,6		p.p.
	Male	1,1	-1,5	1,1	6,9	2,7		p.p.
	Female	1,5	1,7	3,5	5,0	0,4		p.p.
8	**Self employed (% of total employment)**	5,6	6,0	5,1	5,2	5,5	0,3	p.p.
	Male	7,4	7,7	6,9	7,0	7,4	0,4	p.p.
	Female	3,8	4,2	3,4	3,4	3,5	0,0	p.p.
9	**Temporary employment (as % total)**	2,5	2,6	2,7	2,7	2,2	-0,5	p.p.
	Male	3,3	3,5	3,9	3,6	3,1	-0,5	p.p.
	Female	2,5	2,2	2,5	2,7	:	:	p.p.
10	**Part-time (as % of total employment)**	7,3	6,9	6,6	6,7	7,2	0,5	p.p.
	Male	5,1	4,7	4,2	3,7	3,8	0,1	p.p.
	Female	9,7	9,1	9,1	9,7	10,6	0,9	p.p.
11	**Unemployment rate (Harmonised:15-74)**	10,0	9,7	7,9	5,9	4,7	-1,2	p.p.
	Young (15-24)	20,6	21,7	15,8	12,0	10,0	-2,0	p.p.
	Prime age (25-54)	9,3	8,9	7,5	5,5	4,2	-1,3	p.p.
	Older (55-64)	7,1	5,9	5,0	4,1	3,5	-0,7	p.p.
	Male	10,2	10,4	8,8	6,2	5,4	-0,8	p.p.
	Young (15-24)	17,0	21,3	16,6	10,1	12,1	2,0	p.p.
	Prime age (25-54)	9,6	9,5	8,2	5,6	4,2	-1,4	p.p.
	Older (55-64)	8,5	7,2	5,9	6,7	6,7	0,1	p.p.
	Female	9,9	8,9	7,1	5,6	3,9	-1,7	p.p.
	Young (15-24)	26,1	22,4	14,8	14,8	7,2	-7,5	p.p.
	Prime age (25-54)	8,9	8,3	6,8	5,4	4,3	-1,1	p.p.
	Older (55-64)	5,9	4,9	4,2	2,2	0,9	-1,3	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	46,3	52,5	53,5	48,2	49,1	1,0	p.p.
13	**Worked hours (average actual weekly hours)**	39,7	39,8	39,9	39,9	39,6	-0,7	%
	Male	41,3	41,3	41,3	41,2	41,0	-0,5	%
	Female	38,0	38,2	38,5	38,5	38,2	-0,7	%
14	**Sectoral employment growth**							
	Agriculture	-9,7	-5,3	-7,0	-2,5	-3,2		p.p.
	Building and construction	10,2	7,8	2,6	25,1	27,6		p.p.
	Services	0,8	-3,4	4,6	7,0	-1,4		p.p.
	Manufacturing industry	4,5	5,0	-1,3	-2,3	-1,8		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Estonia

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	11,6	11,5	10,7	14,1	26,4	:	:	:	:
Compensation of employees per Hour Worked	10,6	9,9	12,0	14,6	25,1	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	9,4	6,3	10,7	16,9	20,2	19,8	19,4	20,8	19,7
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	5,6	3,0	2,5	8,1	18,9	:	:	:	:
Real unit labour costs deflated by GDP deflator.	1,1	1,1	-3,5	1,8	8,4	:	:	:	:
Wage and salaries	9,7	14,4	14,0	11,2	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	55,0	55,3	53,9	55,1	59,8	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	26,9	26,7	26,6	26,4	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	73,1	73,3	73,4	73,6	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	42,5	41,3	41,1	40,2	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	38,9	37,0	38,3	37,9	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	25,4	25,3	25,3	25,1	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	1,5	1,4	1,3	1,3	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	5,7	8,3	8,0	5,5	6,3	:	:	:	:
Hourly Labour Productivity	5,6	7,7	7,2	6,0	6,4	:	:	:	:
GDP	7,2	8,3	10,2	11,2	7,1	10,1	7,6	6,4	4,8
ECFIN NAIRU estimate	10,5	9,7	8,7	7,7	6,4	:	:	:	:
Output gap (%)	-0,6	-0,3	1,9	4,7	4,0	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	1,4	3,0	4,1	4,4	6,7	5,1	5,8	6,7	9,2
Underlying inflation (exc. energy and unprocessed food)	1,8	2,5	2,6	3,5	6,5	5,0	6,0	6,7	8,2
GDP deflator	4,5	1,8	6,2	6,2	9,7	8,7	9,5	9,6	11,0
Sectoral breakdown of unit labour costs									
Agriculture and fishery	-1,4	13,2	13,6	3,1	33,3	:	:	:	:
Industry excluding construction	0,1	-0,5	1,2	3,1	13,0	:	:	:	:
of which: manufacturing	0,5	-0,8	1,2	3,4	12,2	:	:	:	:
Construction	27,1	13,9	7,8	27,8	28,6	:	:	:	:
Trade, transport and communication	4,1	1,7	1,1	8,4	21,3	:	:	:	:
Finance and business services	15,5	2,1	-3,0	15,7	18,4	:	:	:	:
Non-market related services	9,4	8,4	7,0	7,7	18,8	:	:	:	:
Market-related sectors	7,0	3,9	2,6	6,5	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	11,6	11,5	10,7	14,2	26,4	:	:	:	:
Agriculture and fishery	15,0	11,5	17,2	10,0	35,1	:	:	:	:
Industry excluding construction	6,3	1,2	14,4	18,4	25,5	:	:	:	:
of which: manufacturing	5,7	4,4	14,6	19,5	23,8	:	:	:	:
Construction	16,1	9,6	30,3	16,5	9,4	:	:	:	:
Trade, transport and	17,1	18,5	4,1	11,8	31,9	:	:	:	:
Finance and business services	23,3	23,3	-2,2	25,8	21,8	:	:	:	:
Non-market related services	6,9	12,0	10,9	6,8	27,3	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	16,7	-1,4	3,2	6,7	1,4	20,3	5,3	-14,8	-1,5
Industry excluding construction	6,1	1,7	13,1	14,8	11,1	6,8	12,3	12,9	12,7
of which: manufacturing	5,2	5,3	13,3	15,5	10,4	6,7	12,0	12,2	11,8
Construction	-8,7	-3,7	20,8	-8,8	-14,9	-10,6	-20,1	-21,8	-4,2
Trade, transport and	12,4	16,5	2,9	3,1	8,7	18,5	12,8	2,4	2,8
Finance and business services	6,8	20,7	0,8	8,7	2,9	1,1	6,2	10,2	-7,2
Non-market related services	-2,3	3,3	3,7	-0,8	7,2	7,3	4,2	11,9	5,3
Market-related sectors	7,8	8,8	8,4	6,8	5,0	8,2	6,8	2,0	3,0

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Greece						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	10578	10616	10657	10710	10754	0,4	%
2	**Population (working age:15-64)**	7119	7129	7132	7158	7208	0,7	%
	as % of total population	67,3	67,2	66,9	66,8	67,0	0,2	p.p.
3	**Labour force (15-64) 1000 pers.**	4640	4740	4763	4799	4829	0,6	%
	Male	2770	2801	2811	2825	2849	0,8	%
	Female	1870	1938	1952	1974	1981	0,3	%
4	**Activity rate (as % of population 15-64)**	65,2	66,5	66,8	67,0	67,0	0,0	p.p.
	Young (15-24)	34,6	36,7	33,7	32,4	31,1	-1,3	p.p.
	Prime age (25-54)	79,8	81,1	81,5	82,0	81,9	-0,1	p.p.
	Older (55-64)	42,7	41,3	43,2	43,9	43,9	0,0	p.p.
	Male	78,3	79,0	79,2	79,1	79,1	-0,1	p.p.
	Young (15-24)	38,1	40,0	37,1	36,1	34,7	-1,4	p.p.
	Prime age (25-54)	94,3	94,6	94,6	94,7	94,6	-0,1	p.p.
	Older (55-64)	60,6	58,9	60,8	61,0	60,8	-0,2	p.p.
	Female	52,2	54,1	54,5	55,0	54,9	-0,1	p.p.
	Young (15-24)	31,2	33,4	30,4	28,7	27,6	-1,1	p.p.
	Prime age (25-54)	65,2	67,6	68,2	69,1	69,1	0,0	p.p.
	Older (55-64)	26,4	25,2	27,1	28,0	28,2	0,1	p.p.
5	**Employment rate (as % of pop. 15-64)**	58,7	59,4	60,1	61,0	61,4	0,4	p.p.
	Young (15-24)	25,3	26,8	25,0	24,2	24,0	-0,2	p.p.
	Prime age (25-54)	72,9	73,5	74,0	75,3	75,6	0,3	p.p.
	Older (55-64)	41,3	39,4	41,6	42,3	42,4	0,2	p.p.
	Male	73,4	73,7	74,2	74,6	74,9	0,3	p.p.
	Young (15-24)	30,9	32,3	30,1	29,7	29,2	-0,5	p.p.
	Prime age (25-54)	89,3	89,3	89,5	90,0	90,1	0,1	p.p.
	Older (55-64)	58,7	56,4	58,8	59,2	59,1	-0,1	p.p.
	Female	44,3	45,2	46,1	47,4	47,9	0,4	p.p.
	Young (15-24)	19,8	21,3	19,8	18,7	18,7	0,0	p.p.
	Prime age (25-54)	56,4	57,6	58,5	60,5	60,8	0,3	p.p.
	Older (55-64)	25,5	24,0	25,8	26,6	26,9	0,3	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	4181	4235	4287	4365	4423	58	Th.
	Male (as % of total)	62,1	61,7	61,5	61,0	61,0	0,0	p.p.
	Female (as % of total)	37,9	38,3	38,5	39,0	39,0	0,0	p.p.
7	**Employment growth (%) (National accounts)**	1,9	0,9	1,5	2,5	1,2		p.p.
	Employment growth (%) (LFS - age 15-64)	2,3	1,3	1,2	1,8	1,3		p.p.
	Male	1,8	0,7	0,9	1,0	1,3		p.p.
	Female	3,2	2,2	1,8	3,1	1,3		p.p.
8	**Self employed (% of total employment)**	23,0	21,7	21,5	21,2	20,7	-0,5	p.p.
	Male	26,2	24,9	24,6	24,1	23,7	-0,4	p.p.
	Female	17,8	16,6	16,6	16,6	15,9	-0,7	p.p.
9	**Temporary employment (as % total)**	11,2	12,0	11,9	10,7	10,9	0,2	p.p.
	Male	9,7	10,5	10,1	9,1	9,3	0,2	p.p.
	Female	13,3	14,1	14,3	13,0	13,1	0,2	p.p.
10	**Part-time (as % of total employment)**	4,0	4,4	4,8	5,5	5,4	-0,1	p.p.
	Male	2,0	2,0	2,1	2,6	2,5	-0,1	p.p.
	Female	7,5	8,3	9,0	9,9	9,9	0,0	p.p.
11	**Unemployment rate (Harmonised:15-74)**	9,7	10,5	9,8	8,9	8,3	-0,6	p.p.
	Young (15-24)	26,9	26,9	26,0	25,2	22,9	-2,2	p.p.
	Prime age (25-54)	8,7	9,5	9,1	8,1	7,8	-0,4	p.p.
	Older (55-64)	3,2	4,5	3,8	3,7	3,4	-0,3	p.p.
	Male	6,2	6,6	6,1	5,6	5,2	-0,4	p.p.
	Young (15-24)	18,9	19,1	18,7	17,7	15,7	-1,9	p.p.
	Prime age (25-54)	5,4	5,7	5,4	5,0	4,7	-0,3	p.p.
	Older (55-64)	3,1	4,2	3,3	3,1	2,9	-0,2	p.p.
	Female	15,0	16,2	15,3	13,6	12,8	-0,8	p.p.
	Young (15-24)	36,6	36,3	34,8	34,7	32,1	-2,6	p.p.
	Prime age (25-54)	13,5	14,8	14,3	12,5	12,0	-0,5	p.p.
	Older (55-64)	3,4	5,0	4,7	5,0	4,3	-0,7	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	55,0	53,2	52,1	54,4	50,0	-4,4	p.p.
13	**Worked hours (average actual weekly hours)**	41,9	41,9	41,9	41,5	41,2	-0,8	%
	Male	43,5	43,6	43,8	43,5	43,1	-0,8	%
	Female	39,1	39,0	38,9	38,4	38,1	-0,7	%
14	**Sectoral employment growth**							
	Agriculture	0,5	-16,8	-0,2	-1,5	-2,2		p.p.
	Building and construction	8,4	1,3	3,2	0,2	9,1		p.p.
	Services	2,2	5,1	1,9	3,8	1,2		p.p.
	Manufacturing industry	-2,3	-0,6	-0,3	0,8	0,5		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Greece

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	5,6	5,6	6,1	6,3	7,2	:	:	:	:
Compensation of employees per Hour Worked	5,9	10,4	5,9	3,6	6,2	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	2,7	8,9	0,6	7,8	:	5,2	2,5	3,0	:
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	2,4	1,8	3,7	4,6	4,3	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-1,0	-1,6	0,5	1,1	1,4	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	3,2	3,0	4,7	5,4	5,6	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	61,9	60,6	60,8	61,4	62,6	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	21,2	:	:	:	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	78,8	:	:	:	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	71,7	:	:	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	38,5	40,2	41,0	41,8	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	37,9	39,7	40,6	41,4	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	21,7	:	:	:	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	-0,3	:	:	:	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	3,1	3,7	2,3	1,7	2,7	:	:	:	:
Hourly Labour Productivity	3,5	4,8	2,0	-1,3	1,6	:	:	:	:
GDP	5,0	4,6	3,8	4,2	4,0	:	:	:	:
ECFIN NAIRU estimate	9,7	9,8	9,5	9,1	8,8	:	:	:	:
Output gap (%)	0,7	1,4	1,3	1,3	1,5	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	3,4	3,0	3,5	3,3	3,0	2,9	2,6	2,8	3,6
Underlying inflation (exc. energy and unprocessed food)	3,1	3,4	3,2	2,9	3,2	3,7	3,1	3,2	2,8
GDP deflator	3,5	3,4	3,3	3,4	2,9	:	:	:	:
Sectoral breakdown of unit labour costs									
Agriculture and fishery	12,0	-18,5	8,6	15,6	19,7	:	:	:	:
Industry excluding construction	0,5	6,7	-0,9	5,7	9,1	:	:	:	:
of which: manufacturing	-0,8	9,0	-3,3	4,8	0,3	:	:	:	:
Construction	2,1	6,1	14,3	-14,9	16,5	:	:	:	:
Trade, transport and communication	3,4	-0,2	8,0	10,3	1,6	:	:	:	:
Finance and business services	1,2	5,7	3,3	7,7	4,5	:	:	:	:
Non-market related services	2,6	9,6	0,6	7,0	4,1	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	5,6	5,5	6,1	6,3	7,2	:	:	:	:
Agriculture and fishery	5,7	4,7	6,1	10,8	16,8	:	:	:	:
Industry excluding construction	8,1	4,1	7,5	7,4	7,8	:	:	:	:
of which: manufacturing	7,1	4,7	7,3	8,2	4,9	:	:	:	:
Construction	5,7	7,8	7,1	9,1	10,9	:	:	:	:
Trade, transport and	7,7	6,1	6,1	8,2	7,2	:	:	:	:
Finance and business services	2,1	0,9	6,4	9,1	8,8	:	:	:	:
Non-market related services	4,3	4,4	5,9	3,2	5,6	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-5,7	28,4	-2,3	-4,2	-2,4	:	:	:	:
Industry excluding construction	7,6	-2,4	8,5	1,7	-1,2	:	:	:	:
of which: manufacturing	7,9	-3,9	11,0	3,2	4,5	:	:	:	:
Construction	3,5	1,6	-6,3	28,2	-4,8	:	:	:	:
Trade, transport and	4,1	6,3	-1,8	-1,8	5,5	:	:	:	:
Finance and business services	0,8	-4,6	3,0	1,3	4,0	:	:	:	:
Non-market related services	1,7	-4,8	5,3	-3,5	1,5	:	:	:	:
Market-related sectors	3,5	6,2	0,8	2,6	2,9	:	:	:	:

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Spain						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	41753	42440	43141	43835	44630	1,8	%
2	**Population (working age:15-64)**	28729	29227	29755	30255	30808	1,8	%
	as % of total population	68,8	68,9	69,0	69,0	69,0	0,0	p.p.
3	**Labour force (15-64) 1000 pers.**	19428	20073	20743	21435	22043	2,8	%
	Male	11558	11834	12155	12432	12702	2,2	%
	Female	7870	8239	8587	9003	9341	3,8	%
4	**Activity rate (as % of population 15-64)**	67,6	68,7	69,7	70,8	71,6	0,7	p.p.
	Young (15-24)	44,5	45,1	47,7	48,2	47,8	-0,3	p.p.
	Prime age (25-54)	79,6	80,6	80,9	82,0	82,8	0,8	p.p.
	Older (55-64)	43,8	44,4	45,9	46,8	47,4	0,6	p.p.
	Male	80,0	80,4	80,9	81,3	81,4	0,2	p.p.
	Young (15-24)	49,5	50,2	52,3	52,2	52,1	-0,1	p.p.
	Prime age (25-54)	92,5	92,5	92,4	92,5	92,6	0,1	p.p.
	Older (55-64)	62,9	62,7	63,2	63,5	63,1	-0,4	p.p.
	Female	55,1	56,8	58,3	60,2	61,4	1,2	p.p.
	Young (15-24)	39,2	39,8	42,9	43,9	43,3	-0,7	p.p.
	Prime age (25-54)	66,5	68,3	69,0	71,2	72,7	1,5	p.p.
	Older (55-64)	25,7	27,2	29,6	31,0	32,5	1,6	p.p.
5	**Employment rate (as % of pop. 15-64)**	59,8	61,1	63,3	64,8	65,6	0,8	p.p.
	Young (15-24)	34,4	35,2	38,3	39,5	39,1	-0,4	p.p.
	Prime age (25-54)	71,4	72,7	74,4	75,8	76,8	1,0	p.p.
	Older (55-64)	40,7	41,3	43,1	44,1	44,6	0,5	p.p.
	Male	73,2	73,8	75,2	76,1	76,2	0,1	p.p.
	Young (15-24)	39,9	40,8	43,5	44,4	44,2	-0,2	p.p.
	Prime age (25-54)	85,9	86,1	86,9	87,6	87,6	0,0	p.p.
	Older (55-64)	59,2	58,9	59,7	60,4	60,0	-0,4	p.p.
	Female	46,3	48,3	51,2	53,2	54,7	1,5	p.p.
	Young (15-24)	28,6	29,3	32,8	34,4	33,8	-0,7	p.p.
	Prime age (25-54)	56,6	58,9	61,5	63,7	65,6	2,0	p.p.
	Older (55-64)	23,3	24,6	27,4	28,7	30,0	1,4	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	17188	17861	18834	19600	20211	611	Th.
	Male (as % of total)	61,6	60,8	60,0	59,4	58,8	-0,6	p.p.
	Female (as % of total)	38,4	39,2	40,0	40,6	41,2	0,6	p.p.
7	**Employment growth (%) (National accounts)**	3,1	3,5	4,1	3,7	3,1		p.p.
	Employment growth (%) (LFS - age 15-64)	4,0	3,9	5,4	4,1	3,1		p.p.
	Male	2,8	2,7	4,0	3,1	2,1		p.p.
	Female	6,0	5,9	7,8	5,6	4,6		p.p.
8	**Self employed (% of total employment)**	11,1	11,0	11,2	10,9	10,9	0,0	p.p.
	Male	12,6	12,6	12,8	12,6	12,6	0,0	p.p.
	Female	8,7	8,6	8,9	8,4	8,5	0,1	p.p.
9	**Temporary employment (as % total)**	31,8	32,5	33,4	34,1	31,7	-2,4	p.p.
	Male	30,0	30,6	31,7	32,1	30,6	-1,5	p.p.
	Female	34,6	35,2	35,7	36,8	33,1	-3,7	p.p.
10	**Part-time (as % of total employment)**	8,1	8,7	12,2	11,8	11,6	-0,2	p.p.
	Male	2,5	2,7	4,3	4,1	3,9	-0,2	p.p.
	Female	17,0	17,9	24,0	23,0	22,7	-0,3	p.p.
11	**Unemployment rate (Harmonised:15-74)**	11,1	10,6	9,2	8,5	8,3	-0,2	p.p.
	Young (15-24)	22,7	22,0	19,7	17,9	18,2	0,3	p.p.
	Prime age (25-54)	10,3	9,8	8,0	7,5	7,2	-0,3	p.p.
	Older (55-64)	7,0	7,1	6,1	5,7	5,9	0,2	p.p.
	Male	8,2	8,0	7,0	6,3	6,4	0,1	p.p.
	Young (15-24)	19,5	18,7	16,7	15,0	15,2	0,3	p.p.
	Prime age (25-54)	7,1	6,9	5,9	5,4	5,4	0,1	p.p.
	Older (55-64)	5,9	6,0	5,4	4,8	4,9	0,0	p.p.
	Female	15,3	14,3	12,2	11,6	10,9	-0,7	p.p.
	Young (15-24)	27,0	26,4	23,4	21,6	21,9	0,3	p.p.
	Prime age (25-54)	14,8	13,8	10,9	10,5	9,7	-0,9	p.p.
	Older (55-64)	9,4	9,4	7,5	7,4	7,7	0,3	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	33,7	32,0	24,5	21,7	20,4	-1,3	p.p.
13	**Worked hours (average actual weekly hours)**	38,4	38,2	38,6	38,6	38,4	-0,4	%
	Male	40,2	40,2	41,3	41,2	41,0	-0,4	%
	Female	35,3	35,1	34,6	34,7	34,7	0,0	%
14	**Sectoral employment growth**							
	Agriculture	-0,9	-1,4	0,2	-5,7	-2,2		p.p.
	Building and construction	4,7	5,8	7,7	5,4	6,0		p.p.
	Services	3,9	4,2	4,5	5,1	4,0		p.p.
	Manufacturing industry	0,6	0,8	0,9	-0,2	-0,7		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Spain

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	2,8	2,2	2,1	2,3	3,4	4,2	:	:	:
Compensation of employees per Hour Worked	4,3	3,3	3,7	3,6	4,2	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	4,8	4,1	3,7	4,0	4,0	3,7	3,8	4,4	4,4
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	2,8	2,5	2,5	2,2	2,7	2,8	:	:	:
Real unit labour costs deflated by GDP deflator.	-1,3	-1,5	-1,6	-1,7	-0,3	-0,5	:	:	:
Wage and salaries	2,6	2,6	0,6	2,0	:	4,0	:	:	:
Compensation per employee adjusted by Total Factor Productivity	2,9	2,3	2,2	2,3	3,3	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	63,2	62,5	61,8	61,0	60,3	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	26,4	26,6	26,6	26,6	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	73,6	73,4	73,4	73,4	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	:	66,9	:	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	38,5	38,7	38,9	39,1	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	37,1	37,4	37,6	37,8	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	25,0	24,9	24,9	24,9	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	1,4	1,7	1,7	1,7	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	0,0	-0,3	-0,4	0,1	0,7	1,3	:	:	:
Hourly Labour Productivity	0,9	0,7	0,9	0,8	1,1	:	:	:	:
GDP	3,1	3,3	3,6	3,9	3,8	4,3	3,9	3,7	3,3
ECFIN NAIRU estimate	10,5	9,9	9,2	8,8	8,5	:	:	:	:
Output gap (%)	0,3	-0,2	-0,6	-0,5	-0,4	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	3,1	3,1	3,4	3,6	2,8	2,5	2,4	2,4	4,0
Underlying inflation (exc. energy and unprocessed food)	3,0	2,8	2,7	3,0	2,7	2,7	2,5	2,5	3,3
GDP deflator	4,1	4,0	4,2	4,0	3,1	3,4	3,3	2,8	2,8
Sectoral breakdown of unit labour costs									
Agriculture and fishery	-1,4	4,4	11,8	-6,5	-2,8	-6,2	:	:	:
Industry excluding construction	2,0	1,3	2,2	0,6	0,0	-1,3	:	:	:
of which: manufacturing	2,5	1,5	2,3	0,4	-0,2	:	:	:	:
Construction	4,8	4,7	6,3	5,5	5,9	6,9	:	:	:
Trade, transport and communication	2,4	1,9	0,8	1,2	-1,0	-2,1	:	:	:
Finance and business services	3,7	1,8	1,3	2,1	6,4	5,4	:	:	:
Non-market related services	3,9	3,4	3,6	3,9	3,9	:	:	:	:
Market-related sectors	2,8	2,2	2,2	2,0	:	1,0	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	2,8	2,2	2,1	2,3	3,4	0,0	:	:	:
Agriculture and fishery	-1,0	3,5	2,0	1,5	3,1	0,3	:	:	:
Industry excluding construction	3,0	1,2	2,8	3,2	3,6	2,8	:	:	:
of which: manufacturing	3,2	1,4	2,4	3,4	3,6	:	:	:	:
Construction	4,5	4,0	4,1	5,2	3,8	2,4	:	:	:
Trade, transport and	0,3	0,4	0,4	-0,6	0,3	0,9	:	:	:
Finance and business services	4,2	1,2	1,2	1,6	1,5	-0,1	:	:	:
Non-market related services	3,8	3,9	2,3	2,5	6,0	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	0,4	-0,9	-8,8	8,5	6,1	6,9	6,7	6,4	5,4
Industry excluding construction	1,0	0,0	0,6	2,5	3,6	4,1	4,7	3,2	2,4
of which: manufacturing	0,7	-0,1	0,1	3,0	3,8	5,7	4,7	3,5	1,4
Construction	-0,3	-0,7	-2,1	-0,3	-2,0	-4,2	-2,8	-1,1	0,1
Trade, transport and	-2,0	-1,5	-0,3	-1,8	1,3	3,0	1,3	0,5	0,5
Finance and business services	0,4	-0,6	-0,1	-0,5	-4,7	-5,2	-6,5	-4,1	-2,8
Non-market related services	-0,1	0,5	-1,2	-1,3	2,0	1,3	2,7	1,7	2,3
Market-related sectors	-0,4	-0,7	-0,5	0,6	0,3	0,6	0,0	0,3	0,4

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		France						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	58824	59275	59605	59948	60283	0,6	%
2	**Population (working age:15-64)**	38420	38777	38989	39274	39493	0,6	%
	as % of total population	65,3	65,4	65,4	65,5	65,5	0,0	p.p.
3	**Labour force (15-64) 1000 pers.**	26859	27122	27322	27496	27719	0,8	%
	Male	14369	14470	14531	14584	14628	0,3	%
	Female	12489	12652	12792	12912	13091	1,4	%
4	**Activity rate (as % of population 15-64)**	69,9	69,9	70,1	70,0	70,2	0,2	p.p.
	Young (15-24)	38,4	38,3	38,5	38,4	38,8	0,4	p.p.
	Prime age (25-54)	87,0	87,3	87,6	87,8	88,3	0,4	p.p.
	Older (55-64)	38,9	39,9	40,9	40,5	40,4	-0,1	p.p.
	Male	75,6	75,4	75,4	75,1	74,9	-0,2	p.p.
	Young (15-24)	42,0	42,0	42,3	42,2	42,1	-0,1	p.p.
	Prime age (25-54)	93,9	94,0	94,0	94,2	94,2	0,0	p.p.
	Older (55-64)	42,9	43,8	43,9	43,1	42,8	-0,2	p.p.
	Female	64,3	64,6	64,9	65,0	65,6	0,6	p.p.
	Young (15-24)	34,6	34,6	34,6	34,6	35,4	0,9	p.p.
	Prime age (25-54)	80,3	80,9	81,3	81,7	82,5	0,8	p.p.
	Older (55-64)	35,1	36,2	37,9	38,0	38,1	0,1	p.p.
5	**Employment rate (as % of pop. 15-64)**	64,0	63,7	63,9	63,8	64,6	0,8	p.p.
	Young (15-24)	31,4	30,8	30,7	30,2	31,5	1,3	p.p.
	Prime age (25-54)	80,4	80,5	80,7	81,2	82,1	0,9	p.p.
	Older (55-64)	37,0	37,6	38,7	38,1	38,3	0,2	p.p.
	Male	69,9	69,4	69,3	69,0	69,3	0,3	p.p.
	Young (15-24)	34,6	34,1	34,2	33,8	34,5	0,8	p.p.
	Prime age (25-54)	87,7	87,6	87,6	87,9	88,3	0,4	p.p.
	Older (55-64)	40,8	41,4	41,6	40,5	40,5	0,0	p.p.
	Female	58,2	58,2	58,5	58,8	60,0	1,2	p.p.
	Young (15-24)	28,1	27,4	27,1	26,6	28,5	1,9	p.p.
	Prime age (25-54)	73,2	73,6	74,0	74,7	76,2	1,4	p.p.
	Older (55-64)	33,3	34,0	36,0	35,9	36,2	0,3	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	24580	24716	24897	25068	25510	442	Th.
	Male (as % of total)	54,0	53,9	53,7	53,5	53,1	-0,4	p.p.
	Female (as % of total)	46,0	46,1	46,3	46,5	46,9	0,4	p.p.
7	**Employment growth (%) (National accounts)**	0,1	0,1	0,6	1,0	1,3		p.p.
	Employment growth (%) (LFS - age 15-64)	3,3	0,6	0,7	0,7	1,8		p.p.
	Male	2,1	0,3	0,4	0,3	1,0		p.p.
	Female	4,9	0,8	1,2	1,1	2,6		p.p.
8	**Self employed (% of total employment)**	5,7	5,3	5,4	5,8	5,7	-0,1	p.p.
	Male	7,3	6,7	7,0	7,3	7,3	0,0	p.p.
	Female	3,9	3,5	3,7	4,1	3,9	-0,2	p.p.
9	**Temporary employment (as % total)**	13,6	13,5	14,2	14,1	14,3	0,3	p.p.
	Male	12,1	12,3	13,4	13,4	13,3	-0,1	p.p.
	Female	15,3	14,9	15,0	14,9	15,5	0,6	p.p.
10	**Part-time (as % of total employment)**	16,4	16,6	16,9	17,0	17,1	0,0	p.p.
	Male	5,2	5,2	5,5	5,6	5,5	-0,1	p.p.
	Female	29,6	29,8	30,1	30,1	30,2	0,0	p.p.
11	**Unemployment rate (Harmonised:15-74)**	9,0	9,3	9,2	9,2	8,3	-0,9	p.p.
	Young (15-24)	18,3	19,7	20,2	21,3	18,7	-2,6	p.p.
	Prime age (25-54)	7,6	7,8	7,8	7,6	6,9	-0,6	p.p.
	Older (55-64)	5,0	5,6	5,2	5,7	5,1	-0,6	p.p.
	Male	8,1	8,4	8,4	8,4	7,8	-0,6	p.p.
	Young (15-24)	17,7	18,8	19,1	20,1	18,0	-2,1	p.p.
	Prime age (25-54)	6,5	6,8	6,8	6,7	6,3	-0,4	p.p.
	Older (55-64)	4,9	5,4	5,3	5,9	5,3	-0,6	p.p.
	Female	9,9	10,3	10,2	10,1	8,9	-1,2	p.p.
	Young (15-24)	18,9	20,7	21,5	22,9	19,6	-3,3	p.p.
	Prime age (25-54)	8,7	8,9	8,9	8,5	7,6	-0,9	p.p.
	Older (55-64)	5,0	5,9	5,1	5,6	4,9	-0,7	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	39,2	40,6	41,1	42,0	40,1	-1,9	p.p.
13	**Worked hours (average actual weekly hours)**	36,4	36,6	36,8	36,8	36,8	0,0	%
	Male	39,4	39,7	39,9	39,8	39,8	-0,1	%
	Female	32,7	32,9	33,1	33,1	33,3	0,4	%
14	**Sectoral employment growth**							
	Agriculture	-1,9	-0,6	-1,1	-2,3	-2,5		p.p.
	Building and construction	0,3	1,5	3,6	4,5	4,9		p.p.
	Services	0,7	0,7	0,8	1,3	1,7		p.p.
	Manufacturing industry	-2,4	-3,5	-2,0	-1,9	-1,3		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

France

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	2,8	3,4	3,2	3,2	2,9	:	:	:	:
Compensation of employees per Hour Worked	3,1	1,6	3,8	4,1	3,1	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	2,6	3,6	3,5	3,4	3,3	3,8	3,4	3,2	3,1
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	1,8	1,1	1,8	2,0	2,1	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-0,1	-0,5	-0,2	-0,5	-0,4	:	:	:	:
Wage and salaries	1,5	3,3	2,4	2,4	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	2,5	1,8	2,5	2,4	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	66,2	66,2	66,2	65,8	65,4	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	33,0	33,0	33,0	32,9	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	67,0	67,0	67,1	67,1	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	58,9	59,2	59,7	59,8	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	49,8	49,9	50,1	50,2	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	46,0	46,2	46,4	46,5	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	28,6	28,7	28,7	28,6	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	4,4	4,4	4,3	4,3	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	1,0	2,4	1,3	1,2	0,8	:	:	:	:
Hourly Labour Productivity	1,3	0,6	2,0	2,1	1,0	:	:	:	:
GDP	1,1	2,5	1,9	2,2	2,2	2,1	1,6	2,4	2,5
ECFIN NAIRU estimate	9,3	9,1	8,9	8,7	8,4	:	:	:	:
Output gap (%)	-0,2	0,3	0,0	0,1	-0,2	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	2,2	2,3	1,9	1,9	1,6	1,3	1,3	1,4	2,5
Underlying inflation (exc. energy and unprocessed food)	2,2	2,4	1,2	1,3	1,5	1,4	1,4	1,5	1,8
GDP deflator	1,9	1,6	2,0	2,5	2,5	2,4	2,5	2,7	2,3
Sectoral breakdown of unit labour costs									
Agriculture and fishery	20,3	-15,0	8,5	4,5	:	:	:	:	:
Industry excluding construction	-1,9	0,3	-0,4	1,3	:	:	:	:	:
of which: manufacturing	-2,2	0,3	-1,0	1,2	-1,1	:	:	:	:
Construction	5,8	4,5	3,2	4,6	:	:	:	:	:
Trade, transport and communication	3,0	2,0	1,8	0,7	:	:	:	:	:
Finance and business services	0,2	1,2	2,3	3,1	:	:	:	:	:
Non-market related services	3,1	1,6	2,9	2,8	:	:	:	:	:
Market-related sectors	1,4	0,8	1,3	1,4	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	2,8	3,4	3,2	3,2	2,9	:	:	:	:
Agriculture and fishery	4,0	3,1	3,7	5,4	:	:	:	:	:
Industry excluding construction	2,3	5,0	3,0	4,0	:	:	:	:	:
of which: manufacturing	2,1	4,9	3,3	4,1	1,4	:	:	:	:
Construction	4,6	4,6	2,5	4,0	:	:	:	:	:
Trade, transport and	2,5	3,4	3,3	3,1	:	:	:	:	:
Finance and business services	3,4	3,0	3,6	4,3	:	:	:	:	:
Non-market related services	2,8	3,0	3,0	1,8	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-13,6	21,3	-4,5	0,9	:	1,7	0,4	0,0	0,6
Industry excluding construction	4,3	4,6	3,3	2,6	:	2,0	1,4	3,9	4,4
of which: manufacturing	4,5	4,6	4,3	2,9	2,5	2,5	1,0	4,2	3,6
Construction	-1,2	0,1	-0,7	-0,6	:	0,0	-1,2	-1,4	-1,6
Trade, transport and	-0,5	1,4	1,5	2,5	:	2,3	0,7	1,0	0,3
Finance and business services	3,3	1,8	1,3	1,2	:	0,0	-0,6	0,7	0,7
Non-market related services	-0,3	1,4	0,0	-0,9	:	-0,4	-0,1	0,4	0,6
Market-related sectors	1,4	2,9	1,6	1,9	:	1,3	0,4	1,4	1,3

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Ireland						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	3991	4059	4149	4253	4359	2,5	%
2	**Population (working age:15-64)**	2711	2761	2831	2913	2993	2,7	%
	as % of total population	67,9	68,0	68,2	68,5	68,7	0,2	p.p.
3	**Labour force (15-64) 1000 pers.**	1866	1919	2004	2092	2168	3,6	%
	Male	1079	1108	1149	1198	1231	2,7	%
	Female	787	810	854	893	937	4,9	%
4	**Activity rate (as % of population 15-64)**	68,8	69,5	70,8	71,8	72,4	0,6	p.p.
	Young (15-24)	52,3	52,4	53,3	54,7	55,0	0,3	p.p.
	Prime age (25-54)	79,1	79,9	80,9	81,5	82,0	0,5	p.p.
	Older (55-64)	50,2	50,8	53,1	54,4	55,2	0,8	p.p.
	Male	79,3	79,9	80,6	81,5	81,4	-0,1	p.p.
	Young (15-24)	56,0	55,9	56,6	59,0	58,3	-0,7	p.p.
	Prime age (25-54)	91,1	91,8	92,1	92,1	91,6	-0,5	p.p.
	Older (55-64)	66,3	66,9	67,7	68,7	69,7	1,1	p.p.
	Female	58,3	59,0	60,8	61,9	63,3	1,4	p.p.
	Young (15-24)	48,5	48,8	49,9	50,2	51,5	1,3	p.p.
	Prime age (25-54)	67,2	68,0	69,6	70,7	72,2	1,4	p.p.
	Older (55-64)	33,8	34,4	38,2	40,0	40,4	0,4	p.p.
5	**Employment rate (as % of pop. 15-64)**	65,5	66,3	67,6	68,6	69,1	0,5	p.p.
	Young (15-24)	47,5	47,7	48,7	50,0	49,9	0,0	p.p.
	Prime age (25-54)	75,9	76,8	77,9	78,4	78,7	0,3	p.p.
	Older (55-64)	49,0	49,5	51,6	53,1	53,8	0,7	p.p.
	Male	75,2	75,9	76,9	77,7	77,4	-0,3	p.p.
	Young (15-24)	50,5	50,7	51,5	53,6	52,5	-1,1	p.p.
	Prime age (25-54)	87,0	87,8	88,4	88,4	87,7	-0,7	p.p.
	Older (55-64)	64,6	65,0	65,7	67,0	67,9	0,9	p.p.
	Female	55,7	56,5	58,3	59,3	60,6	1,3	p.p.
	Young (15-24)	44,4	44,7	45,9	46,2	47,4	1,2	p.p.
	Prime age (25-54)	64,8	65,8	67,3	68,3	69,6	1,2	p.p.
	Older (55-64)	33,1	33,7	37,3	39,1	39,6	0,6	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	1776	1830	1915	1999	2067	68	Th.
	Male (as % of total)	57,6	57,5	57,2	57,2	56,6	-0,6	p.p.
	Female (as % of total)	42,4	42,5	42,8	42,8	43,4	0,6	p.p.
7	**Employment growth (%) (National accounts)**	2,0	3,1	4,7	4,3	3,6		p.p.
	Employment growth (%) (LFS - age 15-64)	2,0	3,1	4,6	4,4	3,4		p.p.
	Male	1,5	2,9	4,0	4,3	2,4		p.p.
	Female	2,5	3,3	5,5	4,5	4,8		p.p.
8	**Self employed (% of total employment)**	10,2	10,3	9,9	9,6	9,9	0,3	p.p.
	Male	14,9	15,1	14,6	14,2	14,6	0,4	p.p.
	Female	3,9	3,8	3,7	3,4	3,7	0,3	p.p.
9	**Temporary employment (as % total)**	5,1	4,1	3,7	3,3	7,3	3,9	p.p.
	Male	4,4	3,7	3,1	2,9	6,0	3,1	p.p.
	Female	6,0	4,7	4,3	3,9	8,6	4,7	p.p.
10	**Part-time (as % of total employment)**	16,5	16,5	16,5	:	17,7	:	p.p.
	Male	6,1	5,6	5,7	:	6,6	:	p.p.
	Female	30,8	31,2	30,8	:	32,1	:	p.p.
11	**Unemployment rate (Harmonised:15-74)**	4,7	4,5	4,3	4,4	4,6	0,2	p.p.
	Young (15-24)	9,2	8,9	8,6	8,6	9,1	0,5	p.p.
	Prime age (25-54)	4,0	3,8	3,7	3,8	4,0	0,2	p.p.
	Older (55-64)	2,5	2,6	2,8	2,4	2,4	0,0	p.p.
	Male	5,0	4,9	4,6	4,6	4,9	0,3	p.p.
	Young (15-24)	9,8	9,3	9,1	9,1	10,0	0,9	p.p.
	Prime age (25-54)	4,4	4,3	4,0	4,0	4,3	0,3	p.p.
	Older (55-64)	2,6	2,8	3,0	2,4	2,6	0,2	p.p.
	Female	4,3	4,1	4,0	4,1	4,2	0,1	p.p.
	Young (15-24)	8,4	8,5	7,9	8,0	8,1	0,1	p.p.
	Prime age (25-54)	3,5	3,2	3,2	3,4	3,6	0,2	p.p.
	Older (55-64)	2,2	2,1	2,5	2,4	2,0	-0,4	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	32,9	35,0	33,6	32,4	30,1	-2,3	p.p.
13	**Worked hours (average actual weekly hours)**	37,5	37,3	37,3	37,1	36,8	-0,9	%
	Male	41,6	41,5	41,5	41,1	40,9	-0,5	%
	Female	31,6	31,4	31,4	31,3	31,0	-1,0	%
14	**Sectoral employment growth**							
	Agriculture	-3,2	-2,6	-0,9	1,2	:		p.p.
	Building and construction	4,8	10,4	14,2	9,8	:		p.p.
	Services	3,1	3,6	5,2	4,6	:		p.p.
	Manufacturing industry	-1,9	-1,6	-2,4	-0,6	1,3		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Ireland

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	6,4	6,4	5,0	4,5	5,8	:	:	:	:
Compensation of employees per Hour Worked	7,6	6,6	6,0	5,6	5,3	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	5,5	5,0	4,4	4,4	5,1	5,3	5,9	5,0	4,2
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	3,9	5,1	3,7	3,1	4,2	:	:	:	:
Real unit labour costs deflated by GDP deflator.	1,4	3,0	1,1	0,8	3,2	:	:	:	:
Wage and salaries	2,8	5,4	4,9	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	5,1	6,0	4,2	3,7	4,8	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	53,3	55,4	56,2	57,3	58,8	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	:	:	:	:	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	:	:	:	:	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	24,2	25,0	23,5	23,1	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	19,3	20,1	18,3	17,8	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	2,4	1,2	1,3	1,4	1,6	:	:	:	:
Hourly Labour Productivity	3,3	1,4	1,3	1,7	1,9	:	:	:	:
GDP	4,5	4,4	6,0	5,7	5,3	8,3	5,4	3,8	3,5
ECFIN NAIRU estimate	4,1	3,9	4,0	4,2	4,3	:	:	:	:
Output gap (%)	1,3	-0,1	0,1	0,1	0,2	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	4,0	2,3	2,2	2,7	2,9	2,8	2,8	2,6	3,2
Underlying inflation (exc. energy and unprocessed food)	4,3	2,1	1,5	2,2	2,6	2,7	2,6	2,5	2,7
GDP deflator	2,5	2,1	2,6	2,3	0,9	4,5	2,3	-0,4	-4,4
Sectoral breakdown of unit labour costs									
Agriculture and fishery	5,3	3,3	28,9	-3,4	:	:	:	:	:
Industry excluding construction	1,0	-0,4	-0,2	-2,9	:	:	:	:	:
of which: manufacturing	0,9	-1,0	-0,6	-3,2	0,0	:	:	:	:
Construction	3,4	6,6	12,1	5,5	:	:	:	:	:
Trade, transport and communication	4,4	4,8	2,6	4,7	:	:	:	:	:
Finance and business services	-2,2	2,2	1,6	1,8	:	:	:	:	:
Non-market related services	14,1	9,9	7,1	6,7	:	:	:	:	:
Market-related sectors	1,7	3,5	4,1	1,9	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	6,4	6,4	5,1	4,5	5,8	:	:	:	:
Agriculture and fishery	7,3	6,9	1,7	-3,2	:	:	:	:	:
Industry excluding construction	4,5	4,7	5,1	1,9	:	:	:	:	:
of which: manufacturing	4,3	4,4	5,2	1,9	5,5	:	:	:	:
Construction	5,0	3,1	4,9	1,3	:	:	:	:	:
Trade, transport and	4,6	4,7	3,6	5,6	:	:	:	:	:
Finance and business services	5,0	6,1	5,8	7,8	:	:	:	:	:
Non-market related services	9,6	7,9	4,3	4,5	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	1,9	3,5	-21,1	0,2	:	0,0	-1,6	-14,2	-23,7
Industry excluding construction	3,4	5,1	5,4	4,9	:	17,9	-0,3	10,0	12,1
of which: manufacturing	3,4	5,4	5,8	5,2	5,5	:	:	:	:
Construction	1,5	-3,3	-6,5	-4,0	:	-5,5	-1,0	-3,9	-9,5
Trade, transport and	0,2	-0,1	0,9	0,8	:	4,1	3,7	2,2	-1,7
Finance and business services	7,3	3,7	4,2	5,9	:	2,3	-6,1	-7,6	-7,3
Non-market related services	-3,9	-1,9	-2,6	-2,1	:	3,3	2,8	2,2	0,6
Market-related sectors	2,7	2,4	0,9	2,4	:	7,1	-1,2	1,5	-0,1

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Italy						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	57399	57442	58077	58435	58880	0,8	%
2	**Population (working age:15-64)**	38692	38292	38588	38726	38946	0,6	%
	as % of total population	67,4	66,7	66,4	66,3	66,1	-0,1	p.p.
3	**Labour force (15-64) 1000 pers.**	23797	24014	24099	24287	24350	0,3	%
	Male	14429	14274	14360	14445	14483	0,3	%
	Female	9368	9740	9739	9842	9867	0,3	%
4	**Activity rate (as % of population 15-64)**	61,5	62,7	62,5	62,7	62,5	-0,2	p.p.
	Young (15-24)	34,6	36,1	33,8	32,5	30,9	-1,6	p.p.
	Prime age (25-54)	76,3	77,5	77,4	77,8	77,6	-0,3	p.p.
	Older (55-64)	31,5	31,8	32,6	33,4	34,6	1,2	p.p.
	Male	74,7	74,9	74,6	74,6	74,4	-0,2	p.p.
	Young (15-24)	39,2	40,5	38,7	37,8	36,1	-1,7	p.p.
	Prime age (25-54)	91,5	91,4	91,2	91,3	91,0	-0,3	p.p.
	Older (55-64)	44,4	44,0	44,3	45,0	46,3	1,4	p.p.
	Female	48,3	50,6	50,4	50,8	50,7	-0,2	p.p.
	Young (15-24)	29,9	31,7	28,7	26,9	25,5	-1,4	p.p.
	Prime age (25-54)	60,9	63,6	63,6	64,3	64,1	-0,2	p.p.
	Older (55-64)	19,3	20,4	21,5	22,5	23,5	0,9	p.p.
5	**Employment rate (as % of pop. 15-64)**	56,1	57,6	57,6	58,4	58,7	0,3	p.p.
	Young (15-24)	25,2	27,6	25,7	25,5	24,7	-0,8	p.p.
	Prime age (25-54)	70,7	72,2	72,3	73,3	73,5	0,2	p.p.
	Older (55-64)	30,3	30,5	31,4	32,5	33,8	1,3	p.p.
	Male	69,6	70,1	69,9	70,5	70,7	0,2	p.p.
	Young (15-24)	29,7	32,1	30,4	30,6	29,6	-1,0	p.p.
	Prime age (25-54)	86,5	86,7	86,6	87,2	87,3	0,1	p.p.
	Older (55-64)	42,8	42,2	42,7	43,7	45,1	1,4	p.p.
	Female	42,7	45,2	45,3	46,3	46,6	0,3	p.p.
	Young (15-24)	20,6	23,1	20,8	20,1	19,5	-0,6	p.p.
	Prime age (25-54)	54,9	57,8	57,9	59,3	59,6	0,3	p.p.
	Older (55-64)	18,5	19,6	20,8	21,9	23,0	1,1	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	21710	22060	22214	22618	22846	228	Th.
	Male (as % of total)	61,9	60,5	60,6	60,3	60,2	-0,1	p.p.
	Female (as % of total)	38,1	39,5	39,4	39,7	39,8	0,1	p.p.
7	**Employment growth (%) (National accounts)**	1,5	0,4	0,6	2,0	1,1		p.p.
	Employment growth (%) (LFS - age 15-64)	1,1	1,6	0,7	1,8	1,0		p.p.
	Male	0,8	-0,6	0,8	1,4	0,8		p.p.
	Female	1,6	5,2	0,5	2,5	1,3		p.p.
8	**Self employed (% of total employment)**	10,7	17,7	17,1	16,9	16,7	-0,2	p.p.
	Male	12,7	19,9	19,4	19,1	19,0	-0,1	p.p.
	Female	7,4	14,2	13,6	13,5	13,2	-0,3	p.p.
9	**Temporary employment (as % total)**	9,9	11,8	12,3	13,1	13,2	0,1	p.p.
	Male	8,2	9,9	10,5	11,2	11,2	0,0	p.p.
	Female	12,2	14,5	14,7	15,8	16,0	0,2	p.p.
10	**Part-time (as % of total employment)**	8,4	12,5	12,7	13,1	13,4	0,4	p.p.
	Male	3,0	4,4	4,3	4,3	4,6	0,2	p.p.
	Female	17,3	24,9	25,6	26,4	26,8	0,5	p.p.
11	**Unemployment rate (Harmonised:15-74)**	8,4	8,0	7,7	6,8	6,1	-0,7	p.p.
	Young (15-24)	27,1	23,5	24,0	21,6	20,3	-1,3	p.p.
	Prime age (25-54)	7,2	6,9	6,7	5,9	5,3	-0,6	p.p.
	Older (55-64)	3,8	4,1	3,5	2,9	2,4	-0,4	p.p.
	Male	6,5	6,4	6,2	5,4	4,9	-0,5	p.p.
	Young (15-24)	24,2	20,6	21,5	19,1	18,2	-0,9	p.p.
	Prime age (25-54)	5,4	5,2	5,1	4,5	4,0	-0,5	p.p.
	Older (55-64)	3,6	4,1	3,6	2,8	2,6	-0,2	p.p.
	Female	11,3	10,5	10,1	8,8	7,9	-0,9	p.p.
	Young (15-24)	30,9	27,2	27,4	25,3	23,3	-1,9	p.p.
	Prime age (25-54)	10,0	9,2	8,9	7,8	7,1	-0,7	p.p.
	Older (55-64)	4,3	4,0	3,2	2,9	2,1	-0,8	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	58,1	49,2	49,9	49,7	47,4	-2,3	p.p.
13	**Worked hours (average actual weekly hours)**	38,3	38,1	38,1	38,0	38,0	-0,1	%
	Male	40,5	41,0	41,0	40,8	40,9	0,2	%
	Female	34,5	33,5	33,5	33,5	33,3	-0,4	%
14	**Sectoral employment growth**							
	Agriculture	-6,5	1,3	-0,4	2,0	-2,2		p.p.
	Building and construction	3,0	2,1	4,5	1,0	2,4		p.p.
	Services	2,2	0,7	0,6	2,5	1,3		p.p.
	Manufacturing industry	0,7	-0,9	-0,7	0,9	0,9		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Italy

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	2,4	3,3	2,9	2,2	1,9	:	:	:	:
Compensation of employees per Hour Worked	2,7	3,1	4,6	2,9	1,8	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	3,8	2,4	4,5	1,9	2,1	1,2	:	:	:
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	4,0	2,2	2,9	2,3	1,6	:	:	:	:
Real unit labour costs deflated by GDP deflator.	0,9	-0,5	0,8	0,6	-0,6	:	:	:	:
Wage and salaries	0,9	3,1	4,0	2,8	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	3,5	2,6	3,1	2,1	1,7	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	61,9	61,7	62,4	63,2	62,7	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	:	:	:	:	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	:	:	:	:	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	45,0	45,4	43,4	43,2	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	42,8	43,2	43,1	43,0	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	-1,5	1,1	0,0	-0,1	0,3	:	:	:	:
Hourly Labour Productivity	-1,2	1,1	0,4	0,1	-0,2	:	:	:	:
GDP	0,0	1,5	0,6	1,8	1,5	2,4	2,0	1,9	:
ECFIN NAIRU estimate	8,5	8,0	7,6	7,0	6,5	:	:	:	:
Output gap (%)	-0,2	0,0	-0,6	-0,3	-0,3	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	2,8	2,3	2,2	2,2	2,0	2,0	1,9	1,7	2,6
Underlying inflation (exc. energy and unprocessed food)	2,7	2,3	2,0	1,8	1,9	1,9	1,8	1,8	2,2
GDP deflator	3,1	2,6	2,1	1,7	2,3	2,8	2,4	2,6	:
Sectoral breakdown of unit labour costs									
Agriculture and fishery	3,5	-10,0	8,7	4,7	0,4	:	:	:	:
Industry excluding construction	5,5	2,0	2,0	2,5	2,6	:	:	:	:
of which: manufacturing	5,7	2,5	2,1	2,6	2,6	:	:	:	:
Construction	4,2	4,2	3,4	1,4	5,2	:	:	:	:
Trade, transport and communication	5,0	1,8	1,2	1,5	0,6	:	:	:	:
Finance and business services	2,1	3,2	3,8	3,7	1,9	:	:	:	:
Non-market related services	4,5	1,5	3,7	2,9	0,8	:	:	:	:
Market-related sectors	4,2	2,0	2,0	1,9	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	2,4	3,3	2,9	2,2	1,9	:	:	:	:
Agriculture and fishery	5,3	0,3	4,3	1,3	2,7	:	:	:	:
Industry excluding construction	2,1	4,0	2,3	2,8	2,7	:	:	:	:
of which: manufacturing	2,1	4,1	2,3	2,9	2,8	:	:	:	:
Construction	3,5	3,6	1,3	1,9	4,3	:	:	:	:
Trade, transport and	2,4	3,4	2,4	0,7	1,6	:	:	:	:
Finance and business services	0,8	2,1	3,1	3,3	1,0	:	:	:	:
Non-market related services	2,6	3,4	4,1	2,2	1,3	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	1,8	11,5	-4,1	-3,3	2,3	3,6	4,9	3,1	:
Industry excluding construction	-3,3	1,9	0,3	0,3	0,1	0,0	-0,7	0,8	:
of which: manufacturing	-3,4	1,6	0,3	0,3	0,1	:	:	:	:
Construction	-0,7	-0,6	-2,0	0,5	-0,8	4,6	-1,5	-1,6	:
Trade, transport and	-2,5	1,6	1,2	-0,9	1,0	2,2	3,3	-1,3	:
Finance and business services	-1,3	-1,1	-0,7	-0,3	-0,9	1,9	0,8	0,0	:
Non-market related services	-1,8	1,9	0,4	-0,7	0,4	0,1	2,0	-0,5	:
Market-related sectors	-1,7	1,1	0,0	-0,1	0,3	1,8	1,3	0,0	:

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Cyprus						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	688	711	727	737	752	2,1	%
2	**Population (working age:15-64)**	458	476	494	500	518	3,6	%
	as % of total population	66,6	66,9	67,9	67,9	68,9	1,0	p.p.
3	**Labour force (15-64) 1000 pers.**	331	345	357	365	383	4,9	%
	Male	181	191	199	202	209	3,7	%
	Female	150	155	159	164	174	6,4	%
4	**Activity rate (as % of population 15-64)**	72,2	72,6	72,4	73,0	73,9	0,9	p.p.
	Young (15-24)	41,2	41,7	42,6	41,5	41,7	0,1	p.p.
	Prime age (25-54)	85,6	86,1	85,7	86,2	86,7	0,5	p.p.
	Older (55-64)	52,6	52,7	52,4	55,5	57,7	2,2	p.p.
	Male	82,1	83,0	82,9	82,7	82,9	0,2	p.p.
	Young (15-24)	42,5	45,7	46,6	44,9	43,9	-1,0	p.p.
	Prime age (25-54)	95,3	95,4	95,3	95,3	95,0	-0,3	p.p.
	Older (55-64)	72,6	74,4	73,2	74,1	74,9	0,7	p.p.
	Female	63,1	62,9	62,5	63,8	65,4	1,6	p.p.
	Young (15-24)	40,0	38,3	39,0	38,3	39,7	1,4	p.p.
	Prime age (25-54)	76,7	77,4	76,5	77,4	78,7	1,3	p.p.
	Older (55-64)	33,2	32,0	32,7	37,8	41,5	3,7	p.p.
5	**Employment rate (as % of pop. 15-64)**	69,2	69,1	68,5	69,6	71,0	1,3	p.p.
	Young (15-24)	37,5	37,3	36,7	37,4	37,4	0,0	p.p.
	Prime age (25-54)	82,5	82,7	81,8	82,6	83,8	1,2	p.p.
	Older (55-64)	50,3	50,1	50,6	53,6	55,9	2,3	p.p.
	Male	78,8	80,0	79,2	79,5	80,0	0,6	p.p.
	Young (15-24)	38,5	41,4	40,5	41,0	39,1	-1,9	p.p.
	Prime age (25-54)	92,4	92,8	91,8	92,0	92,4	0,4	p.p.
	Older (55-64)	68,8	71,0	70,8	71,7	72,5	0,8	p.p.
	Female	60,2	59,0	58,4	60,3	62,4	2,1	p.p.
	Young (15-24)	36,5	33,6	33,3	34,0	36,0	2,0	p.p.
	Prime age (25-54)	73,5	73,1	72,2	73,6	75,5	1,9	p.p.
	Older (55-64)	32,7	30,4	31,4	36,6	40,2	3,6	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	317	329	338	348	368	20	Th.
	Male (as % of total)	54,8	55,9	56,1	55,6	54,8	-0,8	p.p.
	Female (as % of total)	45,3	44,1	43,9	44,4	45,2	0,7	p.p.
7	**Employment growth (%) (National accounts)**	3,8	3,8	3,6	1,7	3,2		p.p.
	Employment growth (%) (LFS - age 15-64)	3,4	3,7	2,9	3,0	5,6		p.p.
	Male	2,2	5,9	3,1	2,1	4,2		p.p.
	Female	4,8	0,9	2,5	4,3	7,4		p.p.
8	**Self employed (% of total employment)**	13,4	12,8	12,4	12,1	11,6	-0,5	p.p.
	Male	18,1	16,6	15,1	14,5	14,4	-0,2	p.p.
	Female	7,8	8,1	8,9	9,1	8,2	-0,9	p.p.
9	**Temporary employment (as % total)**	12,6	13,0	14,0	13,2	13,3	0,1	p.p.
	Male	8,1	8,6	9,0	7,9	7,6	-0,4	p.p.
	Female	17,1	17,6	19,5	19,0	19,2	0,2	p.p.
10	**Part-time (as % of total employment)**	7,6	7,4	7,6	6,6	6,4	-0,2	p.p.
	Male	3,6	3,2	3,2	2,8	3,0	0,2	p.p.
	Female	12,5	12,7	13,2	11,3	10,4	-0,9	p.p.
11	**Unemployment rate (Harmonised:15-74)**	4,1	4,6	5,2	4,6	3,9	-0,7	p.p.
	Young (15-24)	9,0	10,6	13,9	10,0	10,2	0,2	p.p.
	Prime age (25-54)	3,6	4,0	4,5	4,1	3,4	-0,8	p.p.
	Older (55-64)	4,4	4,8	3,6	3,3	3,1	-0,2	p.p.
	Male	3,6	3,6	4,3	4,0	3,4	-0,6	p.p.
	Young (15-24)	9,3	9,3	13,0	8,8	11,0	2,2	p.p.
	Prime age (25-54)	3,0	2,7	3,6	3,5	2,7	-0,8	p.p.
	Older (55-64)	5,3	4,7	3,3	3,2	3,2	-0,1	p.p.
	Female	4,8	6,0	6,5	5,4	4,6	-0,8	p.p.
	Young (15-24)	8,7	12,3	14,5	11,2	9,2	-2,0	p.p.
	Prime age (25-54)	4,2	5,5	5,6	4,9	4,1	-0,8	p.p.
	Older (55-64)	1,7	5,0	4,1	3,2	3,1	-0,1	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	24,0	27,4	23,4	19,6	18,9	-0,7	p.p.
13	**Worked hours (average actual weekly hours)**	38,0	39,7	39,2	39,2	39,0	-0,4	%
	Male	40,0	41,9	41,3	41,1	40,8	-0,6	%
	Female	35,6	36,9	36,3	36,7	36,7	0,0	%
14	**Sectoral employment growth**							
	Agriculture	-6,5	3,2	-5,2	-14,1	10,8		p.p.
	Building and construction	9,8	6,1	5,7	4,0	4,9		p.p.
	Services	4,1	3,7	4,3	2,7	2,9		p.p.
	Manufacturing industry	3,2	2,5	0,5	1,1	0,8		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Cyprus

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	7,7	1,9	1,8	2,7	3,5	:	:	:	:
Compensation of employees per Hour Worked	7,3	4,2	4,0	3,9	6,0	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	6,3	5,1	3,9	4,7	6,8	7,1	7,5	6,7	6,8
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	9,7	1,5	1,4	0,5	2,4	:	:	:	:
Real unit labour costs deflated by GDP deflator.	4,3	-1,7	-0,9	-2,2	-0,7	:	:	:	:
Wage and salaries	6,1	1,6	0,3	3,6	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	68,8	68,5	68,4	67,4	69,1	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	15,4	15,5	15,6	15,1	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	84,6	84,5	84,4	84,9	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	84,6	84,5	84,4	84,9	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	18,5	18,6	13,6	14,1	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	16,6	16,8	12,0	12,6	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	15,4	15,5	15,6	15,1	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	0,0	0,0	0,0	0,0	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	-1,8	0,4	0,3	2,3	1,1	:	:	:	:
Hourly Labour Productivity	-1,4	2,4	2,0	1,4	2,4	:	:	:	:
GDP	1,9	4,2	3,9	4,0	4,4	4,5	4,1	4,6	4,3
ECFIN NAIRU estimate	4,4	4,0	3,9	3,8	3,8	:	:	:	:
Output gap (%)	-0,2	-0,8	-1,3	-1,3	-0,6	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	4,0	1,9	2,0	2,2	2,2	1,4	1,8	2,3	3,2
Underlying inflation (exc. energy and unprocessed food)	3,1	0,8	0,8	0,8	1,7	1,0	1,5	2,0	2,2
GDP deflator	5,1	3,3	2,3	2,8	3,1	2,3	2,7	3,5	3,7
Sectoral breakdown of unit labour costs									
Agriculture and fishery	84,1	-16,9	25,7	18,0	:	:	:	:	:
Industry excluding construction	-0,2	6,3	1,9	8,3	:	:	:	:	:
of which: manufacturing	2,0	4,3	3,7	3,1	2,2	:	:	:	:
Construction	-1,2	2,3	-1,0	6,5	:	:	:	:	:
Trade, transport and communication	3,7	1,9	-1,4	-0,7	:	:	:	:	:
Finance and business services	6,6	9,5	7,3	-1,1	:	:	:	:	:
Non-market related services	11,1	0,6	2,8	3,2	:	:	:	:	:
Market-related sectors	6,0	3,1	0,7	-0,6	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	6,3	2,2	2,9	2,8	2,2	:	:	:	:
Agriculture and fishery	80,0	-19,1	28,7	28,0	:	:	:	:	:
Industry excluding construction	0,4	5,5	1,6	6,7	:	:	:	:	:
of which: manufacturing	1,1	2,9	2,2	2,7	3,5	:	:	:	:
Construction	-1,2	1,3	-2,6	6,8	:	:	:	:	:
Trade, transport and	0,6	5,4	-0,1	0,5	:	:	:	:	:
Finance and business services	3,2	7,3	8,0	3,4	:	:	:	:	:
Non-market related services	11,3	-0,4	0,6	4,5	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-2,2	-2,7	2,4	8,5	-13,1	4,6	-7,9	-18,9	-21,9
Industry excluding construction	0,6	-0,7	-0,3	-1,4	2,4	-0,6	0,2	1,9	3,6
of which: manufacturing	-0,9	-1,4	-1,4	-0,4	1,3	0,5	-0,1	1,0	2,9
Construction	0,0	-1,0	-1,6	0,2	2,2	-0,6	-1,0	0,2	1,6
Trade, transport and	-3,0	3,4	1,3	1,2	1,8	1,0	1,1	2,2	3,2
Finance and business services	-3,2	-2,1	0,7	4,5	0,5	1,2	0,9	2,3	3,6
Non-market related services	0,2	-1,0	-2,2	1,3	-0,6	-0,3	-1,1	-0,3	-0,1
Market-related sectors	-2,1	0,7	1,1	2,3	1,6	1,6	0,8	1,4	2,0

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Latvia						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	2330	2319	2305	2294	2281	-0,6	%
2	**Population (working age:15-64)**	1588	1587	1583	1580	1573	-0,4	%
	as % of total population	68,1	68,4	68,7	68,9	69,0	0,1	p.p.
3	**Labour force (15-64) 1000 pers.**	1099	1105	1101	1126	1145	1,7	%
	Male	564	568	567	581	591	1,6	%
	Female	535	538	534	545	555	1,9	%
4	**Activity rate (as % of population 15-64)**	69,2	69,6	69,6	71,3	72,8	1,5	p.p.
	Young (15-24)	38,4	37,3	37,7	40,8	43,0	2,1	p.p.
	Prime age (25-54)	86,2	86,3	85,6	86,4	87,2	0,8	p.p.
	Older (55-64)	47,9	52,3	53,8	57,1	60,3	3,2	p.p.
	Male	74,1	74,3	74,4	76,2	77,6	1,4	p.p.
	Young (15-24)	44,5	43,3	43,8	47,8	48,9	1,1	p.p.
	Prime age (25-54)	89,7	89,7	89,4	90,0	91,0	1,0	p.p.
	Older (55-64)	56,1	60,4	61,0	64,4	67,9	3,5	p.p.
	Female	64,7	65,3	65,1	66,7	68,3	1,7	p.p.
	Young (15-24)	32,1	31,0	31,3	33,6	36,8	3,2	p.p.
	Prime age (25-54)	83,0	83,1	82,0	82,9	83,6	0,7	p.p.
	Older (55-64)	41,9	46,1	48,5	51,6	54,6	3,0	p.p.
5	**Employment rate (as % of pop. 15-64)**	61,8	62,3	63,3	66,3	68,3	2,0	p.p.
	Young (15-24)	31,5	30,5	32,6	35,9	38,4	2,5	p.p.
	Prime age (25-54)	77,7	77,9	78,4	81,1	82,3	1,2	p.p.
	Older (55-64)	44,1	47,9	49,5	53,3	57,7	4,3	p.p.
	Male	66,1	66,4	67,6	70,4	72,5	2,1	p.p.
	Young (15-24)	37,1	36,4	38,7	42,8	43,4	0,6	p.p.
	Prime age (25-54)	80,7	80,5	81,7	83,7	85,6	1,9	p.p.
	Older (55-64)	51,3	55,8	55,2	59,5	64,6	5,2	p.p.
	Female	57,9	58,5	59,3	62,4	64,4	2,0	p.p.
	Young (15-24)	25,7	24,4	26,3	28,7	33,1	4,4	p.p.
	Prime age (25-54)	74,9	75,5	75,3	78,6	79,1	0,5	p.p.
	Older (55-64)	38,8	41,9	45,3	48,7	52,4	3,7	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	982	988	1002	1047	1075	28	Th.
	Male (as % of total)	51,3	51,3	51,4	51,3	51,3	0,1	p.p.
	Female (as % of total)	48,7	48,7	48,6	48,7	48,7	-0,1	p.p.
7	**Employment growth (%) (National accounts)**	1,7	1,1	1,7	4,7	3,5		p.p.
	Employment growth (%) (LFS - age 15-64)	2,2	0,7	1,4	4,5	2,7		p.p.
	Male	2,8	0,7	1,7	4,2	2,8		p.p.
	Female	1,6	0,7	1,0	4,9	2,5		p.p.
8	**Self employed (% of total employment)**	5,7	6,0	5,6	6,3	5,5	-0,8	p.p.
	Male	6,7	6,9	6,4	7,3	6,7	-0,7	p.p.
	Female	4,8	5,1	4,8	5,2	4,3	-0,9	p.p.
9	**Temporary employment (as % total)**	11,2	9,5	8,4	7,2	4,3	-2,9	p.p.
	Male	13,2	11,6	10,6	8,9	5,7	-3,3	p.p.
	Female	9,1	7,3	6,2	5,4	2,9	-2,6	p.p.
10	**Part-time (as % of total employment)**	9,6	9,7	7,6	5,8	5,6	-0,1	p.p.
	Male	7,3	7,1	5,6	4,3	4,4	0,1	p.p.
	Female	12,0	12,4	9,7	7,4	6,9	-0,4	p.p.
11	**Unemployment rate (Harmonised:15-74)**	10,5	10,4	8,9	6,8	6,0	-0,8	p.p.
	Young (15-24)	18,0	18,1	13,6	12,2	10,7	-1,5	p.p.
	Prime age (25-54)	9,9	9,7	8,4	6,1	5,6	-0,5	p.p.
	Older (55-64)	7,9	8,4	8,0	6,6	4,4	-2,3	p.p.
	Male	10,6	10,6	9,1	7,4	6,4	-1,0	p.p.
	Young (15-24)	16,6	16,0	11,8	10,5	11,2	0,7	p.p.
	Prime age (25-54)	10,0	10,3	8,6	7,0	5,9	-1,1	p.p.
	Older (55-64)	8,6	7,6	9,4	7,6	4,8	-2,8	p.p.
	Female	10,4	10,2	8,7	6,2	5,6	-0,6	p.p.
	Young (15-24)	20,0	21,3	16,1	14,7	10,1	-4,6	p.p.
	Prime age (25-54)	9,8	9,2	8,2	5,2	5,3	0,1	p.p.
	Older (55-64)	7,2	9,1	6,7	5,7	4,0	-1,7	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	41,6	43,7	45,8	35,9	26,1	-9,8	p.p.
13	**Worked hours (average actual weekly hours)**	41,7	41,0	41,4	41,3	40,5	-1,9	%
	Male	43,1	42,6	43,0	42,8	41,7	-2,6	%
	Female	40,1	39,3	39,6	39,7	39,2	-1,1	%
14	**Sectoral employment growth**							
	Agriculture	-8,9	-10,0	0,5	-3,1	-7,4		p.p.
	Building and construction	23,5	16,9	4,6	17,5	22,4		p.p.
	Services	1,7	2,5	3,3	4,1	3,4		p.p.
	Manufacturing industry	4,7	-2,5	-3,6	5,7	-0,6		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Latvia

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	11,3	14,3	25,3	23,6	33,2	:	:	:	:
Compensation of employees per Hour Worked	11,2	17,6	27,4	23,3	34,3	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	10,0	10,8	15,0	23,4	30,2	31,5	28,8	30,8	30,2
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	5,6	6,4	15,2	15,3	24,9	:	:	:	:
Real unit labour costs deflated by GDP deflator.	2,0	-0,6	4,6	4,9	10,3	:	:	:	:
Wage and salaries	18,6	17,5	26,0	31,8	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	51,4	51,0	53,5	56,4	62,2	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	21,4	21,4	21,5	21,3	21,1	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	78,6	78,6	78,5	78,7	78,9	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	72,4	73,4	73,4	73,7	73,9	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	42,2	42,5	42,2	42,9	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	37,3	38,1	37,5	39,9	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	20,8	20,5	20,7	20,6	20,4	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	0,7	0,8	0,8	0,8	0,8	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	5,4	7,5	8,7	7,2	6,6	:	:	:	:
Hourly Labour Productivity	4,4	10,5	9,0	7,0	6,4	:	:	:	:
GDP	7,2	8,7	10,6	12,2	10,3	11,3	11,0	10,9	8,1
ECFIN NAIRU estimate	11,5	10,5	9,4	8,2	7,1	:	:	:	:
Output gap (%)	-1,2	-0,8	0,5	3,2	4,8	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	2,9	6,2	6,9	6,6	10,1	7,6	8,5	10,4	13,7
Underlying inflation (exc. energy and unprocessed food)	2,9	5,8	5,5	5,1	9,7	7,2	8,4	10,5	12,6
GDP deflator	3,6	7,0	10,2	9,9	13,3	13,0	13,5	13,9	13,0
Sectoral breakdown of unit labour costs									
Agriculture and fishery	-7,1	1,7	11,0	24,5	9,7	:	:	:	:
Industry excluding construction	-5,3	-0,3	8,1	15,5	26,9	:	:	:	:
of which: manufacturing	5,7	3,2	13,1	16,4	29,6	:	:	:	:
Construction	1,2	11,9	63,4	28,7	41,3	:	:	:	:
Trade, transport and communication	-1,9	-2,5	6,8	15,0	19,8	:	:	:	:
Finance and business services	-5,7	10,2	12,7	15,4	27,6	:	:	:	:
Non-market related services	0,1	8,4	9,4	14,5	29,8	:	:	:	:
Market-related sectors	5,2	4,5	15,9	14,4	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	1,0	10,2	19,6	23,5	32,6	:	:	:	:
Agriculture and fishery	-0,6	17,3	20,4	22,0	27,3	:	:	:	:
Industry excluding construction	-2,8	7,8	18,6	15,5	28,0	:	:	:	:
of which: manufacturing	7,1	12,9	24,3	17,0	30,0	:	:	:	:
Construction	-7,0	8,9	80,2	33,8	31,3	:	:	:	:
Trade, transport and	2,4	4,6	18,2	26,1	24,7	:	:	:	:
Finance and business services	-4,2	19,2	35,5	-5,3	45,8	:	:	:	:
Non-market related services	6,6	12,3	9,0	28,5	37,9	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	7,0	15,3	8,5	-2,0	16,0	22,3	20,9	23,6	14,0
Industry excluding construction	2,6	8,2	9,7	0,0	0,9	6,4	-1,5	-5,1	-5,0
of which: manufacturing	1,3	9,4	9,9	0,5	0,3	6,8	-3,6	-5,8	-9,8
Construction	-8,1	-2,7	10,3	4,0	-7,1	-13,7	-14,9	6,2	3,3
Trade, transport and	4,3	7,2	10,6	9,6	4,1	9,0	7,7	7,6	-2,0
Finance and business services	1,6	8,2	20,2	-18,0	14,3	-0,7	10,0	8,1	11,7
Non-market related services	6,4	3,5	-0,4	12,3	6,2	7,6	2,4	9,7	3,2
Market-related sectors	4,2	8,7	11,3	4,3	5,3	6,6	5,5	7,5	2,6

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Lithuania						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	3445	3434	3424	3403	3385	-0,5	%
2	**Population (working age:15-64)**	2305	2310	2322	2321	2319	-0,1	%
	as % of total population	66,9	67,3	67,8	68,2	68,5	0,3	p.p.
3	**Labour force (15-64) 1000 pers.**	1610	1596	1587	1565	1575	0,6	%
	Male	814	811	807	790	796	0,7	%
	Female	797	786	780	775	779	0,5	%
4	**Activity rate (as % of population 15-64)**	69,9	69,1	68,4	67,4	67,9	0,5	p.p.
	Young (15-24)	30,0	26,2	25,1	26,3	27,4	1,1	p.p.
	Prime age (25-54)	88,8	88,7	87,9	86,2	86,0	-0,2	p.p.
	Older (55-64)	50,5	52,6	52,8	52,9	55,6	2,7	p.p.
	Male	73,5	72,8	72,1	70,5	71,0	0,5	p.p.
	Young (15-24)	34,1	30,9	29,5	29,3	31,8	2,5	p.p.
	Prime age (25-54)	90,5	90,7	90,1	88,7	87,9	-0,8	p.p.
	Older (55-64)	62,0	63,7	63,8	59,9	63,4	3,5	p.p.
	Female	66,5	65,6	64,9	64,6	65,0	0,4	p.p.
	Young (15-24)	25,8	21,4	20,5	23,1	22,8	-0,2	p.p.
	Prime age (25-54)	87,2	86,8	85,8	83,8	84,2	0,4	p.p.
	Older (55-64)	41,8	44,3	44,4	47,6	49,7	2,1	p.p.
5	**Employment rate (as % of pop. 15-64)**	61,1	61,2	62,6	63,6	64,9	1,3	p.p.
	Young (15-24)	22,5	20,3	21,2	23,7	25,2	1,5	p.p.
	Prime age (25-54)	78,9	79,4	81,0	81,7	82,5	0,8	p.p.
	Older (55-64)	44,7	47,1	49,2	49,6	53,4	3,8	p.p.
	Male	64,0	64,7	66,1	66,3	67,9	1,6	p.p.
	Young (15-24)	26,3	24,0	24,8	26,4	29,6	3,2	p.p.
	Prime age (25-54)	79,8	81,7	83,3	84,1	84,3	0,3	p.p.
	Older (55-64)	55,2	57,6	59,1	55,6	60,8	5,1	p.p.
	Female	58,4	57,8	59,4	61,0	62,2	1,1	p.p.
	Young (15-24)	18,5	16,5	17,4	20,8	20,5	-0,3	p.p.
	Prime age (25-54)	78,0	77,3	78,8	79,5	80,8	1,3	p.p.
	Older (55-64)	36,7	39,3	41,7	45,1	47,9	2,8	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	1408	1413	1454	1476	1506	30	Th.
	Male (as % of total)	50,3	51,0	50,9	50,4	50,5	0,2	p.p.
	Female (as % of total)	49,7	49,0	49,1	49,6	49,5	-0,2	p.p.
7	**Employment growth (%) (National accounts)**	2,2	0,0	2,5	1,7	1,9		p.p.
	Employment growth (%) (LFS - age 15-64)	2,1	0,3	2,9	1,5	2,0		p.p.
	Male	2,4	1,6	2,7	0,5	2,4		p.p.
	Female	1,9	-1,0	3,1	2,6	1,7		p.p.
8	**Self employed (% of total employment)**	14,4	12,9	11,9	11,0	9,6	-1,4	p.p.
	Male	17,3	15,2	14,2	13,1	11,8	-1,3	p.p.
	Female	11,5	10,4	9,5	8,9	7,4	-1,6	p.p.
9	**Temporary employment (as % total)**	7,2	6,3	5,6	4,5	3,5	-1,0	p.p.
	Male	9,7	8,8	7,6	6,5	4,9	-1,6	p.p.
	Female	4,8	3,9	3,6	2,7	2,3	-0,4	p.p.
10	**Part-time (as % of total employment)**	9,2	8,3	6,8	9,5	8,1	-1,4	p.p.
	Male	7,1	6,4	4,9	7,5	6,5	-1,0	p.p.
	Female	11,4	10,3	8,8	11,5	9,7	-1,8	p.p.
11	**Unemployment rate (Harmonised:15-74)**	12,4	11,4	8,3	5,6	4,3	-1,3	p.p.
	Young (15-24)	25,1	22,7	15,7	9,8	8,2	-1,6	p.p.
	Prime age (25-54)	11,2	10,4	7,8	5,2	4,0	-1,1	p.p.
	Older (55-64)	11,5	10,4	6,8	6,1	3,8	-2,3	p.p.
	Male	12,7	11,0	8,2	5,8	4,3	-1,5	p.p.
	Young (15-24)	22,9	22,6	15,9	9,9	6,9	-3,0	p.p.
	Prime age (25-54)	11,8	9,9	7,5	5,2	4,0	-1,2	p.p.
	Older (55-64)	11,0	9,7	7,4	7,2	4,1	-3,0	p.p.
	Female	12,2	11,8	8,3	5,4	4,3	-1,1	p.p.
	Young (15-24)	28,2	22,9	15,2	9,6	10,1	0,4	p.p.
	Prime age (25-54)	10,6	11,0	8,2	5,1	4,0	-1,1	p.p.
	Older (55-64)	12,0	11,2	6,1	5,2	3,6	-1,7	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	48,2	51,4	52,2	44,0	31,9	-12,1	p.p.
13	**Worked hours (average actual weekly hours)**	37,4	37,9	38,1	38,1	38,6	1,2	%
	Male	38,5	38,9	39,4	39,2	39,5	0,8	%
	Female	36,2	36,7	36,7	37,1	37,6	1,4	%
14	**Sectoral employment growth**							
	Agriculture	2,5	-11,5	-9,3	-10,0	-10,9		p.p.
	Building and construction	15,2	8,9	14,1	12,5	13,5		p.p.
	Services	0,9	3,6	4,1	3,5	3,4		p.p.
	Manufacturing industry	1,5	-3,6	4,4	-0,7	0,1		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Lithuania

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	8,9	10,9	11,5	15,1	14,1	:	:	:	:
Compensation of employees per Hour Worked	9,5	12,0	10,0	17,8	15,4	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	3,9	4,5	11,5	18,4	20,9	21,6	21,1	20,5	20,5
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	0,9	3,3	5,9	8,8	7,0	:	:	:	:
Real unit labour costs deflated by GDP deflator.	1,9	0,7	0,2	2,0	-1,5	:	:	:	:
Wage and salaries	12,5	10,7	8,0	22,0	:	14,1	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	55,4	55,1	55,0	56,3	55,9	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	28,2	28,5	28,5	28,5	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	71,8	71,5	71,5	71,5	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	66,5	66,3	66,5	66,5	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	43,4	43,7	40,1	46,3	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	42,6	42,9	40,1	43,2	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	27,8	28,2	28,1	28,2	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	0,4	0,3	0,3	0,3	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	7,9	7,3	5,3	5,9	6,7	:	:	:	:
Hourly Labour Productivity	8,9	6,0	1,9	6,7	5,6	:	:	:	:
GDP	10,3	7,3	7,9	7,7	8,8	8,1	8,0	10,8	8,0
ECFIN NAIRU estimate	13,6	12,2	10,3	8,2	6,2	:	:	:	:
Output gap (%)	2,2	2,1	2,2	1,9	2,6	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	-1,1	1,2	2,7	3,8	5,8	4,4	5,0	5,9	7,9
Underlying inflation (exc. energy and unprocessed food)	0,7	0,7	1,3	2,4	5,2	3,9	4,4	5,5	7,0
GDP deflator	-0,9	2,7	5,7	6,6	8,6	8,1	9,2	6,3	10,6
Sectoral breakdown of unit labour costs									
Agriculture and fishery	6,6	7,3	-8,1	7,1	-2,5	-10,1	:	:	:
Industry excluding construction	0,0	2,5	7,7	6,3	6,1	10,2	:	:	:
of which: manufacturing	4,1	3,1	6,6	5,4	4,9	:	:	:	:
Construction	-2,1	14,7	18,9	17,2	11,2	14,2	:	:	:
Trade, transport and communication	1,0	5,8	7,0	9,7	10,3	6,2	:	:	:
Finance and business services	4,3	2,7	16,1	13,7	12,9	9,7	:	:	:
Non-market related services	2,8	7,1	6,8	10,1	10,0	:	:	:	:
Market-related sectors	1,5	3,1	2,8	6,9	:	6,6	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	9,1	10,9	11,5	15,2	14,1	0,0	:	:	:
Agriculture and fishery	12,1	20,7	4,1	6,3	23,9	14,0	:	:	:
Industry excluding construction	14,5	16,8	12,2	14,9	10,9	13,1	:	:	:
of which: manufacturing	17,1	19,7	10,6	16,5	10,2	:	:	:	:
Construction	4,1	12,3	17,1	25,4	14,6	23,7	:	:	:
Trade, transport and	7,3	8,3	16,2	9,0	19,7	12,7	:	:	:
Finance and business services	12,0	9,7	16,1	2,8	20,9	11,3	:	:	:
Non-market related services	6,4	8,0	5,0	21,2	9,3	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	5,2	12,5	13,2	-0,7	27,1	26,8	21,8	33,9	8,7
Industry excluding construction	14,5	14,0	4,2	8,1	4,5	2,6	2,4	8,9	4,4
of which: manufacturing	12,5	16,0	3,8	10,6	5,0	3,5	3,6	11,7	1,2
Construction	6,4	-2,1	-1,5	7,0	3,1	8,3	5,5	-0,2	1,4
Trade, transport and	6,2	2,3	8,6	-0,6	8,5	6,1	5,1	7,9	15,9
Finance and business services	7,4	6,8	0,0	-9,6	7,1	1,5	9,8	11,1	4,6
Non-market related services	3,5	0,8	-1,7	10,1	-0,6	3,6	-5,4	-5,8	6,4
Market-related sectors	8,6	9,0	7,3	3,6	8,4	6,8	7,8	9,5	9,2

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Luxembourg						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	443	446	450	456	465	1,8	%
2	**Population (working age:15-64)**	300	301	304	307	316	2,9	%
	as % of total population	67,7	67,5	67,6	67,2	68,0	0,8	p.p.
3	**Labour force (15-64) 1000 pers.**	193	198	202	205	211	3,2	%
	Male	114	115	116	115	118	2,5	%
	Female	79	83	86	90	94	4,1	%
4	**Activity rate (as % of population 15-64)**	64,6	65,8	66,6	66,7	66,9	0,2	p.p.
	Young (15-24)	30,3	28,1	28,8	27,8	26,5	-1,3	p.p.
	Prime age (25-54)	80,4	83,0	83,9	84,5	84,8	0,3	p.p.
	Older (55-64)	30,7	30,8	32,4	33,7	32,7	-1,0	p.p.
	Male	75,5	75,6	76,0	75,3	75,0	-0,3	p.p.
	Young (15-24)	31,0	29,3	32,2	30,5	30,7	0,2	p.p.
	Prime age (25-54)	94,1	95,3	95,5	95,3	94,9	-0,4	p.p.
	Older (55-64)	40,3	38,8	39,7	38,8	36,5	-2,3	p.p.
	Female	53,4	55,9	57,0	58,2	58,9	0,6	p.p.
	Young (15-24)	29,6	26,2	25,4	24,8	22,5	-2,3	p.p.
	Prime age (25-54)	66,5	70,4	72,2	73,8	74,7	0,9	p.p.
	Older (55-64)	21,1	22,6	25,1	28,7	29,1	0,3	p.p.
5	**Employment rate (as % of pop. 15-64)**	62,2	62,5	63,6	63,5	64,2	0,6	p.p.
	Young (15-24)	27,1	23,2	25,0	23,2	22,5	-0,7	p.p.
	Prime age (25-54)	77,9	79,3	80,6	81,0	81,9	0,8	p.p.
	Older (55-64)	30,3	30,3	31,8	33,1	32,0	-1,0	p.p.
	Male	73,2	72,8	73,3	72,7	72,3	-0,3	p.p.
	Young (15-24)	28,2	26,2	28,4	25,6	26,5	1,0	p.p.
	Prime age (25-54)	91,7	92,2	92,8	92,7	92,2	-0,5	p.p.
	Older (55-64)	39,8	38,4	38,1	38,8	35,5	-3,2	p.p.
	Female	50,9	51,8	53,7	54,6	56,1	1,5	p.p.
	Young (15-24)	26,0	20,6	21,5	21,4	18,5	-2,9	p.p.
	Prime age (25-54)	63,8	66,2	68,4	69,4	71,7	2,3	p.p.
	Older (55-64)	20,6	22,1	24,7	27,9	28,5	0,6	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	186	188	193	195	203	8	Th.
	Male (as % of total)	59,4	58,9	58,1	56,8	56,0	-0,8	p.p.
	Female (as % of total)	40,6	41,1	41,9	43,2	44,0	0,8	p.p.
7	**Employment growth (%) (National accounts)**	1,8	2,2	2,9	3,7	4,2		p.p.
	Employment growth (%) (LFS - age 15-64)	-0,7	1,0	2,8	0,9	3,9		p.p.
	Male	-1,4	0,2	1,4	-1,3	2,4		p.p.
	Female	0,5	2,1	4,8	4,1	5,8		p.p.
8	**Self employed (% of total employment)**	6,0	4,9	4,9	4,9	4,1	-0,8	p.p.
	Male	6,2	5,4	5,0	5,2	4,2	-1,0	p.p.
	Female	5,7	4,3	4,8	4,5	3,9	-0,6	p.p.
9	**Temporary employment (as % total)**	3,1	4,8	5,3	6,1	6,8	0,7	p.p.
	Male	2,4	4,1	4,9	5,7	6,2	0,5	p.p.
	Female	4,2	5,8	5,8	6,6	7,6	1,0	p.p.
10	**Part-time (as % of total employment)**	13,4	16,3	17,4	17,1	17,8	0,6	p.p.
	Male	1,5	2,3	2,4	2,6	2,6	-0,1	p.p.
	Female	30,7	36,4	38,2	36,2	37,1	0,9	p.p.
11	**Unemployment rate (Harmonised:15-74)**	3,7	5,1	4,5	4,7	4,7	0,0	p.p.
	Young (15-24)	10,5	17,6	13,4	16,4	15,1	-1,4	p.p.
	Prime age (25-54)	3,2	4,5	3,9	4,1	3,4	-0,7	p.p.
	Older (55-64)	1,4	1,4	2,0	1,8	1,9	0,1	p.p.
	Male	3,0	3,7	3,5	3,5	4,0	0,5	p.p.
	Young (15-24)	9,0	10,7	11,9	16,3	13,6	-2,7	p.p.
	Prime age (25-54)	2,6	3,3	2,8	2,8	2,9	0,1	p.p.
	Older (55-64)	1,1	1,1	4,2	0,0	2,6	2,6	p.p.
	Female	4,7	7,1	5,8	6,2	5,7	-0,5	p.p.
	Young (15-24)	12,2	21,5	15,4	13,8	17,8	4,0	p.p.
	Prime age (25-54)	4,0	6,0	5,3	5,9	4,0	-1,9	p.p.
	Older (55-64)	2,1	2,0	1,7	2,8	1,8	-1,1	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	24,7	21,0	26,4	29,5	28,5	-1,1	p.p.
13	**Worked hours (average actual weekly hours)**	37,9	38,2	37,9	37,6	37,6	-0,1	%
	Male	40,7	41,4	41,2	40,8	40,8	-0,1	%
	Female	33,6	33,3	33,0	33,0	33,2	0,5	%
14	**Sectoral employment growth**							
	Agriculture	4,9	0,0	0,0	7,0	2,2		p.p.
	Building and construction	2,8	2,0	3,7	7,7	5,1		p.p.
	Services	2,3	2,7	3,2	3,4	4,6		p.p.
	Manufacturing industry	-2,4	-0,3	0,3	2,1	0,0		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Luxembourg

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	2,2	3,9	3,8	4,5	3,5	:	:	:	:
Compensation of employees per Hour Worked	3,6	6,0	5,0	2,6	2,8	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	3,8	2,5	4,1	2,5	2,0	2,2	1,9	2,2	1,7
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	1,9	1,3	1,7	2,2	3,2	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-3,0	-0,4	-2,4	-3,8	1,0	:	:	:	:
Wage and salaries	0,3	3,6	2,0	3,9	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	3,9	2,7	2,8	2,7	4,0	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	57,9	58,1	56,7	54,1	54,7	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	15,6	16,2	16,2	16,1	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	84,4	83,8	83,8	83,9	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	71,6	71,0	71,0	71,2	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	33,0	33,4	34,2	34,8	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	25,0	25,5	26,5	27,2	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	14,1	15,4	15,4	15,2	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	:	0,9	0,9	0,9	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	0,3	2,6	2,1	2,3	0,2	:	:	:	:
Hourly Labour Productivity	1,5	4,5	3,1	0,2	-0,5	:	:	:	:
GDP	2,1	4,9	5,0	6,1	4,5	5,9	4,4	4,2	3,4
ECFIN NAIRU estimate	3,4	3,8	3,9	4,2	4,3	:	:	:	:
Output gap (%)	-1,4	-0,7	-0,9	-0,3	0,3	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	2,5	3,2	3,8	3,0	2,7	2,2	2,3	2,1	4,0
Underlying inflation (exc. energy and unprocessed food)	2,8	2,5	2,5	2,3	2,6	2,4	2,6	2,5	2,9
GDP deflator	5,0	1,7	4,2	6,2	2,2	2,2	2,9	-0,2	3,8
Sectoral breakdown of unit labour costs									
Agriculture and fishery	21,6	-8,1	10,8	73,8	10,3	:	:	:	:
Industry excluding construction	2,2	-3,0	4,7	3,6	1,5	:	:	:	:
of which: manufacturing	2,9	-3,0	5,0	3,3	3,1	:	:	:	:
Construction	6,5	-0,4	-1,5	17,8	5,4	:	:	:	:
Trade, transport and communication	4,5	-0,5	0,6	2,1	2,0	:	:	:	:
Finance and business services	-1,1	3,1	0,4	-0,2	5,1	:	:	:	:
Non-market related services	2,7	5,9	6,1	3,1	2,1	:	:	:	:
Market-related sectors	0,7	0,9	0,7	-0,2	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	2,3	4,1	3,6	4,7	3,5	:	:	:	:
Agriculture and fishery	7,2	-13,7	2,2	31,8	10,1	:	:	:	:
Industry excluding construction	5,1	3,5	4,1	3,3	3,5	:	:	:	:
of which: manufacturing	4,1	3,7	3,8	4,1	3,3	:	:	:	:
Construction	5,5	2,5	2,5	2,4	4,3	:	:	:	:
Trade, transport and	4,5	4,5	3,7	1,4	3,5	:	:	:	:
Finance and business services	-0,2	3,3	4,3	10,0	3,0	:	:	:	:
Non-market related services	4,1	5,7	2,6	2,6	2,6	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-11,9	-6,1	-7,7	-24,2	-0,1	-0,4	2,2	-4,2	-8,4
Industry excluding construction	2,9	6,7	-0,7	-0,4	2,0	4,7	3,2	-0,1	-1,5
of which: manufacturing	1,1	7,0	-1,2	0,8	0,2	6,1	3,1	-2,1	-6,5
Construction	-0,9	2,9	4,0	-13,1	-1,0	1,5	-3,3	-6,2	-4,8
Trade, transport and	0,0	5,1	3,1	-0,6	1,4	-0,1	0,6	1,7	0,3
Finance and business services	0,9	0,2	3,8	10,2	-2,0	1,1	-1,8	-2,1	-2,7
Non-market related services	1,4	-0,2	-3,3	-0,5	0,5	0,8	0,5	-1,0	-0,1
Market-related sectors	0,7	3,1	3,1	3,0	0,6	2,1	0,1	-0,4	-1,2

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Hungary						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	9980	9944	9931	9921	9907	-0,1	%
2	**Population (working age:15-64)**	6836	6826	6815	6816	6800	-0,2	%
	as % of total population	68,5	68,6	68,6	68,7	68,6	-0,1	p.p.
3	**Labour force (15-64) 1000 pers.**	4142	4127	4180	4222	4209	-0,3	%
	Male	2251	2239	2260	2286	2290	0,1	%
	Female	1890	1888	1920	1936	1919	-0,9	%
4	**Activity rate (as % of population 15-64)**	60,6	60,5	61,3	62,0	61,9	-0,1	p.p.
	Young (15-24)	30,9	27,9	27,1	26,8	25,6	-1,2	p.p.
	Prime age (25-54)	77,8	77,9	78,7	79,6	80,0	0,4	p.p.
	Older (55-64)	29,8	32,0	34,3	34,9	34,5	-0,4	p.p.
	Male	67,6	67,2	67,9	68,7	69,0	0,3	p.p.
	Young (15-24)	34,6	31,4	30,3	30,1	29,3	-0,8	p.p.
	Prime age (25-54)	84,8	85,0	85,5	86,5	86,9	0,4	p.p.
	Older (55-64)	38,9	39,7	42,4	43,1	43,6	0,5	p.p.
	Female	53,9	54,0	55,1	55,5	55,1	-0,4	p.p.
	Young (15-24)	27,3	24,3	23,8	23,4	21,8	-1,5	p.p.
	Prime age (25-54)	71,0	70,9	72,1	72,9	73,2	0,3	p.p.
	Older (55-64)	22,4	25,8	27,7	28,2	27,3	-1,0	p.p.
5	**Employment rate (as % of pop. 15-64)**	57,0	56,8	56,9	57,3	57,3	0,0	p.p.
	Young (15-24)	26,8	23,6	21,8	21,7	21,0	-0,7	p.p.
	Prime age (25-54)	73,7	73,6	73,7	74,2	74,6	0,4	p.p.
	Older (55-64)	28,9	31,1	33,0	33,6	33,1	-0,5	p.p.
	Male	63,5	63,1	63,1	63,8	64,0	0,3	p.p.
	Young (15-24)	29,8	26,3	24,4	24,5	24,2	-0,4	p.p.
	Prime age (25-54)	80,1	80,5	80,3	81,0	81,3	0,3	p.p.
	Older (55-64)	37,8	38,4	40,6	41,4	41,7	0,2	p.p.
	Female	50,9	50,7	51,0	51,1	50,9	-0,3	p.p.
	Young (15-24)	23,8	20,8	19,2	18,8	17,8	-1,0	p.p.
	Prime age (25-54)	67,4	67,0	67,2	67,6	67,9	0,3	p.p.
	Older (55-64)	21,8	25,0	26,7	27,1	26,2	-0,9	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	3897	3875	3879	3906	3897	-9	Th.
	Male (as % of total)	54,2	54,2	54,2	54,3	54,5	0,2	p.p.
	Female (as % of total)	45,8	45,8	45,8	45,7	45,5	-0,2	p.p.
7	**Employment growth (%) (National accounts)**	1,3	-0,7	0,0	0,7	-0,1		p.p.
	Employment growth (%) (LFS - age 15-64)	1,2	-0,6	0,1	0,7	-0,2		p.p.
	Male	0,6	-0,5	0,0	1,0	0,2		p.p.
	Female	2,0	-0,7	0,3	0,4	-0,7		p.p.
8	**Self employed (% of total employment)**	7,6	7,7	7,3	6,6	6,6	-0,1	p.p.
	Male	9,4	9,5	8,8	8,1	7,8	-0,3	p.p.
	Female	5,4	5,7	5,5	4,9	5,2	0,3	p.p.
9	**Temporary employment (as % total)**	7,5	6,8	7,0	6,7	7,3	0,6	p.p.
	Male	8,3	7,5	7,5	7,3	7,7	0,4	p.p.
	Female	6,6	6,1	6,4	6,0	6,8	0,8	p.p.
10	**Part-time (as % of total employment)**	3,7	4,4	3,9	3,8	3,9	0,1	p.p.
	Male	2,2	3,0	2,4	2,4	2,5	0,1	p.p.
	Female	5,6	6,0	5,6	5,4	5,5	0,1	p.p.
11	**Unemployment rate (Harmonised:15-74)**	5,9	6,1	7,2	7,5	7,4	-0,1	p.p.
	Young (15-24)	13,3	15,5	19,4	19,1	18,0	-1,1	p.p.
	Prime age (25-54)	5,3	5,4	6,4	6,8	6,8	0,0	p.p.
	Older (55-64)	2,8	3,1	3,9	3,9	4,2	0,3	p.p.
	Male	6,1	6,1	7,0	7,2	7,1	-0,1	p.p.
	Young (15-24)	13,8	16,3	19,6	18,5	17,6	-0,9	p.p.
	Prime age (25-54)	5,5	5,3	6,0	6,4	6,5	0,0	p.p.
	Older (55-64)	2,9	3,3	4,2	4,0	4,5	0,5	p.p.
	Female	5,6	6,1	7,4	7,8	7,7	-0,1	p.p.
	Young (15-24)	12,9	14,4	19,1	19,8	18,6	-1,2	p.p.
	Prime age (25-54)	5,0	5,6	6,8	7,2	7,2	0,0	p.p.
	Older (55-64)	2,7	2,8	3,5	3,9	3,9	0,0	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	41,3	44,0	45,1	45,1	46,9	1,8	p.p.
13	**Worked hours (average actual weekly hours)**	40,8	40,6	40,3	40,2	39,9	-0,7	%
	Male	42,3	41,9	41,5	41,3	41,0	-0,7	%
	Female	39,1	39,0	38,8	38,8	38,6	-0,5	%
14	**Sectoral employment growth**							
	Agriculture	-10,8	-4,9	-4,9	-1,2	-3,9		p.p.
	Building and construction	10,9	3,1	1,7	1,5	2,7		p.p.
	Services	3,9	0,5	1,1	1,1	-0,3		p.p.
	Manufacturing industry	-3,6	-3,6	-2,8	-0,6	0,6		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Hungary

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	9,4	11,3	7,4	4,7	8,4	:	:	:	:
Compensation of employees per Hour Worked	11,5	10,3	8,1	6,2	8,9	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	6,1	8,7	7,2	9,0	9,6	10,2	11,9	9,3	7,8
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	6,4	5,5	3,1	1,4	6,8	:	:	:	:
Real unit labour costs deflated by GDP deflator.	0,5	1,1	0,9	-2,3	1,5	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	61,6	62,4	62,6	60,6	61,8	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	30,7	30,6	29,6	30,9	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	69,3	69,4	70,4	69,1	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	65,8	65,7	66,2	65,0	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	50,8	51,8	50,5	51,0	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	45,1	46,4	45,2	45,4	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	28,1	27,8	27,4	26,9	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	2,6	2,8	2,1	4,0	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	2,8	5,5	4,1	3,3	1,5	:	:	:	:
Hourly Labour Productivity	4,3	5,6	4,2	3,5	1,6	:	:	:	:
GDP	4,2	4,8	4,1	3,9	1,3	2,7	1,2	0,9	0,8
ECFIN NAIRU estimate	5,4	5,7	6,2	6,8	7,3	:	:	:	:
Output gap (%)	-0,6	0,4	1,0	1,8	0,2	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	4,7	6,8	3,5	4,0	7,9	8,8	8,5	7,3	7,1
Underlying inflation (exc. energy and unprocessed food)	4,9	6,4	2,7	2,5	6,7	6,7	7,2	6,7	6,2
GDP deflator	5,8	4,4	2,2	3,9	5,2	7,9	5,0	3,2	6,0
Sectoral breakdown of unit labour costs									
Agriculture and fishery	-16,9	-38,7	1,4	6,8	:	:	:	:	:
Industry excluding construction	-5,2	7,1	4,4	-7,9	:	:	:	:	:
of which: manufacturing	-2,5	6,6	1,2	-2,5	1,0	:	:	:	:
Construction	8,5	10,0	9,1	2,6	:	:	:	:	:
Trade, transport and communication	1,7	17,3	1,3	-5,6	:	:	:	:	:
Finance and business services	6,4	-1,1	9,1	-7,6	:	:	:	:	:
Non-market related services	9,2	9,1	5,2	-3,1	:	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	4,8	12,2	8,9	-1,7	14,0	:	:	:	:
Agriculture and fishery	-6,9	-1,3	5,3	0,3	:	:	:	:	:
Industry excluding construction	4,6	15,3	10,7	-2,6	:	:	:	:	:
of which: manufacturing	8,4	14,9	9,5	4,2	7,9	:	:	:	:
Construction	-5,6	10,3	10,9	1,5	:	:	:	:	:
Trade, transport and	6,8	22,9	1,5	0,1	:	:	:	:	:
Finance and business services	0,2	-1,8	16,2	-3,9	:	:	:	:	:
Non-market related services	6,4	9,7	9,9	-3,0	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	12,0	61,1	3,8	-6,1	-10,7	0,0	-7,9	-14,3	-12,9
Industry excluding construction	10,3	7,7	6,0	5,8	6,2	5,4	4,6	7,8	6,5
of which: manufacturing	11,2	7,8	8,2	6,9	6,9	6,7	4,4	7,7	6,1
Construction	-13,0	0,3	1,6	-1,1	-14,1	-8,9	-8,3	-17,8	-15,5
Trade, transport and	5,1	4,8	0,2	6,0	1,8	2,9	0,7	-0,6	3,8
Finance and business services	-5,8	-0,7	6,5	4,0	1,6	2,6	0,7	1,6	0,8
Non-market related services	-2,6	0,5	4,4	0,1	0,6	0,9	0,3	1,7	0,0
Market-related sectors	4,4	8,0	3,7	4,0	1,2	2,6	0,8	-0,1	1,9

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Malta						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	399	400	402	405	407	0,4	%
2	**Population (working age:15-64)**	271	272	274	276	278	0,6	%
	as % of total population	68,0	68,1	68,1	68,2	68,3	0,1	p.p.
3	**Labour force (15-64) 1000 pers.**	159	158	159	163	166	1,3	%
	Male	109	110	109	111	110	-0,4	%
	Female	50	49	50	53	55	4,8	%
4	**Activity rate (as % of population 15-64)**	58,6	58,2	58,2	59,2	59,5	0,4	p.p.
	Young (15-24)	56,4	55,3	54,4	53,3	53,1	-0,2	p.p.
	Prime age (25-54)	65,4	65,3	65,7	68,0	69,0	1,0	p.p.
	Older (55-64)	33,3	32,3	31,9	30,8	29,5	-1,3	p.p.
	Male	80,2	80,2	79,1	79,7	78,9	-0,8	p.p.
	Young (15-24)	58,8	59,9	56,3	57,3	56,5	-0,8	p.p.
	Prime age (25-54)	93,5	93,3	93,2	94,1	94,0	-0,1	p.p.
	Older (55-64)	55,5	54,8	53,1	51,6	47,7	-4,0	p.p.
	Female	36,8	36,0	36,9	38,3	39,9	1,6	p.p.
	Young (15-24)	54,0	50,6	52,4	49,1	49,5	0,4	p.p.
	Prime age (25-54)	36,8	36,8	37,6	41,2	43,3	2,1	p.p.
	Older (55-64)	13,0	12,0	12,5	11,7	12,4	0,7	p.p.
5	**Employment rate (as % of pop. 15-64)**	54,2	54,0	53,9	54,8	55,7	0,8	p.p.
	Young (15-24)	47,2	46,2	45,4	44,7	46,0	1,3	p.p.
	Prime age (25-54)	61,8	62,1	62,4	64,4	65,6	1,3	p.p.
	Older (55-64)	32,6	31,5	30,8	30,1	28,3	-1,8	p.p.
	Male	74,5	75,0	73,8	74,5	74,2	-0,3	p.p.
	Young (15-24)	49,1	50,3	46,6	47,4	47,9	0,6	p.p.
	Prime age (25-54)	88,4	88,8	88,9	89,8	90,1	0,3	p.p.
	Older (55-64)	53,8	53,5	50,8	50,4	46,3	-4,1	p.p.
	Female	33,6	32,7	33,7	34,9	36,9	2,0	p.p.
	Young (15-24)	45,3	41,7	43,9	42,0	44,0	1,9	p.p.
	Prime age (25-54)	34,7	34,8	35,4	38,4	40,6	2,2	p.p.
	Older (55-64)	13,0	11,5	12,5	11,3	11,7	0,4	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	147	147	148	152	155	3	Th.
	Male (as % of total)	69,2	69,8	68,9	68,4	67,1	-1,3	p.p.
	Female (as % of total)	30,8	30,2	31,1	31,6	32,9	1,3	p.p.
7	**Employment growth (%) (National accounts)**	1,0	-0,6	1,3	1,2	2,7		p.p.
	Employment growth (%) (LFS - age 15-64)	0,2	0,0	0,5	2,7	2,1		p.p.
	Male	0,4	0,9	-0,7	1,8	0,3		p.p.
	Female	-0,1	-2,0	3,3	4,6	6,3		p.p.
8	**Self employed (% of total employment)**	9,3	9,3	9,0	9,1	9,0	-0,1	p.p.
	Male	11,0	11,5	11,2	11,4	10,8	-0,5	p.p.
	Female	5,5	4,1	6,0	4,2	5,3	1,1	p.p.
9	**Temporary employment (as % total)**	3,6	3,8	4,5	3,8	5,2	1,4	p.p.
	Male	3,4	3,4	3,6	2,7	3,8	1,1	p.p.
	Female	4,8	5,7	6,2	6,0	8,0	2,0	p.p.
10	**Part-time (as % of total employment)**	8,8	8,3	9,4	9,9	10,9	1,0	p.p.
	Male	3,4	3,7	4,2	4,4	4,0	-0,4	p.p.
	Female	21,1	19,0	20,9	21,8	24,9	3,1	p.p.
11	**Unemployment rate (Harmonised:15-74)**	7,6	7,4	7,3	7,3	6,4	-0,9	p.p.
	Young (15-24)	16,3	16,5	16,6	16,1	13,3	-2,8	p.p.
	Prime age (25-54)	5,5	5,0	5,0	5,3	4,9	-0,5	p.p.
	Older (55-64)	2,2	2,3	3,4	2,4	4,1	1,7	p.p.
	Male	6,9	6,6	6,5	6,5	5,8	-0,7	p.p.
	Young (15-24)	16,5	15,9	17,2	17,3	15,2	-2,2	p.p.
	Prime age (25-54)	5,4	4,8	4,6	4,6	4,2	-0,5	p.p.
	Older (55-64)	3,0	2,3	4,3	2,4	2,9	0,5	p.p.
	Female	9,1	9,0	9,0	8,9	7,6	-1,3	p.p.
	Young (15-24)	16,1	17,6	16,3	14,4	11,1	-3,3	p.p.
	Prime age (25-54)	5,6	5,5	5,9	7,0	6,3	-0,6	p.p.
	Older (55-64)	0,0	3,9	0,0	4,0	5,6	1,6	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	41,6	46,7	46,4	40,2	41,0	0,8	p.p.
13	**Worked hours (average actual weekly hours)**	37,7	40,0	39,2	38,7	38,9	0,5	%
	Male	39,9	41,6	41,2	40,3	41,0	1,7	%
	Female	32,8	36,2	34,4	34,8	34,2	-1,7	%
14	**Sectoral employment growth**							
	Agriculture	:	:	:	:	:		p.p.
	Building and construction	:	:	:	:	:		p.p.
	Services	:	:	:	:	:		p.p.
	Manufacturing industry	:	:	:	:	:		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Malta

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	4,6	1,3	2,0	3,3	1,5	:	:	:	:
Compensation of employees per Hour Worked	5,1	-0,7	4,8	3,6	3,4	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	2,0	7,4	1,9	2,4	1,5	3,1	4,2	-1,8	0,7
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	6,0	0,5	-0,1	1,0	0,5	:	:	:	:
Real unit labour costs deflated by GDP deflator.	3,0	-1,2	-3,0	-1,8	-1,8	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	59,2	60,0	58,3	57,5	56,3	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	7,7	7,9	8,0	6,9	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	92,3	92,1	92,0	93,1	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	23,2	23,6	23,9	24,5	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	23,2	23,6	23,9	24,5	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	7,7	7,9	8,0	6,9	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	-1,3	0,8	2,0	2,2	1,1	:	:	:	:
Hourly Labour Productivity	-0,5	-0,9	4,9	2,5	2,9	:	:	:	:
GDP	-0,3	0,2	3,4	3,4	3,8	3,9	3,5	4,0	3,7
ECFIN NAIRU estimate	7,4	7,3	7,2	7,0	6,7	:	:	:	:
Output gap (%)	-1,4	-3,2	-2,1	-1,0	-0,1	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	1,9	2,7	2,5	2,6	0,7	0,8	-0,9	0,4	2,5
Underlying inflation (exc. energy and unprocessed food)	1,9	2,9	1,9	1,8	0,8	1,2	-0,4	0,2	2,0
GDP deflator	3,0	1,7	3,0	2,9	2,3	2,8	2,1	2,4	1,9
Sectoral breakdown of unit labour costs									
Agriculture and fishery	:	:	:	:	:	:	:	:	:
Industry excluding construction	:	:	:	:	:	:	:	:	:
of which: manufacturing	:	:	:	:	:	:	:	:	:
Construction	:	:	:	:	:	:	:	:	:
Trade, transport and communication	:	:	:	:	:	:	:	:	:
Finance and business services	:	:	:	:	:	:	:	:	:
Non-market related services	:	:	:	:	:	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	0,2	0,7	2,1	3,7	0,9	:	:	:	:
Agriculture and fishery	:	:	:	:	:	:	:	:	:
Industry excluding construction	:	:	:	:	:	:	:	:	:
of which: manufacturing	:	:	:	:	:	:	:	:	:
Construction	:	:	:	:	:	:	:	:	:
Trade, transport and	:	:	:	:	:	:	:	:	:
Finance and business services	:	:	:	:	:	:	:	:	:
Non-market related services	:	:	:	:	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	:	:	:	:	:	:	:	:	:
Industry excluding construction	:	:	:	:	:	:	:	:	:
of which: manufacturing	:	:	:	:	:	:	:	:	:
Construction	:	:	:	:	:	:	:	:	:
Trade, transport and	:	:	:	:	:	:	:	:	:
Finance and business services	:	:	:	:	:	:	:	:	:
Non-market related services	:	:	:	:	:	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Netherlands						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	16037	16119	16107	16142	16180	0,2	%
2	**Population (working age:15-64)**	10920	10960	10943	10964	10986	0,2	%
	as % of total population	68,1	68,0	67,9	67,9	67,9	0,0	p.p.
3	**Labour force (15-64) 1000 pers.**	8350	8398	8414	8484	8622	1,6	%
	Male	4644	4650	4618	4636	4680	0,9	%
	Female	3706	3747	3796	3848	3942	2,4	%
4	**Activity rate (as % of population 15-64)**	76,5	76,6	76,9	77,4	78,5	1,1	p.p.
	Young (15-24)	72,9	71,6	71,0	70,8	72,7	1,9	p.p.
	Prime age (25-54)	85,3	85,9	86,5	87,1	87,6	0,5	p.p.
	Older (55-64)	45,5	46,9	48,1	49,6	52,8	3,2	p.p.
	Male	84,0	83,9	83,7	83,9	84,6	0,7	p.p.
	Young (15-24)	73,5	72,0	71,2	71,5	73,0	1,5	p.p.
	Prime age (25-54)	93,5	93,7	93,8	94,1	94,0	-0,1	p.p.
	Older (55-64)	58,2	59,1	59,5	60,4	64,0	3,6	p.p.
	Female	68,7	69,2	70,0	70,7	72,2	1,5	p.p.
	Young (15-24)	72,3	71,1	70,8	70,1	72,4	2,4	p.p.
	Prime age (25-54)	77,0	78,0	79,0	80,1	81,2	1,2	p.p.
	Older (55-64)	32,6	34,4	36,5	38,6	41,4	2,8	p.p.
5	**Employment rate (as % of pop. 15-64)**	73,6	73,1	73,2	74,3	76,0	1,6	p.p.
	Young (15-24)	68,3	65,9	65,2	66,2	68,4	2,3	p.p.
	Prime age (25-54)	82,6	82,5	82,9	84,2	85,4	1,2	p.p.
	Older (55-64)	44,3	45,2	46,1	47,7	50,9	3,2	p.p.
	Male	81,1	80,2	79,9	80,9	82,2	1,3	p.p.
	Young (15-24)	68,9	66,3	65,5	67,2	68,9	1,7	p.p.
	Prime age (25-54)	90,6	90,2	90,3	91,4	92,1	0,8	p.p.
	Older (55-64)	56,7	56,9	56,9	58,0	61,5	3,6	p.p.
	Female	66,0	65,8	66,4	67,7	69,6	1,9	p.p.
	Young (15-24)	67,8	65,4	64,9	65,1	67,9	2,8	p.p.
	Prime age (25-54)	74,4	74,6	75,5	77,0	78,7	1,7	p.p.
	Older (55-64)	31,8	33,4	35,2	37,2	40,1	2,8	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	8042	8014	8013	8152	8345	193	Th.
	Male (as % of total)	55,7	55,5	55,0	54,8	54,5	-0,4	p.p.
	Female (as % of total)	44,3	44,5	45,0	45,2	45,5	0,4	p.p.
7	**Employment growth (%) (National accounts)**	-0,5	-0,9	0,2	1,8	2,4		p.p.
	Employment growth (%) (LFS - age 15-64)	-0,6	-0,3	0,0	1,7	2,4		p.p.
	Male	-1,2	-0,7	-0,8	1,4	1,7		p.p.
	Female	0,3	0,1	1,0	2,2	3,2		p.p.
8	**Self employed (% of total employment)**	7,1	7,3	7,5	7,8	8,1	0,3	p.p.
	Male	8,0	8,1	8,4	8,8	9,2	0,5	p.p.
	Female	5,9	6,4	6,5	6,7	6,8	0,2	p.p.
9	**Temporary employment (as % total)**	14,4	14,6	15,4	16,4	17,9	1,5	p.p.
	Male	12,7	13,3	14,1	15,2	16,5	1,3	p.p.
	Female	16,3	16,3	16,9	17,9	19,6	1,7	p.p.
10	**Part-time (as % of total employment)**	44,6	45,1	45,7	45,8	46,3	0,6	p.p.
	Male	21,3	21,5	21,8	22,1	22,5	0,4	p.p.
	Female	74,0	74,6	75,0	74,5	74,8	0,3	p.p.
11	**Unemployment rate (Harmonised:15-74)**	3,7	4,6	4,7	3,9	3,2	-0,7	p.p.
	Young (15-24)	6,3	8,0	8,2	6,6	5,9	-0,6	p.p.
	Prime age (25-54)	3,3	4,0	4,1	3,3	2,5	-0,8	p.p.
	Older (55-64)	2,6	3,5	4,1	3,8	3,6	-0,2	p.p.
	Male	3,5	4,3	4,4	3,5	2,8	-0,7	p.p.
	Young (15-24)	6,3	7,9	8,0	6,1	5,6	-0,4	p.p.
	Prime age (25-54)	3,1	3,7	3,8	2,9	2,0	-0,9	p.p.
	Older (55-64)	2,6	3,8	4,4	4,1	3,9	-0,2	p.p.
	Female	3,9	4,8	5,1	4,4	3,6	-0,8	p.p.
	Young (15-24)	6,3	8,1	8,4	7,1	6,2	-0,8	p.p.
	Prime age (25-54)	3,4	4,2	4,5	3,8	3,1	-0,7	p.p.
	Older (55-64)	2,4	2,9	3,6	3,4	3,2	-0,2	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	27,6	34,1	40,3	42,9	39,4	-3,5	p.p.
13	**Worked hours (average actual weekly hours)**	31,5	31,5	31,6	31,9	31,8	-0,4	%
	Male	36,8	36,8	37,0	37,2	37,1	-0,3	%
	Female	24,6	24,5	24,7	25,1	25,1	0,0	%
14	**Sectoral employment growth**							
	Agriculture	-1,6	-2,6	-0,5	-2,0	:		p.p.
	Building and construction	-3,9	-1,8	0,8	3,3	:		p.p.
	Services	0,3	-0,4	0,6	2,3	:		p.p.
	Manufacturing industry	-3,2	-3,1	-2,1	-0,8	-0,2		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Netherlands

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	3,4	3,4	1,0	2,2	2,8	:	:	:	:
Compensation of employees per Hour Worked	4,0	3,2	1,2	2,1	2,9	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	3,8	3,0	2,9	1,1	3,3	1,7	2,3	2,7	5,0
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	2,5	0,2	-0,3	1,1	1,7	:	:	:	:
Real unit labour costs deflated by GDP deflator.	0,3	-0,5	-2,3	-0,8	0,5	:	:	:	:
Wage and salaries	-1,2	0,4	0,8	2,1	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	3,0	1,0	-0,1	1,1	1,6	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	66,9	66,7	65,4	65,1	65,4	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	22,6	23,5	23,1	:	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	77,4	76,5	76,9	:	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	67,1	66,3	66,6	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	37,1	38,8	38,9	44,4	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	34,4	35,9	35,9	41,5	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	20,6	21,4	21,0	:	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	2,0	2,1	2,1	:	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	0,8	3,1	1,3	1,1	1,1	:	:	:	:
Hourly Labour Productivity	1,4	3,3	1,8	1,2	1,1	:	:	:	:
GDP	0,3	2,2	1,5	3,0	3,5	2,5	2,6	4,2	4,5
ECFIN NAIRU estimate	3,0	3,2	3,3	3,2	3,2	:	:	:	:
Output gap (%)	-2,1	-1,6	-2,0	-1,1	0,3	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	2,2	1,4	1,5	1,7	1,6	1,5	1,9	1,3	1,7
Underlying inflation (exc. energy and unprocessed food)	2,1	1,3	0,6	0,8	1,3	1,2	1,6	1,3	1,2
GDP deflator	2,2	0,7	2,1	1,9	1,2	1,7	1,2	1,0	0,8
Sectoral breakdown of unit labour costs									
Agriculture and fishery	-0,7	-8,0	-2,3	1,6	:	:	:	:	:
Industry excluding construction	2,2	-3,0	-0,4	0,7	:	:	:	:	:
of which: manufacturing	1,9	-2,4	-1,4	-0,3	0,1	:	:	:	:
Construction	5,6	5,5	-0,8	1,5	:	:	:	:	:
Trade, transport and communication	-0,8	-0,9	-2,5	-2,1	:	:	:	:	:
Finance and business services	2,4	0,6	0,4	3,9	:	:	:	:	:
Non-market related services	3,8	2,5	1,4	1,8	:	:	:	:	:
Market-related sectors	1,5	-1,6	-1,1	-0,4	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	3,4	3,4	1,0	2,2	2,8	:	:	:	:
Agriculture and fishery	5,2	-0,1	-1,5	2,0	:	:	:	:	:
Industry excluding construction	4,1	3,8	1,1	2,9	:	:	:	:	:
of which: manufacturing	4,1	4,3	0,8	2,8	2,7	:	:	:	:
Construction	4,0	4,3	1,3	2,4	:	:	:	:	:
Trade, transport and	2,5	3,7	1,2	2,4	:	:	:	:	:
Finance and business services	4,6	3,8	0,0	1,3	:	:	:	:	:
Non-market related services	2,9	2,8	1,5	2,2	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	6,0	8,5	0,8	0,3	:	1,6	-1,4	-0,1	1,3
Industry excluding construction	1,9	7,1	1,5	2,2	:	-4,4	-1,1	5,1	9,3
of which: manufacturing	2,2	6,8	2,2	3,1	2,7	4,9	2,5	2,0	0,7
Construction	-1,5	-1,1	2,1	0,9	:	6,1	4,1	4,9	4,0
Trade, transport and	3,3	4,6	3,8	4,6	:	3,0	1,0	2,2	1,3
Finance and business services	2,1	3,2	-0,4	-2,5	:	-0,7	-1,2	0,0	-0,3
Non-market related services	-0,8	0,3	0,1	0,4	:	0,6	0,7	1,2	1,5
Market-related sectors	2,1	4,4	1,6	1,2	:	0,0	-0,1	2,1	2,7

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:	Austria						
	2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1 Population (total) 1000 pers.	7998	8045	8109	8155	8191	0,4	%
2 Population (working age:15-64)	5459	5485	5516	5532	5551	0,3	%
as % of total population	68,3	68,2	68,0	67,8	67,8	-0,1	p.p.
3 Labour force (15-64) 1000 pers.	3933	3911	3994	4077	4148	1,8	%
Male	2171	2141	2177	2215	2257	1,9	%
Female	1762	1770	1816	1862	1891	1,6	%
4 Activity rate (as % of population 15-64)	72,0	71,3	72,4	73,7	74,7	1,0	p.p.
Young (15-24)	55,0	57,4	59,2	59,4	60,8	1,4	p.p.
Prime age (25-54)	87,3	86,3	86,4	87,1	87,4	0,3	p.p.
Older (55-64)	32,0	29,9	33,0	36,8	39,8	3,0	p.p.
Male	79,9	78,5	79,3	80,5	81,7	1,2	p.p.
Young (15-24)	60,3	61,7	63,6	63,9	65,0	1,1	p.p.
Prime age (25-54)	94,6	92,9	92,8	93,2	93,7	0,5	p.p.
Older (55-64)	42,9	40,6	43,0	47,3	51,3	4,0	p.p.
Female	64,3	64,2	65,6	67,0	67,8	0,9	p.p.
Young (15-24)	49,8	53,3	54,8	55,1	56,7	1,6	p.p.
Prime age (25-54)	79,9	79,6	79,9	80,9	81,1	0,2	p.p.
Older (55-64)	21,7	19,9	23,5	26,9	28,9	2,0	p.p.
5 Employment rate (as % of pop. 15-64)	68,9	67,8	68,6	70,2	71,4	1,2	p.p.
Young (15-24)	51,1	51,9	53,1	54,0	55,5	1,5	p.p.
Prime age (25-54)	84,0	82,6	82,6	83,5	84,0	0,5	p.p.
Older (55-64)	30,3	28,8	31,8	35,5	38,6	3,1	p.p.
Male	76,4	74,9	75,4	76,9	78,4	1,5	p.p.
Young (15-24)	55,7	56,0	56,8	58,2	59,6	1,4	p.p.
Prime age (25-54)	91,1	89,4	89,1	89,9	90,6	0,7	p.p.
Older (55-64)	40,4	38,9	41,3	45,3	49,8	4,5	p.p.
Female	61,6	60,7	62,0	63,5	64,4	1,0	p.p.
Young (15-24)	46,5	47,9	49,4	49,9	51,5	1,6	p.p.
Prime age (25-54)	76,9	75,8	76,0	77,0	77,5	0,4	p.p.
Older (55-64)	20,8	19,3	22,9	26,3	28,0	1,7	p.p.
6 Employed persons (age15-64 -Th. pers.)	3763	3716	3786	3881	3963	82	Th.
Male (as % of total)	55,2	55,0	54,7	54,6	54,7	0,1	p.p.
Female (as % of total)	44,8	45,0	45,3	45,4	45,3	-0,1	p.p.
7 Employment growth (%) (National accounts)	0,2	0,6	1,3	1,0	1,9		p.p.
Employment growth (%) (LFS - age 15-64)	2,2	-1,3	1,9	2,5	2,1		p.p.
Male	2,5	-1,6	1,3	2,3	2,3		p.p.
Female	1,9	-0,8	2,6	2,7	1,8		p.p.
8 Self employed (% of total employment)	5,7	7,0	6,9	6,8	6,6	-0,2	p.p.
Male	6,1	7,7	7,3	7,3	6,9	-0,5	p.p.
Female	5,3	6,3	6,4	6,3	6,3	0,0	p.p.
9 Temporary employment (as % total)	6,9	9,7	9,1	9,0	8,9	-0,1	p.p.
Male	7,1	10,2	9,3	9,1	8,9	-0,3	p.p.
Female	6,8	9,0	8,8	9,0	9,0	0,1	p.p.
10 Part-time (as % of total employment)	18,4	19,4	20,8	21,3	21,8	0,6	p.p.
Male	4,3	4,5	5,6	5,8	6,2	0,4	p.p.
Female	35,8	37,7	39,1	39,9	40,7	0,9	p.p.
11 Unemployment rate (Harmonised:15-74)	4,3	4,8	5,2	4,7	4,4	-0,3	p.p.
Young (15-24)	7,0	9,7	10,3	9,1	8,7	-0,4	p.p.
Prime age (25-54)	3,8	4,2	4,4	4,1	3,8	-0,3	p.p.
Older (55-64)	5,3	3,8	3,6	3,6	3,0	-0,6	p.p.
Male	4,0	4,4	4,9	4,4	3,9	-0,5	p.p.
Young (15-24)	7,5	9,3	10,7	8,9	8,3	-0,6	p.p.
Prime age (25-54)	3,7	3,8	4,0	3,6	3,3	-0,2	p.p.
Older (55-64)	5,9	4,2	4,1	4,3	2,9	-1,4	p.p.
Female	4,7	5,3	5,5	5,2	5,0	-0,2	p.p.
Young (15-24)	6,5	10,1	9,9	9,3	9,1	-0,2	p.p.
Prime age (25-54)	3,9	4,8	4,9	4,8	4,5	-0,3	p.p.
Older (55-64)	4,4	3,1	2,7	2,3	3,1	0,8	p.p.
12 Long-term unemployment rate							
(as % of total unemployment)	26,6	27,5	25,2	27,5	26,8	-0,7	p.p.
13 Worked hours (average actual weekly hours)	38,5	39,3	38,7	38,5	38,0	-1,2	%
Male	41,7	43,3	42,7	42,6	42,2	-1,1	%
Female	34,3	34,0	33,5	33,2	32,8	-1,4	%
14 Sectoral employment growth							
Agriculture	-2,1	-3,2	-4,6	-1,7	:		p.p.
Building and construction	4,4	-1,6	2,0	0,9	:		p.p.
Services	0,2	0,9	0,9	2,4	:		p.p.
Manufacturing industry	-1,5	-0,8	-0,1	0,7	0,6		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Austria

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	2,1	0,9	2,3	3,0	2,6	:	:	:	:
Compensation of employees per Hour Worked	1,5	1,0	2,6	2,9	3,0	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	1,5	-1,3	3,1	1,7	3,2	3,3	3,0	3,3	3,5
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	1,1	-0,7	1,6	0,7	1,2	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-0,1	-2,7	-0,2	-1,1	-1,1	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	1,8	-0,4	1,5	1,5	1,3	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	66,3	64,5	64,2	63,2	62,7	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	27,0	27,1	27,0	26,8	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	73,0	72,9	73,0	73,2	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	63,5	63,4	63,5	63,7	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	47,4	48,1	47,9	48,1	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	42,0	43,0	42,9	43,2	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	24,1	24,2	24,2	24,0	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	2,9	2,8	2,8	2,8	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	1,0	1,7	0,7	2,3	1,4	:	:	:	:
Hourly Labour Productivity	0,7	1,4	1,0	2,0	1,6	:	:	:	:
GDP	1,2	2,3	2,0	3,3	3,4	3,6	3,5	3,4	3,1
ECFIN NAIRU estimate	4,3	4,5	4,6	4,5	4,5	:	:	:	:
Output gap (%)	-1,7	-1,4	-1,4	-0,2	0,9	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	1,3	2,0	2,1	1,7	2,2	1,8	1,9	2,0	3,2
Underlying inflation (exc. energy and unprocessed food)	1,3	1,6	1,5	1,3	1,9	1,7	1,8	1,9	2,3
GDP deflator	1,2	2,1	1,8	1,8	2,3	2,4	1,9	2,4	2,6
Sectoral breakdown of unit labour costs									
Agriculture and fishery	:	:	:	:	:	:	:	:	:
Industry excluding construction	:	:	:	:	:	:	:	:	:
of which: manufacturing	1,1	-0,6	-0,1	-4,2	-1,8	:	:	:	:
Construction	:	:	:	:	:	:	:	:	:
Trade, transport and communication	:	:	:	:	:	:	:	:	:
Finance and business services	:	:	:	:	:	:	:	:	:
Non-market related services	:	:	:	:	:	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	2,1	0,9	2,3	3,0	2,7	:	:	:	:
Agriculture and fishery	:	:	:	:	:	:	:	:	:
Industry excluding construction	:	:	:	:	:	:	:	:	:
of which: manufacturing	2,8	2,5	3,2	3,5	4,7	:	:	:	:
Construction	:	:	:	:	:	:	:	:	:
Trade, transport and	:	:	:	:	:	:	:	:	:
Finance and business services	:	:	:	:	:	:	:	:	:
Non-market related services	:	:	:	:	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	:	:	:	:	:	:	:	:	:
Industry excluding construction	:	:	:	:	:	:	:	:	:
of which: manufacturing	1,7	3,1	3,3	8,1	6,6	:	:	:	:
Construction	:	:	:	:	:	:	:	:	:
Trade, transport and	:	:	:	:	:	:	:	:	:
Finance and business services	:	:	:	:	:	:	:	:	:
Non-market related services	:	:	:	:	:	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Poland						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	30952	31123	31258	37446	37277	-0,5	%
2	**Population (working age:15-64)**	26031	26142	26211	26325	26299	-0,1	%
	as % of total population	84,1	84,0	83,9	70,3	70,5	0,2	p.p.
3	**Labour force (15-64) 1000 pers.**	16644	16727	16873	16679	16610	-0,4	%
	Male	9006	9077	9191	9127	9086	-0,5	%
	Female	7638	7651	7682	7552	7524	-0,4	%
4	**Activity rate (as % of population 15-64)**	63,9	64,0	64,4	63,4	63,2	-0,2	p.p.
	Young (15-24)	36,4	35,9	35,7	34,2	33,0	-1,2	p.p.
	Prime age (25-54)	81,4	81,9	82,5	81,7	81,7	0,0	p.p.
	Older (55-64)	30,1	29,6	30,5	30,7	31,8	1,2	p.p.
	Male	70,0	70,1	70,8	70,1	70,0	0,0	p.p.
	Young (15-24)	40,5	39,7	39,5	37,5	36,5	-1,0	p.p.
	Prime age (25-54)	87,1	87,8	88,7	88,2	87,9	-0,2	p.p.
	Older (55-64)	39,7	39,1	40,9	42,6	44,7	2,2	p.p.
	Female	58,0	57,9	58,1	56,8	56,5	-0,3	p.p.
	Young (15-24)	32,2	32,0	31,8	30,7	29,3	-1,4	p.p.
	Prime age (25-54)	75,8	76,0	76,4	75,4	75,6	0,2	p.p.
	Older (55-64)	22,0	21,4	21,5	20,3	20,6	0,3	p.p.
5	**Employment rate (as % of pop. 15-64)**	51,2	51,7	52,8	54,5	57,0	2,6	p.p.
	Young (15-24)	21,2	21,7	22,5	24,0	25,8	1,8	p.p.
	Prime age (25-54)	67,5	68,2	69,6	71,8	74,9	3,2	p.p.
	Older (55-64)	26,9	26,2	27,2	28,1	29,7	1,6	p.p.
	Male	56,5	57,2	58,9	60,9	63,6	2,8	p.p.
	Young (15-24)	23,9	24,8	25,4	26,9	29,2	2,3	p.p.
	Prime age (25-54)	73,0	73,9	76,1	78,3	81,1	2,8	p.p.
	Older (55-64)	35,2	34,1	35,9	38,4	41,4	3,0	p.p.
	Female	46,0	46,2	46,8	48,2	50,6	2,4	p.p.
	Young (15-24)	18,4	18,6	19,6	21,0	22,4	1,4	p.p.
	Prime age (25-54)	62,1	62,6	63,1	65,3	68,8	3,5	p.p.
	Older (55-64)	19,8	19,4	19,7	19,0	19,4	0,4	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	13324	13504	13834	14338	14996	658	Th.
	Male (as % of total)	54,6	54,8	55,2	55,3	55,1	-0,2	p.p.
	Female (as % of total)	45,4	45,2	44,8	44,7	44,9	0,2	p.p.
7	**Employment growth (%) (National accounts)**	-1,2	1,3	2,3	3,3	4,5		p.p.
	Employment growth (%) (LFS - age 15-64)	-1,1	1,3	2,4	3,6	4,6		p.p.
	Male	-1,1	1,8	3,3	3,7	4,2		p.p.
	Female	-1,1	0,8	1,4	3,6	5,1		p.p.
8	**Self employed (% of total employment)**	17,4	16,7	16,0	15,3	14,7	-0,6	p.p.
	Male	20,3	19,3	18,6	17,9	17,2	-0,7	p.p.
	Female	14,0	13,5	12,8	12,2	11,7	-0,6	p.p.
9	**Temporary employment (as % total)**	19,3	22,6	25,6	27,2	28,2	0,9	p.p.
	Male	20,7	23,6	26,4	28,4	28,4	0,1	p.p.
	Female	17,8	21,5	24,6	25,9	27,9	2,0	p.p.
10	**Part-time (as % of total employment)**	9,4	9,8	9,8	8,9	8,5	-0,4	p.p.
	Male	7,2	7,2	7,0	6,2	5,8	-0,4	p.p.
	Female	12,1	12,9	13,3	12,2	11,7	-0,5	p.p.
11	**Unemployment rate (Harmonised:15-74)**	19,6	19,0	17,7	13,8	9,6	-4,2	p.p.
	Young (15-24)	41,9	39,5	36,9	29,8	21,7	-8,1	p.p.
	Prime age (25-54)	17,1	16,7	15,7	12,2	8,4	-3,9	p.p.
	Older (55-64)	10,7	11,4	10,8	8,5	6,8	-1,7	p.p.
	Male	19,0	18,2	16,6	13,0	9,0	-4,0	p.p.
	Young (15-24)	40,9	37,7	35,7	28,3	20,0	-8,3	p.p.
	Prime age (25-54)	16,2	15,8	14,3	11,2	7,7	-3,4	p.p.
	Older (55-64)	11,3	12,6	12,2	9,8	7,4	-2,4	p.p.
	Female	20,4	19,9	19,1	14,9	10,3	-4,6	p.p.
	Young (15-24)	43,1	42,0	38,3	31,6	23,8	-7,8	p.p.
	Prime age (25-54)	18,0	17,7	17,4	13,4	9,0	-4,4	p.p.
	Older (55-64)	9,9	9,4	8,4	6,2	5,7	-0,4	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	56,0	54,1	57,7	56,2	51,2	-5,0	p.p.
13	**Worked hours (average actual weekly hours)**	40,4	40,4	40,3	40,3	40,3	0,0	%
	Male	42,6	42,7	42,5	42,5	42,4	-0,1	%
	Female	37,6	37,5	37,4	37,5	37,6	0,1	%
14	**Sectoral employment growth**							
	Agriculture	-1,2	1,3	2,3	3,3	:		p.p.
	Building and construction	-1,2	1,3	2,3	3,2	:		p.p.
	Services	-1,2	1,3	2,3	3,3	:		p.p.
	Manufacturing industry	-0,8	2,1	3,2	3,3	5,9		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Poland

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	1,7	1,8	1,6	1,9	8,1	:	:	:	:
Compensation of employees per Hour Worked	2,7	2,6	2,3	4,1	9,5	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	3,5	3,5	3,7	5,9	11,3	10,0	11,0	11,8	11,9
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	-3,2	-2,1	0,3	-1,0	6,1	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-3,6	-6,0	-2,3	-2,4	3,0	:	:	:	:
Wage and salaries	2,4	4,2	4,2	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	60,2	56,0	55,3	54,4	56,1	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	:	19,8	19,8	:	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	:	80,2	80,2	:	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	:	74,2	74,2	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	43,1	43,3	43,6	43,7	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	43,1	43,3	43,6	43,7	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	:	16,6	16,6	:	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	:	3,3	3,3	:	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	5,1	4,0	1,3	2,9	1,9	:	:	:	:
Hourly Labour Productivity	4,9	4,0	0,7	3,4	2,0	:	:	:	:
GDP	3,9	5,3	3,6	6,2	6,5	6,8	6,7	5,8	7,2
ECFIN NAIRU estimate	18,2	17,7	16,3	14,1	11,5	:	:	:	:
Output gap (%)	-1,0	0,4	-0,4	0,6	1,2	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	0,7	3,6	2,2	1,3	2,6	2,0	2,3	2,4	3,7
Underlying inflation (exc. energy and unprocessed food)	0,6	2,8	1,2	0,6	2,0	1,2	1,7	2,2	3,0
GDP deflator	0,4	4,1	2,6	1,5	3,0	3,2	3,3	4,2	2,2
Sectoral breakdown of unit labour costs									
Agriculture and fishery	-41,7	-1,4	15,2	-3,6	:	:	:	:	:
Industry excluding construction	-17,6	-7,6	12,8	-2,5	:	:	:	:	:
of which: manufacturing	-9,6	-6,7	-1,7	-11,4	5,4	:	:	:	:
Construction	-20,8	-0,9	10,9	2,5	:	:	:	:	:
Trade, transport and communication	-9,8	-8,0	12,9	7,1	:	:	:	:	:
Finance and business services	-16,8	-0,3	12,6	10,5	:	:	:	:	:
Non-market related services	-11,4	0,1	18,2	7,3	:	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	-9,5	1,0	16,6	7,9	11,3	:	:	:	:
Agriculture and fishery	2,0	5,8	14,1	-6,5	:	:	:	:	:
Industry excluding construction	-9,7	1,4	15,9	6,0	:	:	:	:	:
of which: manufacturing	0,7	3,0	-0,8	-0,1	9,0	:	:	:	:
Construction	-16,0	8,2	19,0	6,3	:	:	:	:	:
Trade, transport and	-9,1	-2,7	15,5	10,1	:	:	:	:	:
Finance and business services	-15,4	2,0	14,9	12,5	:	:	:	:	:
Non-market related services	-6,7	1,3	18,3	7,8	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	74,9	7,3	-1,0	-3,0	:	:	:	:	:
Industry excluding construction	9,6	9,7	2,8	8,7	:	:	:	:	:
of which: manufacturing	11,4	10,4	0,9	12,8	3,5	:	:	:	:
Construction	6,1	9,2	7,3	3,8	:	:	:	:	:
Trade, transport and	0,8	5,8	2,3	2,8	:	:	:	:	:
Finance and business services	1,7	2,3	2,0	1,8	:	:	:	:	:
Non-market related services	5,4	1,1	0,2	0,5	:	:	:	:	:
Market-related sectors	22,2	6,6	2,9	4,8	:	:	:	:	:

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Portugal						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	10435	10504	10563	10586	10604	0,2	%
2	**Population (working age:15-64)**	7038	7084	7114	7116	7135	0,3	%
	as % of total population	67,4	67,4	67,4	67,2	67,3	0,1	p.p.
3	**Labour force (15-64) 1000 pers.**	5133	5170	5222	5258	5284	0,5	%
	Male	2759	2768	2778	2796	2801	0,2	%
	Female	2374	2403	2443	2462	2484	0,9	%
4	**Activity rate (as % of population 15-64)**	72,9	73,0	73,4	73,9	74,1	0,2	p.p.
	Young (15-24)	45,4	43,8	43,0	42,7	41,9	-0,8	p.p.
	Prime age (25-54)	85,9	86,3	87,1	87,7	87,8	0,1	p.p.
	Older (55-64)	54,0	53,2	53,8	53,5	54,4	1,0	p.p.
	Male	79,6	79,1	79,0	79,5	79,4	-0,1	p.p.
	Young (15-24)	49,2	47,9	47,0	46,6	45,3	-1,3	p.p.
	Prime age (25-54)	92,3	92,2	92,4	92,9	92,8	0,0	p.p.
	Older (55-64)	65,2	62,8	62,4	62,7	63,0	0,3	p.p.
	Female	66,5	67,0	67,9	68,4	68,8	0,4	p.p.
	Young (15-24)	41,5	39,5	38,8	38,7	38,4	-0,3	p.p.
	Prime age (25-54)	79,7	80,6	81,8	82,7	82,8	0,1	p.p.
	Older (55-64)	44,0	44,8	46,1	45,1	46,7	1,6	p.p.
5	**Employment rate (as % of pop. 15-64)**	68,1	67,8	67,5	67,9	67,8	-0,1	p.p.
	Young (15-24)	38,8	37,1	36,1	35,8	34,9	-0,8	p.p.
	Prime age (25-54)	80,9	81,1	80,8	81,3	81,0	-0,3	p.p.
	Older (55-64)	51,6	50,3	50,5	50,1	50,9	0,8	p.p.
	Male	75,0	74,2	73,4	73,9	73,8	-0,1	p.p.
	Young (15-24)	43,1	41,5	40,5	39,8	39,1	-0,7	p.p.
	Prime age (25-54)	87,8	87,4	86,7	87,4	87,2	-0,3	p.p.
	Older (55-64)	62,1	59,1	58,1	58,2	58,6	0,4	p.p.
	Female	61,4	61,7	61,7	62,0	61,9	-0,1	p.p.
	Young (15-24)	34,4	32,5	31,4	31,6	30,6	-1,0	p.p.
	Prime age (25-54)	74,3	74,9	74,9	75,3	74,9	-0,4	p.p.
	Older (55-64)	42,4	42,5	43,7	42,8	44,0	1,2	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	4792	4806	4800	4830	4837	6	Th.
	Male (as % of total)	54,2	54,0	53,8	53,9	53,9	0,0	p.p.
	Female (as % of total)	45,8	46,0	46,2	46,2	46,1	0,0	p.p.
7	**Employment growth (%) (National accounts)**	-0,4	0,1	0,0	0,7	0,2		p.p.
	Employment growth (%) (LFS - age 15-64)	-0,4	0,3	-0,1	0,6	0,1		p.p.
	Male	-1,3	-0,1	-0,6	0,8	0,1		p.p.
	Female	0,6	0,8	0,4	0,4	0,1		p.p.
8	**Self employed (% of total employment)**	15,1	14,4	14,1	13,6	13,5	-0,1	p.p.
	Male	14,6	14,1	13,5	13,2	13,6	0,4	p.p.
	Female	15,7	14,7	14,7	14,0	13,4	-0,6	p.p.
9	**Temporary employment (as % total)**	20,6	19,9	19,6	20,6	22,4	1,8	p.p.
	Male	19,0	18,7	18,7	19,6	21,8	2,2	p.p.
	Female	22,4	21,2	20,5	21,7	23,1	1,3	p.p.
10	**Part-time (as % of total employment)**	8,7	8,2	8,2	8,1	8,8	0,7	p.p.
	Male	4,2	3,9	3,8	4,1	4,7	0,5	p.p.
	Female	14,0	13,2	13,2	12,7	13,6	0,9	p.p.
11	**Unemployment rate (Harmonised:15-74)**	6,3	6,7	7,6	7,7	8,0	0,3	p.p.
	Young (15-24)	14,5	15,3	16,1	16,3	16,6	0,3	p.p.
	Prime age (25-54)	5,8	6,1	7,3	7,3	7,8	0,4	p.p.
	Older (55-64)	4,3	5,6	6,2	6,3	6,5	0,2	p.p.
	Male	5,5	5,8	6,7	6,5	6,6	0,1	p.p.
	Young (15-24)	12,4	13,5	13,6	14,5	13,5	-1,0	p.p.
	Prime age (25-54)	4,9	5,1	6,2	5,8	6,1	0,3	p.p.
	Older (55-64)	4,7	5,9	6,9	7,3	7,1	-0,1	p.p.
	Female	7,2	7,6	8,7	9,0	9,6	0,6	p.p.
	Young (15-24)	17,0	17,6	19,1	18,4	20,3	1,9	p.p.
	Prime age (25-54)	6,7	7,1	8,4	9,0	9,6	0,6	p.p.
	Older (55-64)	3,7	5,1	5,3	5,2	5,8	0,6	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	34,9	44,2	48,1	50,2	47,1	-3,2	p.p.
13	**Worked hours (average actual weekly hours)**	38,2	38,4	38,4	38,3	38,0	-0,9	%
	Male	40,0	40,2	40,2	40,0	39,6	-0,9	%
	Female	36,0	36,1	36,3	36,3	36,0	-1,0	%
14	**Sectoral employment growth**							
	Agriculture	0,8	-3,7	-1,9	-0,4	:		p.p.
	Building and construction	-5,6	-6,1	1,1	-0,2	:		p.p.
	Services	1,8	3,0	1,4	1,0	:		p.p.
	Manufacturing industry	-3,2	-1,6	-3,4	1,2	-2,7		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Portugal

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	2,8	2,6	2,9	2,4	2,1	:	:	:	:
Compensation of employees per Hour Worked	4,5	2,8	4,4	3,5	1,7	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	2,4	3,3	2,0	1,7	3,9	2,9	3,7	4,0	4,7
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	3,2	1,2	2,0	1,8	0,4	:	:	:	:
Real unit labour costs deflated by GDP deflator.	0,1	-1,2	-0,6	-1,0	-2,5	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	4,2	2,0	2,7	2,2	1,0	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	74,6	73,3	73,6	73,2	71,3	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	21,9	22,5	22,5	22,5	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	78,1	77,5	77,5	77,5	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	71,5	71,6	71,6	71,6	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	37,0	37,1	36,5	36,5	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	34,5	34,5	34,0	34,0	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	20,7	21,2	21,2	21,2	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	1,1	1,3	1,3	1,3	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	-0,4	1,4	0,9	0,6	1,7	:	:	:	:
Hourly Labour Productivity	1,2	0,4	1,5	0,3	1,4	:	:	:	:
GDP	-0,8	1,5	0,9	1,3	1,9	:	:	:	:
ECFIN NAIRU estimate	5,9	6,1	6,5	6,8	7,2	:	:	:	:
Output gap (%)	-1,3	-1,3	-1,7	-1,6	-1,1	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	3,3	2,5	2,1	3,0	2,4	2,4	2,5	2,1	2,7
Underlying inflation (exc. energy and unprocessed food)	3,3	2,6	1,7	2,4	2,2	2,0	2,4	2,1	2,4
GDP deflator	3,2	2,4	2,5	2,7	3,0	:	:	:	:
Sectoral breakdown of unit labour costs									
Agriculture and fishery	:	:	:	:	:	:	:	:	:
Industry excluding construction	:	:	:	:	:	:	:	:	:
of which: manufacturing	3,1	3,4	0,4	2,3	-1,9	:	:	:	:
Construction	:	:	:	:	:	:	:	:	:
Trade, transport and communication	:	:	:	:	:	:	:	:	:
Finance and business services	:	:	:	:	:	:	:	:	:
Non-market related services	:	:	:	:	:	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	3,5	2,6	3,5	3,0	2,4	:	:	:	:
Agriculture and fishery	:	:	:	:	:	:	:	:	:
Industry excluding construction	:	:	:	:	:	:	:	:	:
of which: manufacturing	5,4	5,3	2,9	2,8	3,9	:	:	:	:
Construction	:	:	:	:	:	:	:	:	:
Trade, transport and	:	:	:	:	:	:	:	:	:
Finance and business services	:	:	:	:	:	:	:	:	:
Non-market related services	:	:	:	:	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-3,3	10,1	-4,0	8,2	-3,5	:	:	:	:
Industry excluding construction	3,2	3,3	1,7	1,4	4,0	:	:	:	:
of which: manufacturing	2,2	1,9	2,5	0,5	5,9	:	:	:	:
Construction	-4,8	1,3	0,8	-2,9	-1,0	:	:	:	:
Trade, transport and	-2,7	0,9	0,2	0,7	2,8	:	:	:	:
Finance and business services	1,2	-1,0	-0,8	2,3	-2,6	:	:	:	:
Non-market related services	0,8	0,1	1,0	-1,3	1,4	:	:	:	:
Market-related sectors	0,0	2,3	1,1	1,7	1,9	:	:	:	:

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Slovenia						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	1996	1997	1999	2006	2015	0,4	%
2	**Population (working age:15-64)**	1405	1405	1402	1407	1412	0,4	%
	as % of total population	70,4	70,4	70,1	70,1	70,1	-0,1	p.p.
3	**Labour force (15-64) 1000 pers.**	943	981	991	997	1007	0,9	%
	Male	512	530	535	537	547	1,9	%
	Female	431	450	456	461	460	-0,2	%
4	**Activity rate (as % of population 15-64)**	67,1	69,8	70,7	70,9	71,3	0,4	p.p.
	Young (15-24)	35,2	40,4	40,5	40,6	41,8	1,2	p.p.
	Prime age (25-54)	87,5	88,6	88,8	89,0	89,3	0,3	p.p.
	Older (55-64)	24,3	29,9	32,1	33,4	34,6	1,2	p.p.
	Male	72,0	74,5	75,1	74,9	75,8	0,9	p.p.
	Young (15-24)	39,9	45,1	44,5	44,4	47,6	3,2	p.p.
	Prime age (25-54)	90,6	91,0	91,1	91,0	91,3	0,2	p.p.
	Older (55-64)	34,5	42,5	45,4	45,8	46,7	0,9	p.p.
	Female	62,1	65,0	66,1	66,7	66,6	-0,1	p.p.
	Young (15-24)	30,3	35,3	36,3	36,4	35,4	-1,0	p.p.
	Prime age (25-54)	84,3	86,1	86,4	87,0	87,3	0,3	p.p.
	Older (55-64)	15,0	18,1	18,9	21,4	23,1	1,6	p.p.
5	**Employment rate (as % of pop. 15-64)**	62,6	65,3	66,0	66,6	67,8	1,2	p.p.
	Young (15-24)	29,1	33,8	34,1	35,0	37,6	2,6	p.p.
	Prime age (25-54)	82,5	83,8	83,8	84,2	85,4	1,1	p.p.
	Older (55-64)	23,5	29,0	30,7	32,6	33,4	0,9	p.p.
	Male	67,4	70,0	70,4	71,1	72,7	1,6	p.p.
	Young (15-24)	33,7	38,8	38,1	39,2	43,2	4,0	p.p.
	Prime age (25-54)	85,7	86,4	86,4	87,1	88,1	1,1	p.p.
	Older (55-64)	33,2	40,9	43,1	44,5	45,2	0,7	p.p.
	Female	57,6	60,5	61,3	61,8	62,6	0,8	p.p.
	Young (15-24)	24,3	28,6	29,8	30,3	31,4	1,2	p.p.
	Prime age (25-54)	79,3	81,2	81,1	81,2	82,4	1,2	p.p.
	Older (55-64)	14,7	17,8	18,5	20,9	22,2	1,2	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	879	917	925	937	957	20	Th.
	Male (as % of total)	54,5	54,3	54,3	54,4	54,8	0,4	p.p.
	Female (as % of total)	45,5	45,7	45,7	45,6	45,2	-0,4	p.p.
7	**Employment growth (%) (National accounts)**	-0,4	0,3	0,2	1,2	2,7		p.p.
	Employment growth (%) (LFS - age 15-64)	-1,1	4,4	0,8	1,3	2,2		p.p.
	Male	-1,0	4,0	0,7	1,5	2,9		p.p.
	Female	-1,3	4,9	1,0	1,0	1,3		p.p.
8	**Self employed (% of total employment)**	6,2	5,9	6,1	6,8	6,7	-0,1	p.p.
	Male	8,3	7,8	8,2	9,5	8,8	-0,7	p.p.
	Female	3,6	3,6	3,5	3,6	4,1	0,5	p.p.
9	**Temporary employment (as % total)**	13,6	17,6	17,2	17,1	18,4	1,3	p.p.
	Male	12,4	16,4	15,4	15,2	16,3	1,1	p.p.
	Female	14,9	18,9	19,2	19,1	20,7	1,6	p.p.
10	**Part-time (as % of total employment)**	5,5	7,9	7,8	8,0	8,1	0,0	p.p.
	Male	4,4	6,5	6,1	6,0	6,5	0,4	p.p.
	Female	6,8	9,7	9,8	10,4	10,0	-0,4	p.p.
11	**Unemployment rate (Harmonised:15-74)**	6,7	6,3	6,5	6,0	4,8	-1,2	p.p.
	Young (15-24)	17,3	16,2	16,0	13,9	10,1	-3,7	p.p.
	Prime age (25-54)	5,7	5,4	5,6	5,4	4,4	-1,0	p.p.
	Older (55-64)	3,3	3,2	4,2	2,6	3,3	0,7	p.p.
	Male	6,3	5,8	6,1	4,9	4,0	-0,9	p.p.
	Young (15-24)	15,5	13,9	14,6	11,6	9,3	-2,3	p.p.
	Prime age (25-54)	5,4	5,1	5,2	4,4	3,4	-0,9	p.p.
	Older (55-64)	3,8	3,8	5,0	2,7	3,1	0,4	p.p.
	Female	7,1	6,8	7,0	7,2	5,8	-1,4	p.p.
	Young (15-24)	19,8	19,1	17,8	16,9	11,2	-5,7	p.p.
	Prime age (25-54)	6,0	5,8	6,2	6,6	5,6	-1,0	p.p.
	Older (55-64)	2,0	1,7	2,4	2,3	3,8	1,6	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	53,0	51,4	47,5	49,4	45,6	-3,8	p.p.
13	**Worked hours (average actual weekly hours)**	40,8	40,2	40,2	39,5	39,6	0,2	%
	Male	41,8	41,3	41,4	40,5	40,6	0,2	%
	Female	39,6	38,9	38,7	38,2	38,2	0,0	%
14	**Sectoral employment growth**							
	Agriculture	-3,5	-2,5	-2,6	-3,0	-2,7		p.p.
	Building and construction	-0,1	-1,6	4,4	6,7	10,8		p.p.
	Services	1,2	1,8	1,2	2,6	3,5		p.p.
	Manufacturing industry	-2,2	-0,8	-2,0	-1,7	0,8		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Slovenia

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	7,9	7,8	5,3	5,5	6,2	:	:	:	:
Compensation of employees per Hour Worked	7,9	10,1	5,3	4,7	6,7	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	8,1	7,3	5,0	6,3	5,4	4,8	5,7	7,3	4,2
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	4,5	3,5	1,3	0,9	2,8	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-1,1	0,2	-0,3	-1,0	-1,0	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	73,4	73,4	73,1	71,8	71,0	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	19,3	17,5	17,8	17,4	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	80,7	82,5	82,2	82,6	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	65,3	65,8	65,6	65,9	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	42,5	42,6	42,4	44,0	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	40,1	40,2	39,2	38,6	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	14,3	13,0	13,2	13,4	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	5,0	4,5	4,6	4,0	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	3,2	4,1	4,0	4,5	3,3	:	:	:	:
Hourly Labour Productivity	2,8	6,3	3,7	3,5	3,3	:	:	:	:
GDP	2,8	4,4	4,1	5,7	6,1	7,2	6,0	6,4	4,7
ECFIN NAIRU estimate	6,1	5,9	5,7	5,5	5,3	:	:	:	:
Output gap (%)	-1,8	-1,4	-1,3	0,2	1,4	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	5,7	3,7	2,5	2,5	3,8	2,6	3,2	3,7	5,5
Underlying inflation (exc. energy and unprocessed food)	6,3	3,7	1,3	1,5	3,4	2,6	2,6	3,7	4,5
GDP deflator	5,6	3,3	1,7	2,0	3,9	4,0	3,5	4,2	3,8
Sectoral breakdown of unit labour costs									
Agriculture and fishery	12,5	-9,2	2,7	6,0	:	:	:	:	:
Industry excluding construction	-2,6	1,2	0,0	-4,0	:	:	:	:	:
of which: manufacturing	0,6	3,6	0,2	-3,9	-0,7	:	:	:	:
Construction	2,9	8,5	6,2	-2,4	:	:	:	:	:
Trade, transport and communication	-0,6	3,2	0,5	0,9	:	:	:	:	:
Finance and business services	3,9	1,2	1,1	6,5	:	:	:	:	:
Non-market related services	2,6	2,5	0,9	3,5	:	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	4,3	5,4	5,1	5,4	6,1	:	:	:	:
Agriculture and fishery	-2,2	7,7	0,4	5,4	:	:	:	:	:
Industry excluding construction	4,5	6,2	5,8	5,9	:	:	:	:	:
of which: manufacturing	8,3	8,4	5,9	6,0	6,8	:	:	:	:
Construction	6,1	10,2	6,5	6,2	:	:	:	:	:
Trade, transport and	3,2	7,3	4,7	5,7	:	:	:	:	:
Finance and business services	3,8	3,4	6,1	5,5	:	:	:	:	:
Non-market related services	3,4	3,2	2,9	3,9	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-13,1	18,6	-2,2	-0,5	-1,5	0,2	-0,7	-1,3	-2,5
Industry excluding construction	7,3	4,9	5,8	10,3	6,8	9,3	7,2	6,8	4,9
of which: manufacturing	7,6	4,6	5,6	10,4	7,5	10,1	7,8	6,9	:
Construction	3,1	1,6	0,3	8,8	6,9	17,1	13,7	5,4	-3,8
Trade, transport and	3,9	4,0	4,2	4,8	2,0	3,2	2,3	2,2	0,5
Finance and business services	-0,1	2,2	5,0	-0,9	0,0	-0,9	-0,6	1,1	-0,1
Non-market related services	0,8	0,7	2,0	0,4	0,1	0,8	0,7	0,5	0,3
Market-related sectors	3,9	4,9	4,5	6,1	3,9	5,8	4,6	4,2	1,8

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Slovak Republic						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	5389	5370	5379	5389	5391	0,0	%
2	**Population (working age:15-64)**	3733	3792	3824	3862	3873	0,3	%
	as % of total population	69,3	70,6	71,1	71,7	71,8	0,2	p.p.
3	**Labour force (15-64) 1000 pers.**	2614	2642	2636	2650	2646	-0,2	%
	Male	1417	1437	1452	1468	1464	-0,3	%
	Female	1198	1205	1184	1182	1182	0,0	%
4	**Activity rate (as % of population 15-64)**	70,0	69,7	68,9	68,6	68,3	-0,3	p.p.
	Young (15-24)	41,1	39,3	36,7	35,3	34,6	-0,7	p.p.
	Prime age (25-54)	89,5	88,9	88,0	87,6	86,9	-0,7	p.p.
	Older (55-64)	28,5	31,7	35,0	36,7	38,8	2,2	p.p.
	Male	76,7	76,5	76,5	76,4	75,9	-0,5	p.p.
	Young (15-24)	44,9	42,9	40,7	39,7	38,9	-0,8	p.p.
	Prime age (25-54)	94,1	93,8	93,8	94,0	93,1	-0,9	p.p.
	Older (55-64)	48,1	51,9	55,1	55,2	57,0	1,8	p.p.
	Female	63,5	63,0	61,5	60,9	60,8	-0,2	p.p.
	Young (15-24)	37,2	35,7	32,4	30,8	30,2	-0,6	p.p.
	Prime age (25-54)	84,8	84,1	82,1	81,2	80,7	-0,6	p.p.
	Older (55-64)	12,4	14,8	18,1	20,9	23,3	2,4	p.p.
5	**Employment rate (as % of pop. 15-64)**	57,7	57,0	57,7	59,4	60,7	1,3	p.p.
	Young (15-24)	27,4	26,3	25,6	25,9	27,6	1,7	p.p.
	Prime age (25-54)	76,0	74,7	75,3	77,2	78,0	0,8	p.p.
	Older (55-64)	24,6	26,8	30,3	33,1	35,6	2,6	p.p.
	Male	63,3	63,2	64,6	67,0	68,4	1,4	p.p.
	Young (15-24)	29,3	28,0	28,1	29,2	30,9	1,7	p.p.
	Prime age (25-54)	80,5	80,0	81,4	84,1	85,0	0,9	p.p.
	Older (55-64)	41,0	43,8	47,8	49,8	52,5	2,8	p.p.
	Female	52,2	50,9	50,9	51,9	53,0	1,1	p.p.
	Young (15-24)	25,4	24,6	23,1	22,5	24,1	1,6	p.p.
	Prime age (25-54)	71,5	69,3	69,2	70,2	71,0	0,7	p.p.
	Older (55-64)	11,2	12,6	15,6	18,9	21,2	2,3	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	2154	2160	2207	2295	2350	55	Th.
	Male (as % of total)	54,3	54,9	55,6	56,1	56,1	0,0	p.p.
	Female (as % of total)	45,7	45,1	44,4	43,9	43,9	0,0	p.p.
7	**Employment growth (%) (National accounts)**	1,1	-0,2	1,4	2,3	2,1		p.p.
	Employment growth (%) (LFS - age 15-64)	1,7	0,3	2,2	4,0	2,4		p.p.
	Male	1,8	1,4	3,4	4,9	2,4		p.p.
	Female	1,6	-1,1	0,6	2,8	2,4		p.p.
8	**Self employed (% of total employment)**	6,8	8,5	9,3	9,4	9,7	0,2	p.p.
	Male	9,1	11,4	12,8	12,6	13,2	0,6	p.p.
	Female	4,1	5,0	5,0	5,4	5,2	-0,2	p.p.
9	**Temporary employment (as % total)**	4,7	5,4	4,9	5,0	5,0	0,0	p.p.
	Male	5,0	5,8	5,0	4,9	4,9	0,0	p.p.
	Female	4,4	4,9	4,8	5,0	5,1	0,1	p.p.
10	**Part-time (as % of total employment)**	2,2	2,5	2,4	2,7	2,5	-0,2	p.p.
	Male	1,1	1,3	1,2	1,2	1,0	-0,2	p.p.
	Female	3,6	4,0	3,9	4,5	4,3	-0,2	p.p.
11	**Unemployment rate (Harmonised:15-74)**	17,6	18,2	16,3	13,4	11,1	-2,3	p.p.
	Young (15-24)	33,4	33,1	30,1	26,6	20,3	-6,3	p.p.
	Prime age (25-54)	15,1	16,1	14,5	11,9	10,2	-1,7	p.p.
	Older (55-64)	13,5	15,4	13,4	9,8	8,2	-1,6	p.p.
	Male	17,4	17,4	15,5	12,3	9,9	-2,4	p.p.
	Young (15-24)	34,8	34,7	31,0	26,4	20,4	-6,0	p.p.
	Prime age (25-54)	14,5	14,7	13,3	10,5	8,6	-1,8	p.p.
	Older (55-64)	14,7	15,6	13,2	9,9	7,8	-2,1	p.p.
	Female	17,7	19,2	17,2	14,7	12,7	-2,0	p.p.
	Young (15-24)	31,7	31,1	28,8	27,0	20,2	-6,7	p.p.
	Prime age (25-54)	15,7	17,6	15,8	13,5	12,0	-1,5	p.p.
	Older (55-64)	9,9	15,0	14,0	9,5	9,0	-0,5	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	65,2	64,8	72,1	76,4	74,3	-2,1	p.p.
13	**Worked hours (average actual weekly hours)**	40,6	40,8	41,0	40,1	40,3	0,4	%
	Male	41,4	41,8	42,0	41,3	41,5	0,5	%
	Female	39,6	39,5	39,7	38,6	38,7	0,2	%
14	**Sectoral employment growth**							
	Agriculture	-9,7	0,8	-1,9	-8,1	-5,8		p.p.
	Building and construction	6,9	3,6	3,2	2,9	8,1		p.p.
	Services	1,3	-0,2	2,5	3,7	1,7		p.p.
	Manufacturing industry	2,0	-0,9	-0,8	1,0	3,2		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Slovak Republic

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	8,2	8,4	9,7	7,9	8,3	:	:	:	:
Compensation of employees per Hour Worked	10,6	2,8	6,6	8,6	6,4	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	9,8	5,8	8,5	7,4	7,6	6,6	8,2	7,7	8,1
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	4,4	2,8	4,3	1,7	0,2	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-0,9	-2,9	1,9	-1,2	-0,9	:	:	:	:
Wage and salaries	11,0	9,4	8,8	10,3	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	48,2	46,7	48,0	46,8	46,5	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	26,4	26,3	24,7	25,0	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	73,6	73,7	75,3	75,0	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	61,9	62,8	65,1	64,5	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	42,9	42,5	38,3	38,5	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	40,3	38,1	33,8	34,1	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	25,5	25,1	23,7	24,1	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	0,9	1,2	0,9	0,9	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	3,6	5,5	5,1	6,1	8,1	:	:	:	:
Hourly Labour Productivity	7,3	2,4	3,0	6,8	6,4	:	:	:	:
GDP	4,8	5,2	6,6	8,5	10,4	8,3	9,3	9,4	14,3
ECFIN NAIRU estimate	16,5	15,5	14,3	12,9	12,0	:	:	:	:
Output gap (%)	-3,2	-3,4	-3,2	-1,6	1,9	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	8,4	7,5	2,8	4,3	1,9	2,1	1,7	1,4	2,4
Underlying inflation (exc. energy and unprocessed food)	7,4	6,5	1,7	2,1	1,9	1,9	1,7	1,6	2,5
GDP deflator	5,3	5,9	2,4	2,9	1,1	3,4	1,3	2,4	-2,4
Sectoral breakdown of unit labour costs									
Agriculture and fishery	1,9	0,0	7,8	4,7	27,6	:	:	:	:
Industry excluding construction	-2,5	-3,9	2,3	2,6	5,1	:	:	:	:
of which: manufacturing	-4,8	-4,3	-5,0	0,1	-8,0	:	:	:	:
Construction	41,2	14,3	-4,5	-0,1	16,3	:	:	:	:
Trade, transport and communication	8,9	1,8	11,8	2,7	9,8	:	:	:	:
Finance and business services	14,7	20,3	18,0	3,9	23,6	:	:	:	:
Non-market related services	8,5	28,9	15,2	10,0	4,3	:	:	:	:
Market-related sectors	5,5	-0,4	1,0	-1,4	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	11,3	12,4	13,7	11,9	19,4	:	:	:	:
Agriculture and fishery	19,0	2,0	22,0	29,2	8,2	:	:	:	:
Industry excluding construction	11,9	12,2	10,5	12,5	22,5	:	:	:	:
of which: manufacturing	8,8	7,9	6,9	7,9	10,9	:	:	:	:
Construction	15,0	12,9	12,1	11,5	12,4	:	:	:	:
Trade, transport and	10,3	10,9	13,7	7,6	17,3	:	:	:	:
Finance and business services	3,8	14,5	11,1	17,7	20,3	:	:	:	:
Non-market related services	12,2	13,4	17,3	10,4	20,5	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	16,8	2,0	13,2	23,3	-15,2	-13,0	-12,0	-14,6	-21,7
Industry excluding construction	14,8	16,7	7,9	9,7	16,6	14,3	17,7	15,5	18,7
of which: manufacturing	14,4	12,7	12,5	7,8	20,5	22,8	20,6	19,2	19,9
Construction	-18,6	-1,3	17,4	11,5	-3,4	5,7	-2,0	-6,5	-9,0
Trade, transport and	1,2	9,0	1,7	4,7	6,8	16,6	9,8	1,2	1,4
Finance and business services	-9,4	-4,9	-5,9	13,2	-2,7	-16,2	-8,9	14,8	3,2
Non-market related services	3,5	-12,0	1,8	0,4	15,6	17,5	15,7	17,3	13,0
Market-related sectors	3,0	8,8	4,5	8,9	7,0	6,9	7,8	6,6	6,4

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Finland						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	5192	5205	5224	5242	5266	0,5	%
2	**Population (working age:15-64)**	3464	3467	3476	3484	3497	0,4	%
	as % of total population	66,7	66,6	66,5	66,5	66,4	-0,1	p.p.
3	**Labour force (15-64) 1000 pers.**	2580	2574	2597	2620	2642	0,8	%
	Male	1337	1332	1338	1350	1358	0,6	%
	Female	1243	1242	1259	1270	1284	1,1	%
4	**Activity rate (as % of population 15-64)**	74,5	74,2	74,7	75,2	75,6	0,3	p.p.
	Young (15-24)	50,7	49,7	50,7	51,8	53,4	1,6	p.p.
	Prime age (25-54)	87,5	87,4	87,7	87,8	88,0	0,2	p.p.
	Older (55-64)	53,7	54,9	56,6	58,5	58,8	0,3	p.p.
	Male	76,8	76,4	76,6	77,1	77,2	0,1	p.p.
	Young (15-24)	51,4	50,5	50,9	52,6	53,3	0,7	p.p.
	Prime age (25-54)	90,1	90,1	90,3	90,3	90,4	0,2	p.p.
	Older (55-64)	55,3	55,6	56,9	58,8	59,1	0,3	p.p.
	Female	72,2	72,0	72,8	73,3	73,8	0,6	p.p.
	Young (15-24)	50,0	48,9	50,4	51,0	53,6	2,5	p.p.
	Prime age (25-54)	84,8	84,5	85,1	85,3	85,6	0,3	p.p.
	Older (55-64)	52,2	54,3	56,4	58,2	58,4	0,2	p.p.
5	**Employment rate (as % of pop. 15-64)**	67,7	67,6	68,4	69,3	70,3	1,0	p.p.
	Young (15-24)	39,7	39,4	40,5	42,1	44,6	2,5	p.p.
	Prime age (25-54)	81,1	81,0	81,7	82,4	83,4	0,9	p.p.
	Older (55-64)	49,6	50,9	52,7	54,5	55,0	0,5	p.p.
	Male	69,7	69,7	70,3	71,4	72,1	0,7	p.p.
	Young (15-24)	40,1	39,4	40,4	42,6	44,5	1,9	p.p.
	Prime age (25-54)	83,3	83,8	84,4	85,2	86,0	0,8	p.p.
	Older (55-64)	51,0	51,4	52,8	54,8	55,1	0,3	p.p.
	Female	65,7	65,6	66,5	67,3	68,5	1,2	p.p.
	Young (15-24)	39,2	39,4	40,6	41,6	44,7	3,1	p.p.
	Prime age (25-54)	78,9	78,2	78,9	79,6	80,6	1,0	p.p.
	Older (55-64)	48,3	50,4	52,7	54,3	55,0	0,7	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	2345	2345	2378	2416	2459	42	Th.
	Male (as % of total)	51,7	51,8	51,6	51,7	51,6	-0,1	p.p.
	Female (as % of total)	48,3	48,2	48,4	48,3	48,4	0,2	p.p.
7	**Employment growth (%) (National accounts)**	0,1	0,4	1,4	1,8	2,2		p.p.
	Employment growth (%) (LFS - age 15-64)	-0,4	0,0	1,4	1,6	1,8		p.p.
	Male	-0,3	0,1	1,1	1,7	1,5		p.p.
	Female	-0,5	-0,1	1,7	1,5	2,1		p.p.
8	**Self employed (% of total employment)**	7,9	7,9	8,0	8,0	7,6	-0,3	p.p.
	Male	9,7	9,8	9,9	10,2	9,7	-0,5	p.p.
	Female	5,9	5,9	5,9	5,6	5,5	-0,2	p.p.
9	**Temporary employment (as % total)**	16,3	16,1	16,4	16,3	15,8	-0,5	p.p.
	Male	12,6	12,6	12,8	12,5	12,2	-0,3	p.p.
	Female	20,0	19,5	20,0	20,0	19,4	-0,6	p.p.
10	**Part-time (as % of total employment)**	12,6	13,2	13,2	13,5	13,4	-0,1	p.p.
	Male	8,0	8,4	8,6	8,6	8,3	-0,3	p.p.
	Female	17,4	18,3	18,2	18,7	18,8	0,0	p.p.
11	**Unemployment rate (Harmonised:15-74)**	9,0	8,8	8,4	7,7	6,9	-0,8	p.p.
	Young (15-24)	21,8	20,7	20,1	18,7	16,5	-2,2	p.p.
	Prime age (25-54)	7,2	7,3	6,8	6,1	5,3	-0,8	p.p.
	Older (55-64)	7,6	7,3	6,9	6,8	6,3	-0,4	p.p.
	Male	9,2	8,7	8,2	7,4	6,5	-0,9	p.p.
	Young (15-24)	21,9	22,0	20,6	19,0	16,4	-2,6	p.p.
	Prime age (25-54)	7,5	7,0	6,5	5,6	4,9	-0,7	p.p.
	Older (55-64)	7,7	7,4	7,2	6,9	6,8	-0,1	p.p.
	Female	8,9	8,9	8,6	8,1	7,2	-0,9	p.p.
	Young (15-24)	21,6	19,3	19,5	18,4	16,6	-1,9	p.p.
	Prime age (25-54)	7,0	7,6	7,2	6,6	5,8	-0,8	p.p.
	Older (55-64)	7,6	7,1	6,6	6,7	5,9	-0,8	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	25,5	24,3	26,1	25,6	23,0	-2,6	p.p.
13	**Worked hours (average actual weekly hours)**	37,1	37,0	37,1	36,9	36,8	-0,3	%
	Male	39,5	39,2	39,2	39,2	39,0	-0,5	%
	Female	34,5	34,5	34,6	34,3	34,2	-0,3	%
14	**Sectoral employment growth**							
	Agriculture	-1,8	-2,0	-0,4	0,3	-1,2		p.p.
	Building and construction	0,5	2,3	4,6	4,1	8,0		p.p.
	Services	1,0	1,3	1,5	1,9	2,4		p.p.
	Manufacturing industry	-2,4	-2,5	0,2	0,8	0,3		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Finland

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	2,8	3,6	3,8	2,9	3,3	:	:	:	:
Compensation of employees per Hour Worked	3,3	3,4	4,2	3,0	4,6	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	3,9	2,3	5,3	1,9	3,1	3,0	2,3	2,3	4,6
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	1,1	0,2	2,3	-0,2	1,1	:	:	:	:
Real unit labour costs deflated by GDP deflator.	1,5	-0,4	1,9	-1,4	-1,3	:	:	:	:
Wage and salaries	2,2	2,8	4,1	3,3	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	1,6	0,7	2,4	-0,1	1,2	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	62,4	62,0	63,3	62,3	61,2	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	22,2	22,2	22,1	22,0	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	77,9	77,8	77,9	78,0	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	67,0	65,8	66,0	66,0	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	45,0	44,5	44,6	44,1	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	41,9	41,2	41,5	41,1	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	20,6	21,0	20,9	20,8	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	1,5	1,2	1,2	1,2	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	1,7	3,3	1,4	3,0	2,1	:	:	:	:
Hourly Labour Productivity	2,1	3,1	1,8	3,3	3,1	:	:	:	:
GDP	1,8	3,7	2,8	4,9	4,4	5,4	5,1	3,6	3,7
ECFIN NAIRU estimate	8,3	7,7	7,2	6,8	6,4	:	:	:	:
Output gap (%)	-1,5	-1,1	-1,6	-0,2	0,8	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	1,3	0,1	0,8	1,3	1,6	1,4	1,4	1,6	2,0
Underlying inflation (exc. energy and unprocessed food)	1,3	-0,1	0,3	0,8	1,4	1,3	1,4	1,6	1,3
GDP deflator	-0,4	0,6	0,4	1,3	2,5	2,1	2,0	2,8	3,0
Sectoral breakdown of unit labour costs									
Agriculture and fishery	4,7	-0,9	-2,7	2,5	-11,5	:	:	:	:
Industry excluding construction	-2,5	-2,8	0,4	-5,2	-1,4	:	:	:	:
of which: manufacturing	-2,7	-2,9	0,0	-6,0	-2,3	:	:	:	:
Construction	0,8	1,8	6,0	2,4	0,5	:	:	:	:
Trade, transport and communication	0,1	-1,3	0,2	-2,2	1,1	:	:	:	:
Finance and business services	5,7	0,9	5,5	4,4	4,6	:	:	:	:
Non-market related services	5,2	4,5	4,2	3,4	1,8	:	:	:	:
Market-related sectors	0,6	-1,0	1,8	-3,6	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	2,8	3,6	3,7	2,9	3,1	:	:	:	:
Agriculture and fishery	-0,2	2,3	1,8	1,4	5,1	:	:	:	:
Industry excluding construction	2,6	4,6	3,8	3,7	3,7	:	:	:	:
of which: manufacturing	2,5	4,7	3,8	3,9	3,3	:	:	:	:
Construction	2,8	2,9	2,7	3,0	-0,1	:	:	:	:
Trade, transport and	2,4	2,8	3,3	2,0	2,3	:	:	:	:
Finance and business services	3,5	3,9	3,7	2,7	3,2	:	:	:	:
Non-market related services	3,4	3,5	4,1	2,7	3,1	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-4,7	3,1	4,6	-1,1	18,8	28,1	24,2	12,6	12,5
Industry excluding construction	5,2	7,7	3,4	9,3	5,2	7,4	3,9	5,6	3,7
of which: manufacturing	5,3	7,8	3,8	10,4	5,8	8,8	5,0	6,6	2,9
Construction	1,9	1,1	-3,0	0,6	-0,6	1,2	2,7	-5,3	0,2
Trade, transport and	2,4	4,1	3,1	4,3	1,1	3,0	-0,7	1,3	1,5
Finance and business services	-2,1	3,0	-1,8	-1,6	-1,4	-1,3	-1,8	-1,2	-2,1
Non-market related services	-1,7	-1,0	0,0	-0,7	1,2	1,6	1,4	1,8	-0,2
Market-related sectors	2,0	4,7	1,7	4,4	2,4	4,4	1,7	1,8	1,6

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Sweden						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	8969	9006	9041	9084	9147	0,7	%
2	**Population (working age:15-64)**	5821	5855	5898	5951	6002	0,9	%
	as % of total population	64,9	65,0	65,2	65,5	65,6	0,1	p.p.
3	**Labour force (15-64) 1000 pers.**	4501	4519	4614	4687	4750	1,3	%
	Male	2341	2353	2411	2452	2482	1,2	%
	Female	2160	2165	2203	2235	2268	1,5	%
4	**Activity rate (as % of population 15-64)**	77,3	77,2	78,2	78,8	79,1	0,4	p.p.
	Young (15-24)	47,7	47,2	49,9	51,3	52,2	0,9	p.p.
	Prime age (25-54)	87,7	87,7	88,8	89,4	90,0	0,6	p.p.
	Older (55-64)	71,9	72,7	72,7	72,8	72,8	0,0	p.p.
	Male	79,2	79,1	80,5	81,2	81,4	0,3	p.p.
	Young (15-24)	47,3	47,1	49,0	50,8	51,8	0,9	p.p.
	Prime age (25-54)	89,9	90,0	91,7	92,5	92,9	0,3	p.p.
	Older (55-64)	74,9	75,6	76,4	76,0	76,2	0,2	p.p.
	Female	75,4	75,2	75,9	76,3	76,8	0,5	p.p.
	Young (15-24)	48,3	47,3	50,8	51,9	52,7	0,9	p.p.
	Prime age (25-54)	85,4	85,3	85,9	86,3	87,1	0,8	p.p.
	Older (55-64)	68,9	69,7	69,0	69,6	69,4	-0,2	p.p.
5	**Employment rate (as % of pop. 15-64)**	72,9	72,1	72,3	73,1	74,2	1,1	p.p.
	Young (15-24)	41,2	39,2	39,0	40,3	42,2	1,9	p.p.
	Prime age (25-54)	83,5	82,9	83,5	84,7	86,1	1,4	p.p.
	Older (55-64)	68,5	69,1	69,5	69,6	70,0	0,3	p.p.
	Male	74,2	73,6	74,3	75,5	76,5	1,1	p.p.
	Young (15-24)	40,4	38,6	38,2	40,2	42,0	1,9	p.p.
	Prime age (25-54)	85,3	85,0	86,1	87,8	89,1	1,3	p.p.
	Older (55-64)	70,8	71,2	72,4	72,3	72,9	0,6	p.p.
	Female	71,5	70,5	70,2	70,7	71,8	1,1	p.p.
	Young (15-24)	42,1	39,7	39,7	40,4	42,3	1,9	p.p.
	Prime age (25-54)	81,7	80,9	80,8	81,5	83,0	1,4	p.p.
	Older (55-64)	66,3	67,0	66,7	66,9	67,0	0,0	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	4242	4220	4263	4352	4453	101	Th.
	Male (as % of total)	51,7	51,9	52,2	52,4	52,4	0,0	p.p.
	Female (as % of total)	48,3	48,1	47,8	47,6	47,6	0,0	p.p.
7	**Employment growth (%) (National accounts)**	-0,6	-0,7	0,3	1,7	2,2		p.p.
	Employment growth (%) (LFS - age 15-64)	-0,2	-0,5	1,0	2,1	2,3		p.p.
	Male	-0,2	-0,2	1,6	2,5	2,3		p.p.
	Female	-0,3	-0,8	0,4	1,6	2,3		p.p.
8	**Self employed (% of total employment)**	5,7	6,0	6,0	6,0	5,8	-0,2	p.p.
	Male	7,9	8,4	8,2	8,1	7,7	-0,4	p.p.
	Female	3,4	3,4	3,5	3,6	3,7	0,0	p.p.
9	**Temporary employment (as % total)**	14,9	15,3	15,7	17,0	17,2	0,2	p.p.
	Male	12,5	13,3	13,6	15,0	14,7	-0,3	p.p.
	Female	17,2	17,3	17,6	18,9	19,7	0,8	p.p.
10	**Part-time (as % of total employment)**	22,0	22,8	23,5	23,6	23,5	-0,1	p.p.
	Male	10,0	10,8	10,4	10,3	10,3	0,0	p.p.
	Female	34,9	35,7	37,7	38,3	38,0	-0,2	p.p.
11	**Unemployment rate (Harmonised:15-74)**	5,6	6,3	7,4	7,0	6,1	-0,9	p.p.
	Young (15-24)	13,7	17,0	21,9	21,5	19,3	-2,2	p.p.
	Prime age (25-54)	4,8	5,4	6,0	5,3	4,4	-0,9	p.p.
	Older (55-64)	4,7	4,9	4,4	4,4	4,0	-0,4	p.p.
	Male	6,0	6,5	7,5	6,9	5,8	-1,1	p.p.
	Young (15-24)	14,5	18,0	22,0	21,0	18,8	-2,2	p.p.
	Prime age (25-54)	5,1	5,6	6,0	5,2	4,1	-1,0	p.p.
	Older (55-64)	5,5	5,8	5,2	4,9	4,3	-0,5	p.p.
	Female	5,2	6,1	7,4	7,2	6,4	-0,8	p.p.
	Young (15-24)	12,8	16,0	21,8	22,0	19,8	-2,3	p.p.
	Prime age (25-54)	4,4	5,2	5,9	5,5	4,7	-0,7	p.p.
	Older (55-64)	3,8	4,0	3,4	3,8	3,5	-0,3	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	17,7	19,3	17,0	15,3	14,0	-1,4	p.p.
13	**Worked hours (average actual weekly hours)**	35,4	35,4	35,6	35,5	35,5	0,1	%
	Male	37,9	37,9	38,3	38,1	38,1	0,1	%
	Female	32,4	32,4	32,4	32,4	32,4	0,2	%
14	**Sectoral employment growth**							
	Agriculture	-6,4	-3,7	-4,6	-2,8	3,1		p.p.
	Building and construction	-1,7	0,6	3,2	6,6	5,7		p.p.
	Services	0,2	0,2	0,5	2,0	2,3		p.p.
	Manufacturing industry	-2,9	-4,6	-1,1	-0,7	0,5		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

Sweden

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	3,2	4,0	3,1	2,2	4,2	:	:	:	:
Compensation of employees per Hour Worked	4,5	2,2	3,2	2,4	3,4	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	4,9	3,2	3,2	1,6	3,5	:	:	:	:
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	0,6	-0,8	0,1	-0,2	3,9	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-1,3	-1,1	-0,8	-2,0	0,5	:	:	:	:
Wage and salaries	1,2	2,3	3,9	4,0	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	1,3	-0,1	0,6	0,0	3,9	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	69,9	68,9	68,3	67,0	67,4	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	33,5	33,8	33,8	33,8	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	66,5	66,2	66,2	66,2	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	57,5	57,2	57,2	57,2	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	48,2	48,4	47,9	47,9	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	45,3	45,5	45,2	44,8	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	29,6	30,6	30,6	30,6	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	3,9	3,3	3,3	3,3	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	2,5	4,9	3,0	2,3	0,3	:	:	:	:
Hourly Labour Productivity	3,4	3,3	3,1	2,6	-0,6	:	:	:	:
GDP	1,9	4,1	3,3	4,1	2,6	2,8	2,9	2,5	2,1
ECFIN NAIRU estimate	5,9	5,9	6,1	5,9	5,7	:	:	:	:
Output gap (%)	-1,2	0,1	0,6	1,5	0,6	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	2,3	1,0	0,8	1,5	1,7	1,7	1,4	1,4	2,3
Underlying inflation (exc. energy and unprocessed food)	1,3	0,8	0,2	0,5	1,8	1,4	1,7	2,0	2,2
GDP deflator	1,9	0,2	0,9	1,8	3,3	3,1	3,4	3,1	3,7
Sectoral breakdown of unit labour costs									
Agriculture and fishery	-4,6	-5,4	4,0	-10,4	8,7	:	:	:	:
Industry excluding construction	-1,5	-7,0	-3,6	-1,8	3,4	:	:	:	:
of which: manufacturing	-3,7	-7,2	-2,4	-3,5	3,2	:	:	:	:
Construction	2,4	-0,5	0,6	1,6	4,6	:	:	:	:
Trade, transport and communication	-0,4	-1,5	-3,4	-2,3	3,5	:	:	:	:
Finance and business services	-1,7	1,8	-0,8	0,5	7,4	:	:	:	:
Non-market related services	5,7	2,3	0,5	3,5	3,4	:	:	:	:
Market-related sectors	-1,5	-2,6	-0,4	-1,7	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	3,6	4,0	1,3	2,5	4,8	:	:	:	:
Agriculture and fishery	2,5	5,9	3,8	3,2	4,2	:	:	:	:
Industry excluding construction	4,7	6,1	1,5	2,9	5,4	:	:	:	:
of which: manufacturing	4,0	6,1	3,2	2,2	4,8	:	:	:	:
Construction	0,7	3,9	1,9	2,5	4,5	:	:	:	:
Trade, transport and	3,7	3,3	1,0	1,6	3,9	:	:	:	:
Finance and business services	1,1	5,1	1,1	2,2	6,0	:	:	:	:
Non-market related services	4,8	2,9	1,3	2,7	4,0	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	7,4	11,9	-0,2	15,1	-4,2	2,7	-6,9	-8,6	-3,7
Industry excluding construction	6,2	14,1	5,3	4,7	2,0	0,3	2,5	2,2	1,5
of which: manufacturing	8,0	14,4	5,8	5,9	1,5	0,8	2,6	1,3	1,3
Construction	-1,6	4,4	1,3	0,9	-0,1	-0,7	-1,3	0,1	1,8
Trade, transport and	4,2	4,8	4,5	4,0	0,4	2,0	1,4	1,4	-0,4
Finance and business services	2,9	3,3	1,9	1,7	-1,3	-1,1	0,3	-1,3	-1,5
Non-market related services	-0,8	0,6	0,8	-0,8	0,7	-0,4	0,1	1,3	0,1
Market-related sectors	4,2	7,3	3,6	3,6	0,1	0,2	0,7	0,3	-0,2

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		United Kingdom						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	58135	58285	58421	58588	58776	0,3	%
2	**Population (working age:15-64)**	38177	38364	38529	38777	38994	0,6	%
	as % of total population	65,7	65,8	66,0	66,2	66,3	0,2	p.p.
3	**Labour force (15-64) 1000 pers.**	28715	28846	28997	29293	29362	0,2	%
	Male	15503	15514	15545	15667	15704	0,2	%
	Female	13212	13332	13452	13626	13659	0,2	%
4	**Activity rate (as % of population 15-64)**	75,2	75,2	75,3	75,5	75,3	-0,2	p.p.
	Young (15-24)	63,0	62,9	61,9	61,9	60,9	-0,9	p.p.
	Prime age (25-54)	83,7	83,7	84,1	84,5	84,4	-0,1	p.p.
	Older (55-64)	57,2	57,9	58,5	59,1	59,4	0,2	p.p.
	Male	82,3	82,0	81,9	82,1	81,9	-0,2	p.p.
	Young (15-24)	66,0	65,4	64,7	64,3	63,6	-0,7	p.p.
	Prime age (25-54)	91,3	91,0	91,1	91,6	91,5	-0,1	p.p.
	Older (55-64)	67,4	68,1	68,3	68,4	69,0	0,6	p.p.
	Female	68,3	68,6	68,8	69,2	68,9	-0,3	p.p.
	Young (15-24)	60,0	60,5	59,1	59,4	58,3	-1,1	p.p.
	Prime age (25-54)	76,4	76,7	77,4	77,6	77,6	0,0	p.p.
	Older (55-64)	47,3	47,9	49,0	50,2	50,1	-0,2	p.p.
5	**Employment rate (as % of pop. 15-64)**	71,5	71,6	71,7	71,5	71,3	-0,2	p.p.
	Young (15-24)	55,3	55,4	54,0	53,2	52,1	-1,0	p.p.
	Prime age (25-54)	80,6	80,8	81,2	81,1	81,3	0,1	p.p.
	Older (55-64)	55,4	56,2	56,9	57,4	57,4	0,1	p.p.
	Male	77,7	77,8	77,6	77,3	77,3	0,0	p.p.
	Young (15-24)	56,9	56,6	55,3	54,1	53,4	-0,7	p.p.
	Prime age (25-54)	87,6	87,7	87,8	87,9	88,1	0,2	p.p.
	Older (55-64)	64,8	65,7	66,0	66,0	66,3	0,3	p.p.
	Female	65,3	65,6	65,9	65,8	65,5	-0,3	p.p.
	Young (15-24)	53,7	54,1	52,5	52,2	50,9	-1,3	p.p.
	Prime age (25-54)	73,8	74,2	74,8	74,6	74,7	0,0	p.p.
	Older (55-64)	46,3	47,0	48,1	49,1	49,0	-0,1	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	27277	27485	27610	27711	27798	87	Th.
	Male (as % of total)	53,7	53,6	53,4	53,3	53,3	0,0	p.p.
	Female (as % of total)	46,3	46,4	46,6	46,7	46,7	0,0	p.p.
7	**Employment growth (%) (National accounts)**	1,0	1,0	1,0	0,9	0,7		p.p.
	Employment growth (%) (LFS - age 15-64)	0,7	0,8	0,5	0,4	0,3		p.p.
	Male	0,7	0,5	0,1	0,2	0,4		p.p.
	Female	0,7	1,0	0,9	0,6	0,2		p.p.
8	**Self employed (% of total employment)**	9,2	9,3	9,4	9,6	9,8	0,2	p.p.
	Male	12,3	12,6	12,6	12,8	13,1	0,2	p.p.
	Female	5,6	5,5	5,7	5,9	6,1	0,1	p.p.
9	**Temporary employment (as % total)**	6,0	5,9	5,6	5,6	5,7	0,0	p.p.
	Male	5,2	5,3	5,1	5,0	5,1	0,1	p.p.
	Female	6,7	6,4	6,2	6,3	6,3	0,0	p.p.
10	**Part-time (as % of total employment)**	24,8	24,9	24,4	24,4	24,4	-0,1	p.p.
	Male	8,9	9,1	9,1	9,2	9,4	0,2	p.p.
	Female	43,3	43,2	41,9	41,8	41,5	-0,3	p.p.
11	**Unemployment rate (Harmonised:15-74)**	4,9	4,7	4,8	5,4	5,3	-0,1	p.p.
	Young (15-24)	12,3	12,0	12,8	14,1	14,4	0,4	p.p.
	Prime age (25-54)	3,8	3,5	3,4	4,0	3,8	-0,2	p.p.
	Older (55-64)	3,2	2,8	2,7	3,0	3,2	0,2	p.p.
	Male	5,5	5,0	5,2	5,7	5,6	-0,1	p.p.
	Young (15-24)	13,9	13,3	14,5	15,9	16,0	0,2	p.p.
	Prime age (25-54)	4,1	3,7	3,6	4,1	3,7	-0,4	p.p.
	Older (55-64)	4,0	3,5	3,4	3,5	4,0	0,4	p.p.
	Female	4,3	4,2	4,3	4,9	4,9	0,0	p.p.
	Young (15-24)	10,5	10,6	11,0	12,1	12,7	0,6	p.p.
	Prime age (25-54)	3,4	3,2	3,2	3,9	3,8	-0,1	p.p.
	Older (55-64)	2,0	1,9	1,9	2,3	2,2	-0,1	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	21,4	20,4	21,0	22,3	23,8	1,5	p.p.
13	**Worked hours (average actual weekly hours)**	35,7	35,7	35,7	35,7	35,7	0,1	%
	Male	40,7	40,5	40,4	40,3	40,2	-0,1	%
	Female	29,8	29,9	30,2	30,2	30,3	0,2	%
14	**Sectoral employment growth**							
	Agriculture	-4,9	2,6	:	:	:		p.p.
	Building and construction	4,6	4,7	:	:	:		p.p.
	Services	1,8	1,5	:	:	:		p.p.
	Manufacturing industry	-4,7	-4,3	-5,1	-3,1	-1,9		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

United Kingdom

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	4,9	4,3	4,3	5,0	3,9	:	:	:	:
Compensation of employees per Hour Worked	5,2	4,4	4,7	4,7	4,3	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	4,5	6,8	3,5	3,6	5,3	5,7	4,6	6,0	4,3
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	3,0	2,0	3,5	2,9	1,5	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-0,1	-0,5	1,1	0,2	-1,5	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	3,6	2,6	4,1	3,7	2,4	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	72,9	72,5	73,0	73,1	72,1	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	19,7	20,0	20,8	:	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	80,3	80,0	79,2	:	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	69,0	69,0	70,2	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	33,3	33,4	33,5	33,9	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	30,9	31,0	31,2	31,6	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	17,6	18,1	18,4	:	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	2,1	2,0	2,5	:	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	1,8	2,2	0,8	2,0	2,3	:	:	:	:
Hourly Labour Productivity	2,9	2,5	0,7	2,3	3,0	:	:	:	:
GDP	2,8	3,3	1,8	2,9	3,0	4,3	3,1	2,6	2,2
ECFIN NAIRU estimate	5,0	4,9	4,9	5,0	5,1	:	:	:	:
Output gap (%)	0,1	0,7	-0,1	0,0	0,4	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	1,4	1,3	2,0	2,3	2,3	2,8	2,6	1,8	2,1
Underlying inflation (exc. energy and unprocessed food)	1,3	1,1	1,4	1,4	1,9	1,9	2,1	1,7	1,8
GDP deflator	3,1	2,6	2,3	2,7	3,1	2,4	3,0	3,5	3,5
Sectoral breakdown of unit labour costs									
Agriculture and fishery	:	:	:	:	:	:	:	:	:
Industry excluding construction	:	:	:	:	:	:	:	:	:
of which: manufacturing	0,3	-0,4	0,0	2,2	2,2	:	:	:	:
Construction	:	:	:	:	:	:	:	:	:
Trade, transport and communication	:	:	:	:	:	:	:	:	:
Finance and business services	:	:	:	:	:	:	:	:	:
Non-market related services	:	:	:	:	:	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	-4,7	6,3	3,9	4,9	3,3	:	:	:	:
Agriculture and fishery	:	:	:	:	:	:	:	:	:
Industry excluding construction	:	:	:	:	:	:	:	:	:
of which: manufacturing	5,5	6,1	4,2	6,8	4,8	:	:	:	:
Construction	:	:	:	:	:	:	:	:	:
Trade, transport and	:	:	:	:	:	:	:	:	:
Finance and business services	:	:	:	:	:	:	:	:	:
Non-market related services	:	:	:	:	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	:	:	:	:	:	:	:	:	:
Industry excluding construction	:	:	:	:	:	:	:	:	:
of which: manufacturing	5,1	6,6	4,2	4,6	2,5	:	:	:	:
Construction	:	:	:	:	:	:	:	:	:
Trade, transport and	:	:	:	:	:	:	:	:	:
Finance and business services	:	:	:	:	:	:	:	:	:
Non-market related services	:	:	:	:	:	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		European Union (25 countries)						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	443204	445154	447945	456090	458016	0,4	%
2	**Population (working age:15-64)**	302114	303184	305384	306805	308062	0,4	%
	as % of total population	68,2	68,1	68,2	67,3	67,3	0,0	p.p.
3	**Labour force (15-64) 1000 pers.**	209508	210921	214751	216870	218437	0,7	%
	Male	116540	116939	118558	119441	120032	0,5	%
	Female	92969	93983	96193	97429	98405	1,0	%
4	**Activity rate (as % of population 15-64)**	69,3	69,6	70,3	70,7	70,9	0,2	p.p.
	Young (15-24)	44,9	44,6	45,2	45,1	45,1	-0,1	p.p.
	Prime age (25-54)	83,3	83,6	84,1	84,5	84,7	0,2	p.p.
	Older (55-64)	42,9	43,8	45,6	46,6	47,5	0,9	p.p.
	Male	77,4	77,4	77,9	78,0	78,1	0,1	p.p.
	Young (15-24)	48,4	47,9	48,6	48,4	48,3	-0,1	p.p.
	Prime age (25-54)	91,9	91,9	92,1	92,3	92,3	0,0	p.p.
	Older (55-64)	53,6	54,3	55,6	56,4	57,3	0,9	p.p.
	Female	61,3	61,8	62,8	63,4	63,7	0,4	p.p.
	Young (15-24)	41,4	41,1	41,8	41,7	41,7	0,0	p.p.
	Prime age (25-54)	74,7	75,3	76,1	76,7	77,0	0,4	p.p.
	Older (55-64)	32,7	33,8	36,1	37,4	38,3	0,9	p.p.
5	**Employment rate (as % of pop. 15-64)**	63,0	63,1	64,0	64,8	65,8	0,9	p.p.
	Young (15-24)	36,9	36,4	36,9	37,4	38,2	0,8	p.p.
	Prime age (25-54)	76,6	76,7	77,4	78,4	79,3	1,0	p.p.
	Older (55-64)	40,0	40,7	42,6	43,7	44,9	1,2	p.p.
	Male	70,9	70,7	71,3	72,1	73,0	0,9	p.p.
	Young (15-24)	39,7	39,2	39,8	40,3	41,1	0,8	p.p.
	Prime age (25-54)	85,2	85,1	85,6	86,4	87,2	0,8	p.p.
	Older (55-64)	50,0	50,5	51,9	52,8	54,1	1,3	p.p.
	Female	55,2	55,5	56,6	57,6	58,6	1,0	p.p.
	Young (15-24)	34,0	33,5	33,9	34,4	35,2	0,8	p.p.
	Prime age (25-54)	67,9	68,4	69,3	70,4	71,5	1,2	p.p.
	Older (55-64)	30,6	31,4	33,8	35,0	36,1	1,1	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	190403	191295	195316	198906	202622	3716	Th.
	Male (as % of total)	56,0	55,8	55,6	55,5	55,3	-0,2	p.p.
	Female (as % of total)	44,0	44,2	44,4	44,5	44,7	0,2	p.p.
7	**Employment growth (%) (National accounts)**	0,4	0,7	1,0	1,6	1,8		p.p.
	Employment growth (%) (LFS - age 15-64)	0,8	0,5	2,1	1,8	1,9		p.p.
	Male	0,3	0,2	1,7	1,6	1,6		p.p.
	Female	1,4	0,9	2,6	2,1	2,2		p.p.
8	**Self employed (% of total employment)**	9,1	9,9	9,8	9,8	9,7	-0,1	p.p.
	Male	11,1	12,0	11,9	11,8	11,8	-0,1	p.p.
	Female	6,5	7,2	7,2	7,2	7,2	-0,1	p.p.
9	**Temporary employment (as % total)**	13,1	13,6	14,5	15,0	15,1	0,1	p.p.
	Male	12,3	13,0	14,1	14,4	14,4	0,0	p.p.
	Female	13,9	14,4	15,1	15,6	15,8	0,3	p.p.
10	**Part-time (as % of total employment)**	16,5	17,2	17,7	18,0	18,2	0,2	p.p.
	Male	6,0	6,3	6,6	6,9	7,0	0,1	p.p.
	Female	29,9	31,0	31,6	31,8	32,1	0,2	p.p.
11	**Unemployment rate (Harmonised:15-74)**	9,0	9,0	8,9	8,2	7,2	-1,0	p.p.
	Young (15-24)	17,9	18,3	18,5	17,1	15,3	-1,8	p.p.
	Prime age (25-54)	8,1	8,2	8,0	7,2	6,3	-1,0	p.p.
	Older (55-64)	6,6	7,0	6,5	6,3	5,6	-0,7	p.p.
	Male	8,3	8,3	8,3	7,5	6,5	-1,0	p.p.
	Young (15-24)	17,9	18,2	18,3	16,7	14,9	-1,8	p.p.
	Prime age (25-54)	7,3	7,4	7,1	6,4	5,5	-0,9	p.p.
	Older (55-64)	6,7	7,0	6,7	6,3	5,5	-0,7	p.p.
	Female	9,8	9,9	9,7	9,0	7,9	-1,1	p.p.
	Young (15-24)	17,9	18,5	18,7	17,6	15,7	-1,8	p.p.
	Prime age (25-54)	9,1	9,2	9,0	8,2	7,2	-1,0	p.p.
	Older (55-64)	6,5	6,9	6,4	6,3	5,7	-0,6	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	44,6	44,1	45,5	44,9	42,2	-2,7	p.p.
13	**Worked hours (average actual weekly hours)**	37,4	37,4	37,5	37,3	37,3	0,0	%
	Male	40,6	40,8	40,9	40,7	40,7	-0,1	%
	Female	33,1	33,0	33,1	32,9	32,9	0,0	%
14	**Sectoral employment growth**							
	Agriculture	:	:	:	:	:		p.p.
	Building and construction	:	:	:	:	:		p.p.
	Services	:	:	:	:	:		p.p.
	Manufacturing industry	:	:	:	:	:		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

European Union (25 countries)
Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	3,1	2,9	2,5	2,8	3,1	:	:	:	:
Compensation of employees per Hour Worked	3,5	2,7	2,9	3,1	3,3	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	3,6	3,4	3,0	2,9	3,6	3,3	3,3	3,6	3,8
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	2,0	1,0	1,5	1,3	1,9	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-0,3	-1,2	-0,6	-0,8	-0,7	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	66,5	65,9	65,7	65,3	64,9	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	:	:	:	:	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	:	:	:	:	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	45,4	45,2	44,7	44,9	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	42,1	42,0	41,7	42,0	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	1,1	1,9	1,0	1,5	1,2	:	:	:	:
Hourly Labour Productivity	1,6	1,7	1,1	1,7	1,2	:	:	:	:
GDP	1,4	2,6	2,0	3,2	3,0	3,5	2,7	2,8	2,4
ECFIN NAIRU estimate	8,7	8,5	8,2	7,8	:	:	:	:	:
Output gap (%)	-0,7	-0,4	-0,7	-0,1	0,3	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	1,9	2,1	2,2	2,2	2,3	2,2	2,1	2,0	2,9
Underlying inflation (exc. energy and unprocessed food)	1,9	2,0	1,5	1,5	2,1	1,9	2,0	2,0	2,3
GDP deflator	2,3	2,3	2,1	2,1	2,5	2,8	2,9	2,7	1,9
Sectoral breakdown of unit labour costs									
Agriculture and fishery	4,2	-8,5	6,8	1,8	2,7	:	:	:	:
Industry excluding construction	-1,4	-1,0	0,0	-0,1	0,4	:	:	:	:
of which: manufacturing	:	:	:	:	:	:	:	:	:
Construction	1,6	3,7	3,7	1,9	4,2	:	:	:	:
Trade, transport and communication	-0,5	1,0	1,2	0,4	1,0	:	:	:	:
Finance and business services	-0,3	2,2	2,1	2,4	2,8	:	:	:	:
Non-market related services	1,8	3,1	2,8	3,2	2,4	:	:	:	:
Market-related sectors	-0,6	0,3	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	0,9	3,0	2,4	2,7	2,8	:	:	:	:
Agriculture and fishery	2,4	3,1	2,8	3,2	3,7	:	:	:	:
Industry excluding construction	0,9	3,4	2,0	3,3	2,8	:	:	:	:
of which: manufacturing	:	:	:	:	:	:	:	:	:
Construction	1,8	3,8	2,9	3,2	3,5	:	:	:	:
Trade, transport and	0,2	2,7	2,3	2,1	2,7	:	:	:	:
Finance and business services	0,7	2,5	2,8	2,9	2,7	:	:	:	:
Non-market related services	1,4	3,2	2,5	2,4	2,7	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-1,8	12,6	-3,8	1,4	1,0	2,0	-0,2	0,0	1,6
Industry excluding construction	2,4	4,4	2,0	3,4	2,4	2,3	2,4	3,1	2,7
of which: manufacturing	:	:	:	:	:	:	:	:	:
Construction	0,2	0,1	-0,8	1,3	-0,6	2,7	-1,7	-2,0	-1,0
Trade, transport and	0,7	1,7	1,1	1,7	1,6	3,2	2,0	1,3	1,1
Finance and business services	1,0	0,3	0,7	0,4	-0,1	0,7	0,1	0,3	0,0
Non-market related services	-0,4	0,1	-0,2	-0,8	0,3	0,5	0,8	0,6	0,1
Market-related sectors	1,4	2,4	1,2	2,0	1,3	2,2	1,4	1,4	1,3

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		European Union (15 countries)						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	376462	378356	380946	382884	384942	0,5	%
2	**Population (working age:15-64)**	251406	252279	254281	255498	256734	0,5	%
	as % of total population	66,8	66,7	66,7	66,7	66,7	0,0	p.p.
3	**Labour force (15-64) 1000 pers.**	176249	177672	181110	183301	184902	0,9	%
	Male	98581	98897	100262	101135	101715	0,6	%
	Female	77668	78775	80848	82166	83187	1,2	%
4	**Activity rate (as % of population 15-64)**	70,1	70,4	71,2	71,7	72,0	0,3	p.p.
	Young (15-24)	47,2	47,0	47,8	47,9	47,9	0,1	p.p.
	Prime age (25-54)	83,3	83,7	84,2	84,7	84,9	0,2	p.p.
	Older (55-64)	44,3	45,3	47,2	48,4	49,3	1,0	p.p.
	Male	78,5	78,5	79,0	79,2	79,3	0,1	p.p.
	Young (15-24)	50,5	50,3	51,1	51,1	51,0	-0,1	p.p.
	Prime age (25-54)	92,5	92,4	92,6	92,8	92,8	0,0	p.p.
	Older (55-64)	54,9	55,7	56,9	57,7	58,5	0,9	p.p.
	Female	61,7	62,4	63,5	64,3	64,8	0,5	p.p.
	Young (15-24)	43,8	43,7	44,5	44,6	44,8	0,2	p.p.
	Prime age (25-54)	74,1	74,9	75,8	76,5	77,0	0,4	p.p.
	Older (55-64)	34,1	35,3	37,9	39,4	40,5	1,1	p.p.
5	**Employment rate (as % of pop. 15-64)**	64,4	64,6	65,4	66,2	66,9	0,8	p.p.
	Young (15-24)	40,0	39,5	39,9	40,3	40,8	0,5	p.p.
	Prime age (25-54)	77,3	77,5	78,1	79,0	79,7	0,8	p.p.
	Older (55-64)	41,5	42,3	44,2	45,3	46,6	1,2	p.p.
	Male	72,7	72,5	73,0	73,6	74,2	0,6	p.p.
	Young (15-24)	42,7	42,3	42,7	43,1	43,5	0,4	p.p.
	Prime age (25-54)	86,6	86,3	86,7	87,3	87,8	0,6	p.p.
	Older (55-64)	51,3	52,0	53,3	54,1	55,3	1,2	p.p.
	Female	56,2	56,7	57,8	58,7	59,7	0,9	p.p.
	Young (15-24)	37,2	36,7	37,0	37,4	38,0	0,7	p.p.
	Prime age (25-54)	68,0	68,7	69,6	70,6	71,6	1,0	p.p.
	Older (55-64)	32,0	32,9	35,5	36,9	38,1	1,3	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	161982	162863	166234	169016	171831	2815	Th.
	Male (as % of total)	56,3	56,1	55,7	55,6	55,4	-0,2	p.p.
	Female (as % of total)	43,7	43,9	44,3	44,4	44,6	0,2	p.p.
7	**Employment growth (%) (National accounts)**	0,5	0,7	1,0	1,5	1,6		p.p.
	Employment growth (%) (LFS - age 15-64)	0,9	0,5	2,1	1,7	1,7		p.p.
	Male	0,3	0,1	1,5	1,4	1,3		p.p.
	Female	1,7	1,1	2,8	2,0	2,1		p.p.
8	**Self employed (% of total employment)**	8,3	9,3	9,4	9,4	9,3	-0,1	p.p.
	Male	10,2	11,4	11,4	11,4	11,3	-0,1	p.p.
	Female	5,9	6,7	6,9	6,9	6,9	0,0	p.p.
9	**Temporary employment (as % total)**	13,1	13,5	14,4	14,7	14,8	0,1	p.p.
	Male	12,2	12,7	13,7	14,1	14,0	0,0	p.p.
	Female	14,2	14,5	15,1	15,6	15,7	0,1	p.p.
10	**Part-time (as % of total employment)**	18,2	19,0	19,5	20,0	20,2	0,3	p.p.
	Male	6,2	6,6	6,9	7,3	7,4	0,1	p.p.
	Female	33,6	34,8	35,4	35,8	36,1	0,3	p.p.
11	**Unemployment rate (Harmonised:15-74)**	7,9	8,0	8,1	7,7	7,0	-0,7	p.p.
	Young (15-24)	15,3	16,0	16,6	15,9	14,9	-1,0	p.p.
	Prime age (25-54)	7,2	7,4	7,2	6,8	6,1	-0,7	p.p.
	Older (55-64)	6,4	6,8	6,3	6,2	5,6	-0,6	p.p.
	Male	7,3	7,4	7,5	7,1	6,4	-0,7	p.p.
	Young (15-24)	15,4	15,8	16,4	15,6	14,6	-1,0	p.p.
	Prime age (25-54)	6,4	6,6	6,4	6,0	5,3	-0,6	p.p.
	Older (55-64)	6,5	6,7	6,4	6,1	5,5	-0,6	p.p.
	Female	8,7	8,9	8,9	8,5	7,7	-0,8	p.p.
	Young (15-24)	15,2	16,2	16,8	16,3	15,2	-1,0	p.p.
	Prime age (25-54)	8,2	8,3	8,1	7,7	7,0	-0,7	p.p.
	Older (55-64)	6,3	6,9	6,3	6,4	5,8	-0,6	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	41,4	41,0	41,8	42,1	40,2	-1,8	p.p.
13	**Worked hours (average actual weekly hours)**	36,8	36,8	36,9	36,7	36,7	-0,1	%
	Male	40,3	40,5	40,7	40,4	40,4	0,0	%
	Female	32,1	32,0	32,1	31,9	31,9	0,1	%
14	**Sectoral employment growth**							
	Agriculture	-2,3	-2,7	:	:	:		p.p.
	Building and construction	0,7	1,4	:	:	:		p.p.
	Services	1,2	1,4	:	:	:		p.p.
	Manufacturing industry	-2,0	-1,9	-1,7	-0,7	0,0		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

European Union (15 countries)
Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	2,9	2,7	2,4	2,8	2,7	:	:	:	:
Compensation of employees per Hour Worked	3,2	2,5	2,9	3,0	2,9	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	:	:	:	:	:	:	:	:	:
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	2,2	1,0	1,6	1,4	1,6	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-0,2	-1,0	-0,5	-0,7	-0,8	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	2,6	1,4	1,9	1,6	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	66,7	66,2	66,0	65,7	65,2	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	:	:	:	:	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	:	:	:	:	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	45,5	45,2	44,8	44,9	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	42,1	42,0	41,7	42,0	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	0,7	1,6	0,8	1,4	1,1	:	:	:	:
Hourly Labour Productivity	1,2	1,4	1,2	1,5	1,2	:	:	:	:
GDP	1,2	2,3	1,7	2,9	2,7	3,3	2,5	2,6	2,2
ECFIN NAIRU estimate	7,7	7,6	7,4	7,3	:	:	:	:	:
Output gap (%)	-0,6	-0,4	-0,7	-0,1	0,2	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	2,0	2,0	2,1	2,2	:	:	:	:	:
Underlying inflation (exc. energy and unprocessed food)	1,8	1,8	1,5	1,5	:	:	:	:	:
GDP deflator	2,4	2,1	2,0	2,1	2,4	2,8	2,6	2,4	1,4
Sectoral breakdown of unit labour costs									
Agriculture and fishery	5,8	-9,7	7,2	1,6	1,0	:	:	:	:
Industry excluding construction	-1,0	-0,8	-0,3	0,2	0,3	:	:	:	:
of which: manufacturing	0,4	-0,8	-0,7	-0,4	-0,5	:	:	:	:
Construction	1,8	3,6	3,6	1,8	3,6	:	:	:	:
Trade, transport and communication	-0,3	1,0	1,1	0,4	0,8	:	:	:	:
Finance and business services	-0,2	2,2	2,0	2,4	2,5	:	:	:	:
Non-market related services	1,9	3,0	2,5	3,1	2,1	:	:	:	:
Market-related sectors	-0,3	0,4	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	1,0	3,0	2,2	2,8	2,6	:	:	:	:
Agriculture and fishery	2,0	1,8	2,1	2,9	2,7	:	:	:	:
Industry excluding construction	1,2	3,7	1,9	3,7	2,9	:	:	:	:
of which: manufacturing	2,8	3,4	2,0	3,8	2,8	:	:	:	:
Construction	2,1	3,6	2,5	3,4	3,1	:	:	:	:
Trade, transport and	0,3	2,6	2,3	2,2	2,3	:	:	:	:
Finance and business services	1,0	2,6	2,7	2,9	2,4	:	:	:	:
Non-market related services	1,3	3,1	2,3	2,3	2,5	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-3,6	12,6	-4,8	1,3	1,7	3,4	1,3	1,4	2,0
Industry excluding construction	2,2	4,5	2,2	3,5	2,6	2,4	2,3	3,0	2,3
of which: manufacturing	2,4	4,3	2,7	4,2	3,4	:	:	:	:
Construction	0,3	-0,1	-1,1	1,5	-0,5	2,5	-2,0	-2,0	-0,8
Trade, transport and	0,5	1,5	1,2	1,8	1,5	3,1	1,9	1,1	0,6
Finance and business services	1,2	0,4	0,7	0,6	-0,2	0,7	-0,1	0,1	-0,1
Non-market related services	-0,6	0,1	-0,2	-0,8	0,5	0,4	0,9	0,4	0,1
Market-related sectors	1,1	2,3	1,1	2,0	1,3	2,2	1,2	1,2	0,9

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Euro Area						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	304030	305733	308088	309797	313603	1,2	%
2	**Population (working age:15-64)**	203890	204548	206288	207201	209577	1,1	%
	as % of total population	67,1	66,9	67,0	66,9	66,8	-0,1	p.p.
3	**Labour force (15-64) 1000 pers.**	140291	141551	144654	146446	148931	1,7	%
	Male	79269	79586	80801	81500	82564	1,3	%
	Female	61022	61965	63852	64946	66367	2,2	%
4	**Activity rate (as % of population 15-64)**	68,8	69,2	70,1	70,7	71,1	0,4	p.p.
	Young (15-24)	44,1	43,9	44,7	44,6	44,7	0,1	p.p.
	Prime age (25-54)	83,0	83,5	84,0	84,5	84,8	0,3	p.p.
	Older (55-64)	40,6	41,6	43,8	45,1	46,3	1,2	p.p.
	Male	77,7	77,8	78,3	78,5	78,6	0,1	p.p.
	Young (15-24)	47,6	47,4	48,2	48,1	48,0	-0,1	p.p.
	Prime age (25-54)	92,8	92,7	92,9	93,1	93,0	0,0	p.p.
	Older (55-64)	51,5	52,3	53,8	54,7	55,6	1,0	p.p.
	Female	59,9	60,6	61,9	62,8	63,5	0,7	p.p.
	Young (15-24)	40,5	40,2	41,0	40,9	41,3	0,4	p.p.
	Prime age (25-54)	73,2	74,1	75,1	75,9	76,5	0,6	p.p.
	Older (55-64)	30,1	31,3	34,3	35,9	37,3	1,3	p.p.
5	**Employment rate (as % of pop. 15-64)**	62,7	62,8	63,8	64,8	65,7	1,0	p.p.
	Young (15-24)	36,8	36,2	36,8	37,3	38,0	0,8	p.p.
	Prime age (25-54)	76,4	76,6	77,3	78,3	79,2	0,9	p.p.
	Older (55-64)	37,5	38,3	40,6	41,8	43,3	1,5	p.p.
	Male	71,6	71,3	71,9	72,7	73,4	0,7	p.p.
	Young (15-24)	39,9	39,4	40,0	40,6	41,2	0,6	p.p.
	Prime age (25-54)	86,4	86,1	86,4	87,1	87,7	0,6	p.p.
	Older (55-64)	47,7	48,4	49,9	50,9	52,3	1,4	p.p.
	Female	53,8	54,3	55,7	56,8	58,0	1,2	p.p.
	Young (15-24)	33,6	32,9	33,5	33,8	34,7	0,9	p.p.
	Prime age (25-54)	66,3	67,1	68,2	69,4	70,6	1,2	p.p.
	Older (55-64)	27,7	28,6	31,7	33,1	34,7	1,6	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	127819	128528	131654	134192	137780	3589	Th.
	Male (as % of total)	57,1	56,8	56,4	56,2	55,9	-0,3	p.p.
	Female (as % of total)	42,9	43,2	43,6	43,8	44,1	0,3	p.p.
7	**Employment growth (%) (National accounts)**	0,5	0,7	1,0	1,6	1,8		p.p.
	Employment growth (%) (LFS - age 15-64)	1,0	0,6	2,4	1,9	2,7		p.p.
	Male	0,2	0,0	1,7	1,6	2,2		p.p.
	Female	2,1	1,3	3,4	2,4	3,3		p.p.
8	**Self employed (% of total employment)**	8,4	9,6	9,6	9,6	9,4	-0,1	p.p.
	Male	10,0	11,3	11,4	11,3	11,2	-0,1	p.p.
	Female	6,2	7,2	7,4	7,3	7,2	-0,1	p.p.
9	**Temporary employment (as % total)**	14,8	15,3	16,3	16,8	16,8	0,0	p.p.
	Male	13,7	14,3	15,6	16,0	15,9	0,0	p.p.
	Female	16,0	16,5	17,2	17,7	17,8	0,0	p.p.
10	**Part-time (as % of total employment)**	16,5	17,5	18,4	18,9	19,1	0,3	p.p.
	Male	5,4	5,8	6,3	6,7	6,9	0,1	p.p.
	Female	31,3	32,8	33,9	34,4	34,7	0,3	p.p.
11	**Unemployment rate (Harmonised:15-74)**	8,7	8,8	8,9	8,3	7,4	-0,9	p.p.
	Young (15-24)	16,5	17,5	17,6	16,4	15,0	-1,5	p.p.
	Prime age (25-54)	8,0	8,2	8,0	7,4	6,6	-0,8	p.p.
	Older (55-64)	7,4	7,9	7,4	7,2	6,3	-0,9	p.p.
	Male	7,7	7,9	8,0	7,4	6,6	-0,8	p.p.
	Young (15-24)	16,1	16,9	16,9	15,6	14,2	-1,4	p.p.
	Prime age (25-54)	6,9	7,2	7,0	6,4	5,7	-0,7	p.p.
	Older (55-64)	7,2	7,5	7,2	6,9	5,9	-0,9	p.p.
	Female	9,8	10,0	9,9	9,3	8,4	-0,9	p.p.
	Young (15-24)	17,1	18,2	18,5	17,5	16,0	-1,5	p.p.
	Prime age (25-54)	9,4	9,5	9,2	8,6	7,7	-0,9	p.p.
	Older (55-64)	7,8	8,5	7,7	7,8	6,9	-0,8	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	44,3	43,8	44,5	45,4	43,5	-1,9	p.p.
13	**Worked hours (average actual weekly hours)**	37,2	37,2	37,3	37,0	37,0	0,0	%
	Male	40,5	40,7	40,9	40,6	40,5	-0,1	%
	Female	32,8	32,6	32,5	32,3	32,3	0,2	%
14	**Sectoral employment growth**							
	Agriculture	-2,2	-2,9	-1,2	-1,5	:		p.p.
	Building and construction	0,3	1,0	2,9	2,6	:		p.p.
	Services	1,2	1,5	1,4	2,2	:		p.p.
	Manufacturing industry	-1,5	-1,4	-1,2	-0,4	0,3		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figuresre

Euro Area

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	2,5	2,2	1,9	2,3	2,4	:	:	:	:
Compensation of employees per Hour Worked	2,8	2,0	2,5	2,6	2,6	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	3,1	2,5	2,7	2,5	2,7	2,4	2,7	2,8	3,1
Negotiated wages (Euro-area only)	:	:	:	:	:	2,05	2,32	2,15	2,12
Nominal Unit labour costs	2,0	0,9	1,2	1,1	1,5	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-0,2	-1,1	-0,8	-0,9	-0,7	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	65,0	64,5	64,1	63,7	63,3	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	:	:	:	:	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	:	:	:	:	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	:	:	:	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	:	:	:	:	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	0,4	1,4	0,7	1,2	0,9	:	:	:	:
Hourly Labour Productivity	0,8	1,2	1,2	1,3	0,8	:	:	:	:
GDP	0,9	2,1	1,7	2,8	2,7	:	:	:	:
ECFIN NAIRU estimate	8,4	8,2	8,0	7,8	:	:	:	:	:
Output gap (%)	-0,8	-0,6	-0,9	-0,2	0,2	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	2,1	2,1	2,2	2,2	2,1	1,9	1,9	1,9	2,9
Underlying inflation (exc. energy and unprocessed food)	2,0	2,1	1,5	1,5	2,0	1,9	1,9	2,0	2,3
GDP deflator	2,3	2,0	2,0	2,0	2,2	:	:	:	:
Sectoral breakdown of unit labour costs									
Agriculture and fishery	7,0	-11,4	7,4	2,1	2,2	:	:	:	:
Industry excluding construction	0,6	-1,2	-0,5	-0,3	-0,3	:	:	:	:
of which: manufacturing	0,6	-0,5	-0,8	-0,6	-1,0	:	:	:	:
Construction	3,3	3,3	3,0	1,3	3,9	:	:	:	:
Trade, transport and communication	2,0	0,3	0,8	0,3	0,6	:	:	:	:
Finance and business services	1,8	2,2	1,6	2,3	3,1	:	:	:	:
Non-market related services	3,1	2,1	2,0	2,5	2,0	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	2,3	2,1	1,8	2,2	2,1	:	:	:	:
Agriculture and fishery	2,5	1,2	1,7	2,6	3,1	:	:	:	:
Industry excluding construction	2,3	2,9	1,8	3,4	2,2	:	:	:	:
of which: manufacturing	2,4	3,0	1,7	3,5	2,5	:	:	:	:
Construction	3,1	2,9	2,0	3,4	3,0	:	:	:	:
Trade, transport and	1,9	1,4	1,7	1,6	1,7	:	:	:	:
Finance and business services	2,5	1,7	2,3	2,2	1,7	:	:	:	:
Non-market related services	2,5	2,4	1,8	1,6	2,3	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-4,3	14,2	-5,3	0,5	0,9	:	:	:	:
Industry excluding construction	1,7	4,1	2,2	3,7	2,5	:	:	:	:
of which: manufacturing	1,8	3,6	2,5	4,1	3,6	:	:	:	:
Construction	-0,2	-0,3	-1,0	2,1	-0,9	:	:	:	:
Trade, transport and	-0,1	1,1	0,9	1,3	1,0	:	:	:	:
Finance and business services	0,7	-0,5	0,6	-0,1	-1,4	:	:	:	:
Non-market related services	-0,6	0,3	-0,2	-0,9	0,2	:	:	:	:
Market-related sectors	0,6	1,9	1,0	1,8	0,7	:	:	:	:

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Bulgaria						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	7821	7786	7747	7706	7673	-0,4	%
2	**Population (working age:15-64)**	5308	5306	5283	5238	5198	-0,8	%
	as % of total population	67,9	68,1	68,2	68,0	67,7	-0,2	p.p.
3	**Labour force (15-64) 1000 pers.**	3233	3277	3281	3376	3448	2,1	%
	Male	1711	1741	1751	1782	1820	2,2	%
	Female	1522	1535	1530	1595	1628	2,1	%
4	**Activity rate (as % of population 15-64)**	60,9	61,8	62,1	64,5	66,3	1,9	p.p.
	Young (15-24)	28,8	28,9	27,9	28,9	28,9	0,0	p.p.
	Prime age (25-54)	79,1	79,9	80,2	82,3	84,5	2,2	p.p.
	Older (55-64)	33,9	36,2	38,0	43,0	45,7	2,7	p.p.
	Male	65,4	66,4	67,0	68,8	70,6	1,8	p.p.
	Young (15-24)	31,5	31,8	31,1	31,3	31,7	0,4	p.p.
	Prime age (25-54)	81,8	82,9	83,3	85,1	87,5	2,4	p.p.
	Older (55-64)	45,6	47,2	49,9	53,6	55,3	1,7	p.p.
	Female	56,5	57,2	57,3	60,2	62,1	1,9	p.p.
	Young (15-24)	26,1	25,9	24,5	26,4	26,0	-0,4	p.p.
	Prime age (25-54)	76,4	76,8	77,2	79,4	81,4	2,0	p.p.
	Older (55-64)	23,8	26,8	27,8	33,9	37,2	3,4	p.p.
5	**Employment rate (as % of pop. 15-64)**	52,5	54,2	55,8	58,6	61,7	3,1	p.p.
	Young (15-24)	20,7	21,5	21,6	23,2	24,5	1,3	p.p.
	Prime age (25-54)	69,2	71,2	73,0	75,7	79,4	3,7	p.p.
	Older (55-64)	30,0	32,5	34,7	39,6	42,6	3,0	p.p.
	Male	56,0	57,9	60,0	62,8	66,0	3,2	p.p.
	Young (15-24)	21,7	23,2	23,9	25,4	27,1	1,7	p.p.
	Prime age (25-54)	71,4	73,5	75,7	78,6	82,5	4,0	p.p.
	Older (55-64)	40,5	42,1	45,5	49,5	51,8	2,3	p.p.
	Female	49,0	50,6	51,7	54,6	57,6	2,9	p.p.
	Young (15-24)	19,6	19,6	19,4	21,0	21,8	0,8	p.p.
	Prime age (25-54)	67,1	68,8	70,3	72,8	76,2	3,4	p.p.
	Older (55-64)	21,0	24,2	25,5	31,1	34,5	3,4	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	2785	2877	2947	3072	3209	137	Th.
	Male (as % of total)	52,6	52,8	53,2	52,9	53,0	0,1	p.p.
	Female (as % of total)	47,4	47,2	46,8	47,1	47,0	-0,1	p.p.
7	**Employment growth (%) (National accounts)**	3,0	2,6	2,7	3,3	2,8		p.p.
	Employment growth (%) (LFS - age 15-64)	2,8	3,3	2,4	4,2	4,5		p.p.
	Male	3,4	3,6	3,2	3,7	4,6		p.p.
	Female	2,2	2,9	1,5	4,9	4,3		p.p.
8	**Self employed (% of total employment)**	8,6	8,5	8,2	7,6	6,9	-0,6	p.p.
	Male	10,5	10,5	9,9	9,1	8,3	-0,7	p.p.
	Female	6,4	6,3	6,3	5,9	5,3	-0,6	p.p.
9	**Temporary employment (as % total)**	6,4	7,3	6,3	6,1	5,1	-1,0	p.p.
	Male	6,9	7,7	6,6	6,2	4,8	-1,4	p.p.
	Female	6,0	6,9	6,1	6,0	5,4	-0,6	p.p.
10	**Part-time (as % of total employment)**	1,9	2,0	1,8	1,7	1,4	-0,3	p.p.
	Male	1,5	1,7	1,5	1,2	1,1	-0,2	p.p.
	Female	2,3	2,4	2,2	2,2	1,9	-0,3	p.p.
11	**Unemployment rate (Harmonised:15-74)**	13,7	12,0	10,1	9,0	6,9	-2,1	p.p.
	Young (15-24)	28,2	25,8	22,3	19,5	15,1	-4,4	p.p.
	Prime age (25-54)	12,5	10,9	9,0	8,0	6,1	-2,0	p.p.
	Older (55-64)	11,5	10,3	8,6	7,9	6,8	-1,0	p.p.
	Male	14,1	12,5	10,3	8,6	6,5	-2,1	p.p.
	Young (15-24)	31,0	27,0	23,4	18,9	14,5	-4,4	p.p.
	Prime age (25-54)	12,7	11,3	9,1	7,7	5,7	-2,0	p.p.
	Older (55-64)	11,1	10,7	8,8	7,6	6,4	-1,2	p.p.
	Female	13,2	11,5	9,8	9,3	7,3	-2,0	p.p.
	Young (15-24)	24,8	24,3	21,0	20,3	15,9	-4,4	p.p.
	Prime age (25-54)	12,2	10,4	9,0	8,3	6,5	-1,9	p.p.
	Older (55-64)	12,1	9,6	8,3	8,3	7,4	-0,9	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	65,5	59,5	59,9	55,8	59,2	3,4	p.p.
13	**Worked hours (average actual weekly hours)**	40,5	40,6	40,6	41,1	41,1	0,1	%
	Male	41,0	41,1	41,1	41,6	41,7	0,1	%
	Female	40,1	40,1	40,2	40,4	40,5	0,3	%
14	**Sectoral employment growth**							
	Agriculture	-0,8	-0,8	-1,5	-1,3	-0,9		p.p.
	Building and construction	2,1	7,3	17,0	25,1	9,7		p.p.
	Services	6,4	4,2	3,7	3,4	3,6		p.p.
	Manufacturing industry	0,1	2,2	2,2	3,3	2,8		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figurese

Bulgaria

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	5,1	4,9	5,9	7,4	17,9	:	:	:	:
Compensation of employees per Hour Worked	6,5	3,7	7,3	9,1	19,0	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	7,4	5,4	5,3	5,4	17,0	14,7	15,8	17,5	18,4
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	3,0	1,0	2,4	4,4	14,2	:	:	:	:
Real unit labour costs deflated by GDP deflator.	1,2	-4,0	-1,3	-3,8	5,9	:	:	:	:
Wage and salaries	-1,0	7,6	13,9	10,2	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	57,0	56,0	56,0	54,5	56,8	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	27,0	27,5	24,9	21,5	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	73,0	72,5	75,1	78,5	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	62,3	61,9	65,3	69,0	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	39,0	38,9	38,9	35,4	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	34,4	38,9	32,4	29,4	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	25,8	25,2	24,0	20,9	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	1,1	2,3	0,9	0,7	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	2,0	3,9	3,5	2,9	3,3	:	:	:	:
Hourly Labour Productivity	2,7	2,5	3,8	3,5	3,3	:	:	:	:
GDP	5,0	6,6	6,2	6,3	6,2	6,2	8,1	5,6	7,7
ECFIN NAIRU estimate	14,4	12,8	11,0	9,3	7,7	:	:	:	:
Output gap (%)	0,0	1,1	1,4	1,6	1,4	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	2,3	6,1	6,0	7,4	7,6	5,3	4,7	9,0	11,2
Underlying inflation (exc. energy and unprocessed food)	1,8	5,9	3,6	8,1	8,2	6,6	5,9	9,1	11,3
GDP deflator	1,8	5,1	3,8	8,5	7,9	7,6	4,2	8,0	8,3
Sectoral breakdown of unit labour costs									
Agriculture and fishery	7,4	2,1	21,1	8,5	56,0	:	:	:	:
Industry excluding construction	-5,1	0,4	4,9	5,7	8,7	:	:	:	:
of which: manufacturing	-4,4	2,1	3,4	2,6	13,2	:	:	:	:
Construction	5,9	-5,1	3,0	15,0	:	:	:	:	:
Trade, transport and communication	8,2	0,4	0,6	1,9	:	:	:	:	:
Finance and business services	4,0	12,1	12,7	11,9	:	:	:	:	:
Non-market related services	13,1	7,4	2,6	8,8	:	:	:	:	:
Market-related sectors	1,4	0,7	4,7	3,6	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	5,1	4,7	5,8	7,4	17,9	:	:	:	:
Agriculture and fishery	5,7	5,4	11,2	8,8	10,6	:	:	:	:
Industry excluding construction	1,1	1,5	6,6	9,0	19,9	:	:	:	:
of which: manufacturing	5,4	1,7	8,0	10,5	21,2	:	:	:	:
Construction	5,9	-1,0	-3,3	1,2	25,3	:	:	:	:
Trade, transport and	8,3	1,6	5,0	5,2	17,1	:	:	:	:
Finance and business services	5,2	6,7	18,7	14,3	15,9	:	:	:	:
Non-market related services	5,6	9,8	3,6	6,3	16,4	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-1,6	3,2	-8,1	0,2	-29,1	0,5	-6,2	-43,4	-35,5
Industry excluding construction	6,5	1,1	1,6	3,1	10,3	4,9	10,7	11,6	13,6
of which: manufacturing	10,3	-0,4	4,5	7,7	7,0	8,9	12,4	13,0	14,7
Construction	0,0	4,2	-6,1	-11,9	:	-2,2	-1,2	7,8	21,5
Trade, transport and	0,1	1,1	4,4	3,3	:	-1,1	4,7	-1,1	3,1
Finance and business services	1,2	-4,8	5,3	2,1	:	-3,2	1,0	3,0	1,5
Non-market related services	-6,6	2,3	0,9	-2,3	:	2,0	2,5	5,8	3,6
Market-related sectors	3,1	2,0	2,4	2,9	-60,8	1,8	5,9	-1,7	5,0

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		Romania						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	21686	21638	21609	21575	21551	-0,1	%
2	**Population (working age:15-64)**	14933	14964	15021	15035	15046	0,1	%
	as % of total population	68,9	69,2	69,5	69,7	69,8	0,1	p.p.
3	**Labour force (15-64) 1000 pers.**	9293	9434	9355	9566	9483	-0,9	%
	Male	5125	5195	5180	5287	5261	-0,5	%
	Female	4168	4239	4176	4278	4222	-1,3	%
4	**Activity rate (as % of population 15-64)**	62,2	63,0	62,3	63,6	63,0	-0,6	p.p.
	Young (15-24)	32,9	35,8	31,2	30,6	30,5	0,0	p.p.
	Prime age (25-54)	78,0	78,3	78,2	79,9	79,0	-0,9	p.p.
	Older (55-64)	38,8	37,9	40,4	42,8	42,4	-0,4	p.p.
	Male	69,3	70,0	69,4	70,7	70,1	-0,5	p.p.
	Young (15-24)	37,5	40,5	35,9	35,1	35,9	0,8	p.p.
	Prime age (25-54)	85,8	85,7	85,8	87,1	85,9	-1,2	p.p.
	Older (55-64)	44,6	44,9	48,4	52,0	52,1	0,1	p.p.
	Female	55,3	56,2	55,3	56,6	56,0	-0,7	p.p.
	Young (15-24)	28,2	31,0	26,5	25,9	24,9	-1,0	p.p.
	Prime age (25-54)	70,1	70,9	70,7	72,6	72,0	-0,6	p.p.
	Older (55-64)	33,6	31,9	33,5	34,8	33,9	-0,9	p.p.
5	**Employment rate (as % of pop. 15-64)**	57,6	57,7	57,6	58,8	58,8	0,0	p.p.
	Young (15-24)	26,4	27,9	24,9	24,0	24,4	0,4	p.p.
	Prime age (25-54)	73,1	72,9	73,3	74,7	74,6	-0,2	p.p.
	Older (55-64)	38,1	36,9	39,4	41,7	41,4	-0,3	p.p.
	Male	63,8	63,4	63,7	64,6	64,8	0,2	p.p.
	Young (15-24)	29,9	30,7	28,2	27,3	28,3	1,0	p.p.
	Prime age (25-54)	80,1	79,2	80,0	80,8	80,6	-0,2	p.p.
	Older (55-64)	43,5	43,1	46,7	50,0	50,3	0,3	p.p.
	Female	51,5	52,1	51,5	53,0	52,8	-0,2	p.p.
	Young (15-24)	22,9	25,1	21,6	20,6	20,2	-0,4	p.p.
	Prime age (25-54)	66,0	66,6	66,5	68,6	68,5	-0,2	p.p.
	Older (55-64)	33,3	31,4	33,1	34,5	33,6	-0,9	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	8602	8635	8651	8838	8842	5	Th.
	Male (as % of total)	54,8	54,5	55,0	54,7	55,0	0,3	p.p.
	Female (as % of total)	45,2	45,5	45,0	45,3	45,0	-0,3	p.p.
7	**Employment growth (%) (National accounts)**	0,0	-1,7	-1,5	2,8	1,3		p.p.
	Employment growth (%) (LFS - age 15-64)	-2,6	0,4	0,2	2,2	0,1		p.p.
	Male	-2,1	-0,3	1,2	1,6	0,6		p.p.
	Female	-3,3	1,2	-1,0	2,9	-0,6		p.p.
8	**Self employed (% of total employment)**	18,2	16,0	17,2	16,6	17,0	0,4	p.p.
	Male	23,6	21,4	22,7	22,0	22,2	0,2	p.p.
	Female	11,7	9,6	10,5	10,1	10,6	0,5	p.p.
9	**Temporary employment (as % total)**	2,0	2,5	2,4	1,8	1,6	-0,2	p.p.
	Male	2,2	2,9	2,8	2,0	1,7	-0,3	p.p.
	Female	1,7	2,1	1,9	1,6	1,5	-0,1	p.p.
10	**Part-time (as % of total employment)**	10,2	9,5	9,2	8,6	8,6	0,0	p.p.
	Male	9,8	9,3	9,1	8,7	8,3	-0,3	p.p.
	Female	10,7	9,8	9,2	8,5	8,9	0,5	p.p.
11	**Unemployment rate (Harmonised:15-74)**	7,0	8,1	7,2	7,3	6,4	-0,9	p.p.
	Young (15-24)	19,6	21,9	20,2	21,4	20,1	-1,3	p.p.
	Prime age (25-54)	6,3	6,9	6,4	6,4	5,6	-0,8	p.p.
	Older (55-64)	1,7	2,8	2,5	2,6	2,3	-0,3	p.p.
	Male	7,6	9,1	7,8	8,2	7,2	-1,0	p.p.
	Young (15-24)	20,3	24,2	21,5	22,3	21,1	-1,2	p.p.
	Prime age (25-54)	6,7	7,6	6,7	7,2	6,2	-1,0	p.p.
	Older (55-64)	2,5	4,0	3,4	3,8	3,5	-0,4	p.p.
	Female	6,4	6,9	6,4	6,1	5,4	-0,7	p.p.
	Young (15-24)	18,7	18,9	18,4	20,2	18,7	-1,5	p.p.
	Prime age (25-54)	5,8	6,2	6,0	5,5	4,9	-0,6	p.p.
	Older (55-64)	0,9	1,3	1,2	0,9	0,7	-0,2	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	62,1	58,9	56,7	57,7	49,9	-7,9	p.p.
13	**Worked hours (average actual weekly hours)**	39,8	40,0	40,1	39,8	39,7	-0,2	%
	Male	41,0	41,0	41,0	40,7	40,7	0,0	%
	Female	38,5	38,7	39,0	38,8	38,6	-0,5	%
14	**Sectoral employment growth**							
	Agriculture	6,3	-13,1	-1,5	:	:		p.p.
	Building and construction	-0,4	11,2	5,8	:	:		p.p.
	Services	-3,1	6,6	0,0	:	:		p.p.
	Manufacturing industry	-3,7	2,7	-5,2	-0,2	-0,3		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figuresre

Romania

Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	28,3	13,9	22,1	17,8	20,2	:	:	:	:
Compensation of employees per Hour Worked	25,4	25,2	18,8	:	:	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	16,4	16,3	14,6	19,1	23,4	24,1	24,1	23,8	22,3
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	21,9	3,3	15,4	12,3	14,8	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-1,7	-10,2	2,8	1,3	3,6	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	68,1	60,6	63,2	63,6	66,2	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	27,4	26,0	26,5	28,0	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	72,6	74,0	73,5	72,1	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	:	66,8	66,4	65,2	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	46,2	45,8	44,0	43,7	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	41,5	41,7	40,9	0,0	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	24,8	23,1	25,0	26,1	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	2,6	2,9	1,5	1,8	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	5,3	10,3	5,8	4,9	4,7	:	:	:	:
Hourly Labour Productivity	7,0	9,8	5,4	:	:	:	:	:	:
GDP	5,2	8,5	4,2	7,9	6,0	6,1	5,7	5,7	6,6
ECFIN NAIRU estimate	6,5	6,8	6,9	6,9	6,6	:	:	:	:
Output gap (%)	-2,0	1,7	1,1	3,4	3,0	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	15,3	11,9	9,1	6,6	4,9	3,9	3,9	5,1	6,8
Underlying inflation (exc. energy and unprocessed food)	15,1	12,2	6,3	5,8	5,5	5,6	5,1	4,9	6,5
GDP deflator	24,0	15,0	12,2	10,8	10,8	6,2	8,0	11,5	14,4
Sectoral breakdown of unit labour costs									
Agriculture and fishery	21,5	-52,1	111,4	:	:	:	:	:	:
Industry excluding construction	-6,5	4,2	35,6	:	:	:	:	:	:
of which: manufacturing	15,3	11,7	20,0	-22,1	16,0	:	:	:	:
Construction	-7,1	8,8	30,9	:	:	:	:	:	:
Trade, transport and communication	-8,6	-3,8	25,8	:	:	:	:	:	:
Finance and business services	1,6	7,5	28,5	:	:	:	:	:	:
Non-market related services	12,4	25,4	31,4	:	:	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	6,8	5,6	43,8	21,0	27,2	:	:	:	:
Agriculture and fishery	20,3	-34,6	77,4	:	:	:	:	:	:
Industry excluding construction	2,3	8,4	46,7	:	:	:	:	:	:
of which: manufacturing	25,9	17,4	31,4	-18,9	21,0	:	:	:	:
Construction	-0,1	6,7	36,1	:	:	:	:	:	:
Trade, transport and	3,5	0,9	40,3	:	:	:	:	:	:
Finance and business services	-9,2	-4,1	39,7	:	:	:	:	:	:
Non-market related services	22,6	18,4	38,9	:	:	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-1,0	36,6	-16,1	:	:	:	:	:	:
Industry excluding construction	9,4	4,0	8,2	:	:	:	:	:	:
of which: manufacturing	9,1	5,1	9,5	4,1	4,3	:	:	:	:
Construction	7,5	-1,9	4,0	:	:	:	:	:	:
Trade, transport and	13,3	4,9	11,5	:	:	:	:	:	:
Finance and business services	-10,6	-10,8	8,7	:	:	:	:	:	:
Non-market related services	9,1	-5,5	5,7	:	:	:	:	:	:
Market-related sectors	4,5	13,3	5,3	:	:	:	:	:	:

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

Work Status of persons:		European Union (27 countries)						
		2003	2004	2005	2006	2007 *	Changes 2006-2007 *	in
1	**Population (total) 1000 pers.**	472734	474595	477301	485371	487241	0,4	%
2	**Population (working age:15-64)**	322355	323443	325688	327078	328307	0,4	%
	as % of total population	68,2	68,2	68,2	67,4	67,4	0,0	p.p.
3	**Labour force (15-64) 1000 pers.**	222248	223813	227388	229812	231368	0,7	%
	Male	123470	123954	125489	126510	127113	0,5	%
	Female	98779	99858	101899	103302	104254	0,9	%
4	**Activity rate (as % of population 15-64)**	68,9	69,2	69,8	70,3	70,5	0,2	p.p.
	Young (15-24)	44,1	43,8	44,2	44,1	44,0	-0,1	p.p.
	Prime age (25-54)	83,1	83,4	83,8	84,2	84,4	0,2	p.p.
	Older (55-64)	42,6	43,4	45,3	46,4	47,3	0,9	p.p.
	Male	76,9	76,9	77,3	77,6	77,6	0,1	p.p.
	Young (15-24)	47,6	47,3	47,6	47,4	47,3	-0,1	p.p.
	Prime age (25-54)	91,5	91,5	91,7	92,0	91,9	0,0	p.p.
	Older (55-64)	53,2	53,9	55,3	56,2	57,1	0,9	p.p.
	Female	61,1	61,5	62,4	63,0	63,3	0,3	p.p.
	Young (15-24)	40,5	40,3	40,6	40,6	40,6	0,0	p.p.
	Prime age (25-54)	74,6	75,2	75,9	76,5	76,9	0,4	p.p.
	Older (55-64)	32,7	33,6	35,9	37,2	38,1	0,9	p.p.
5	**Employment rate (as % of pop. 15-64)**	62,7	62,8	63,5	64,5	65,4	0,9	p.p.
	Young (15-24)	36,1	35,7	36,0	36,4	37,2	0,8	p.p.
	Prime age (25-54)	76,4	76,5	77,2	78,2	79,1	1,0	p.p.
	Older (55-64)	39,9	40,5	42,4	43,5	44,7	1,2	p.p.
	Male	70,3	70,2	70,8	71,6	72,5	0,9	p.p.
	Young (15-24)	39,0	38,5	38,8	39,4	40,2	0,8	p.p.
	Prime age (25-54)	84,8	84,7	85,2	86,0	86,8	0,8	p.p.
	Older (55-64)	49,7	50,1	51,6	52,7	53,9	1,3	p.p.
	Female	55,0	55,4	56,3	57,3	58,3	1,0	p.p.
	Young (15-24)	33,2	32,8	33,0	33,4	34,2	0,7	p.p.
	Prime age (25-54)	67,9	68,4	69,2	70,3	71,5	1,1	p.p.
	Older (55-64)	30,6	31,4	33,6	34,9	36,0	1,1	p.p.
6	**Employed persons (age15-64 -Th. pers.)**	201986	203005	206914	210815	214673	3858	Th.
	Male (as % of total)	55,9	55,7	55,6	55,4	55,3	-0,1	p.p.
	Female (as % of total)	44,1	44,3	44,4	44,6	44,7	0,1	p.p.
7	**Employment growth (%) (National accounts)**	0,4	0,6	1,0	1,7	1,8		p.p.
	Employment growth (%) (LFS - age 15-64)	0,6	0,5	1,9	1,9	1,8		p.p.
	Male	0,2	0,2	1,6	1,6	1,6		p.p.
	Female	1,2	0,9	2,3	2,2	2,2		p.p.
8	**Self employed (% of total employment)**	9,5	10,1	10,1	10,0	10,0	-0,1	p.p.
	Male	11,6	12,4	12,3	12,2	12,1	-0,1	p.p.
	Female	6,8	7,3	7,4	7,3	7,3	-0,1	p.p.
9	**Temporary employment (as % total)**	12,6	13,2	14,0	14,4	14,5	0,1	p.p.
	Male	11,9	12,6	13,6	13,9	13,9	0,0	p.p.
	Female	13,4	13,9	14,5	15,0	15,2	0,2	p.p.
10	**Part-time (as % of total employment)**	16,0	16,7	17,1	17,4	17,5	0,2	p.p.
	Male	6,1	6,4	6,6	6,9	6,9	0,0	p.p.
	Female	28,7	29,6	30,2	30,4	30,6	0,2	p.p.
11	**Unemployment rate (Harmonised:15-74)**	8,9	9,0	8,9	8,1	7,1	-1,0	p.p.
	Young (15-24)	18,1	18,6	18,6	17,3	15,5	-1,8	p.p.
	Prime age (25-54)	8,1	8,2	7,9	7,2	6,2	-1,0	p.p.
	Older (55-64)	6,5	6,9	6,4	6,2	5,5	-0,7	p.p.
	Male	8,4	8,4	8,3	7,6	6,6	-1,0	p.p.
	Young (15-24)	18,1	18,6	18,5	17,0	15,2	-1,8	p.p.
	Prime age (25-54)	7,3	7,5	7,1	6,5	5,6	-0,9	p.p.
	Older (55-64)	6,6	7,0	6,6	6,2	5,5	-0,7	p.p.
	Female	9,7	9,8	9,6	8,9	7,8	-1,1	p.p.
	Young (15-24)	18,1	18,6	18,7	17,7	15,8	-1,9	p.p.
	Prime age (25-54)	9,0	9,1	8,8	8,1	7,1	-1,0	p.p.
	Older (55-64)	6,3	6,8	6,2	6,1	5,5	-0,6	p.p.
12	**Long-term unemployment rate**							
	(as % of total unemployment)	45,7	45,0	46,1	45,6	42,8	-2,8	p.p.
13	**Worked hours (average actual weekly hours)**	37,6	37,6	37,7	37,5	37,4	-0,1	%
	Male	40,7	40,9	40,9	40,7	40,6	-0,2	%
	Female	33,5	33,4	33,5	33,3	33,3	0,0	%
14	**Sectoral employment growth**							
	Agriculture	:	:	:	:	:		p.p.
	Building and construction	:	:	:	:	:		p.p.
	Services	:	:	:	:	:		p.p.
	Manufacturing industry	:	:	:	:	:		p.p.

Source: Eurostat, labour force survey.
*2007 *:* preliminary figures

European Union (27 countries)
Indicator board on wage developments

	annual percentage change								
	2003	2004	2005	2006	2007	07-Q1	07-Q2	07-Q3	07-Q4
Different measures of wage/labour costs:									
Compensation per employee	3,5	2,8	2,8	2,9	3,3	:	:	:	:
Compensation of employees per Hour Worked	3,8	3,0	3,2	:	:	:	:	:	:
Hourly labour costs (Eurostat labour cost index)	3,6	3,5	3,0	3,0	3,7	3,4	3,6	3,7	4,0
Negotiated wages (Euro-area only)	:	:	:	:	:	:	:	:	:
Nominal Unit labour costs	2,3	0,8	1,7	1,4	2,0	:	:	:	:
Real unit labour costs deflated by GDP deflator.	-0,3	-1,7	-0,5	-0,9	-0,6	:	:	:	:
Wage and salaries	:	:	:	:	:	:	:	:	:
Compensation per employee adjusted by Total Factor Productivity	:	:	:	:	:	:	:	:	:
Adjusted wage share (% of GDP at current market prices)	66,5	65,9	65,6	65,3	64,9	:	:	:	:
Structure of labour costs									
Share of indirect costs in total labour costs	:	:	:	:	:	:	:	:	:
Total wage (as a percentage of total labour costs) ANNUAL	:	:	:	:	:	:	:	:	:
Direct remuneration and bonuses (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with no children, 100% and 100% of AW	45,4	45,2	44,7	44,9	:	:	:	:	:
Total tax wedge (including employers SSC) - Married couple with 2 children, 100% and 100% of AW	42,1	42,0	41,7	42,0	:	:	:	:	:
Employers' social security contributions (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Other indirect costs (as a percentage of total labour costs)	:	:	:	:	:	:	:	:	:
Memo items: determinants or benchmarks according to which wage developments can be assessed									
Labour productivity (GDP/Person Employed)	1,1	2,0	1,1	1,5	1,3	:	:	:	:
Hourly Labour Productivity	1,7	1,9	1,3	:	:	:	:	:	:
GDP	1,5	2,7	2,1	3,3	3,1	3,5	2,8	2,8	2,4
ECFIN NAIRU estimate	8,7	8,5	8,2	7,8	:	:	:	:	:
Output gap (%)	-0,7	-0,3	-0,7	-0,1	0,3	:	:	:	:
Headline inflation (harmonised consumer price index 1996=100)	2,1	2,3	2,3	2,3	2,4	2,2	2,2	2,1	3,0
Underlying inflation (exc. energy and unprocessed food)	2,0	2,1	1,5	1,6	2,2	2,0	2,1	2,1	2,4
GDP deflator	2,6	2,5	2,2	2,3	2,7	3,0	3,0	2,9	2,0
Sectoral breakdown of unit labour costs									
Agriculture and fishery	7,0	-15,3	11,2	2,6	1,4	:	:	:	:
Industry excluding construction	-1,4	-1,0	0,2	0,1	0,6	:	:	:	:
of which: manufacturing	:	:	:	:	:	:	:	:	:
Construction	1,5	3,8	3,9	2,0	4,2	:	:	:	:
Trade, transport and communication	-0,5	0,9	1,3	0,5	1,2	:	:	:	:
Finance and business services	-0,3	2,1	2,2	2,5	2,9	:	:	:	:
Non-market related services	1,9	3,1	2,9	3,3	2,6	:	:	:	:
Market-related sectors	:	:	:	:	:	:	:	:	:
Sectoral breakdown of compensation per employee									
Total industries	1,0	2,8	2,7	2,9	2,9	:	:	:	:
Agriculture and fishery	3,0	-1,8	6,6	3,7	0,6	:	:	:	:
Industry excluding construction	1,1	3,1	2,5	3,5	2,9	:	:	:	:
of which: manufacturing	:	:	:	:	:	:	:	:	:
Construction	1,8	3,6	2,9	3,3	3,9	:	:	:	:
Trade, transport and	0,3	2,4	2,5	2,3	2,8	:	:	:	:
Finance and business services	0,5	2,2	2,9	3,1	2,8	:	:	:	:
Non-market related services	1,5	3,2	2,7	2,4	2,9	:	:	:	:
Sectoral breakdown of labour productivity									
Agriculture and fishery	-3,7	15,9	-4,1	1,1	-0,7	1,1	-1,2	-1,7	0,3
Industry excluding construction	2,5	4,1	2,2	3,4	2,3	2,3	2,4	3,1	2,6
of which: manufacturing	:	:	:	:	:	:	:	:	:
Construction	0,2	-0,2	-0,9	1,3	-0,3	3,3	-1,3	-1,6	-0,8
Trade, transport and	0,8	1,5	1,2	1,7	1,7	3,4	2,1	1,4	1,1
Finance and business services	0,9	0,1	0,7	0,6	-0,1	0,8	0,2	0,3	-0,1
Non-market related services	-0,3	0,1	-0,2	-0,9	0,3	0,5	0,9	0,6	0,1
Market-related sectors	1,3	2,6	1,3	2,1	1,3	2,3	1,5	1,4	1,2

Source: AMECO, Eurostat-National Account, ECB.
* *Note*: available on an annual basis only.

European Commission

European Economy No 5/2008 – Labour market and wage development in 2007 — with special focus on the economic impact of immigration

Luxembourg: Office for Official Publications of the European Communities

2008 — 235 pp. — 21 x 29.7 cm

ISBN 978-92-79-08387-7

Price (excluding VAT) in Luxembourg: EUR 50

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KC-AR-08-005-EN-C

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ISBN 978-92-79-08387-7