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Report

At a glance

- 2014 saw labour costs in private industry in Germany increase by 1.8%. With average hourly wages of €31.9, German industry remains near the bottom of the list of high-wage countries in the EU. In the crisis-hit countries, labour costs in private industry either remained unchanged or declined further in 2014.
- The increase in overall unit labour costs in Germany was 1.9% – slightly above average for the euro area. This figure is a more appropriate way of assessing an economy's price competitiveness than using labour costs alone, as it includes productivity gains.
- Since the launch of European monetary union, unit labour costs in Germany have risen much more slowly than in all other countries in the euro area and at a lower rate than is compatible with the ECB's inflation target. Germany continues to have a significant advantage in terms of price competitiveness.
- If current account imbalances within the euro area are to be rectified and economic development strengthened, Germany needs to change its economic policy, adopting an expansive fiscal policy and aiming at higher long-term wage growth.

German labour costs have risen only moderately

European comparison of trends in labour and unit labour costs in 2014 and the first two quarters of 2015

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Development of labour costs in the EU

Ever since 2006, the Macroeconomic Policy Institute (IMK) has regularly compared German labour costs per hour with those in other European countries (initially Düthmann et al. 2006, most recently Herzog-Stein et al. 2014). The comparison draws on publicly available data on the Eurostat Online Database, which consists of official figures gathered in accordance with uniform international standards by the statistical offices of the various countries and supplied to Eurostat. Calculation of the level of labour costs per hour worked is based on the Labour Costs Survey (LCS), which is carried out every four years in companies with 10 or more employees and collects detailed information on the structure and level of labour costs. The classification of industrial sectors was revised for the 2008 LCS (NACE Rev. 2) to allow for the increasing importance of the service sector. An overview of the definitions, differentiations and updating processes can be found in Herzog-Stein et al. (2013). The most recent LCS took place in 2012 and has been used as a starting point for calculating the labour cost levels. Hourly labour costs in the years between individual LCS are calculated and updated using the quarterly Labour Cost Index (LCI). This enables levels – measured in national currencies – to be identified and updated. The LCI is not a survey, but is based on various different existing sources of data[3].

Since the accession of Croatia on 1st July 2013, the EU has consisted of 28 states, 19 of which now have the euro as their national currency. Latvia introduced the euro in 2014 and Lithuania in 2015, so our analysis of hourly labour costs for 2014 relates to a euro area with 18 member states. In order to be able to compare labour costs in countries outside the euro area with those within it, the LCI is exchange-rate adjusted. It emerges that – calculated in euros – the hourly labour costs in some countries outside the euro area are significantly influenced by exchange rate fluctuations.

This paper looks first at labour costs in private industry, the private services sector, manufacturing and the public service sector. Following that, unit labour costs – in other words labour costs adjusted to allow for productivity – are analysed in the context of economic development in the EU and their influence on export prices, and the relationship of labour cost trends and current account imbalances is examined.

[3] Like many statistics, the LCS and LCI are subject to regular revision, but in most cases these do not materially affect the underlying trends. In the case of the United Kingdom (UK), however, the latest revision resulted in a significant increase in hourly labour costs of more than two euros . According to Eurostat, the revision was necessary because of a methodological problem in calculating actual hours worked. As a result the number of hours was significantly revised downwards, which meant that the labour costs per hour had to be revised upwards.

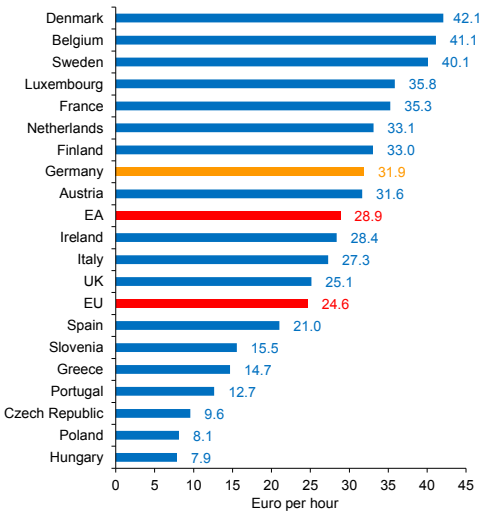
Labour costs in the private sector

As in previous years, the German economy ranked eighth in the 28 European economies examined in 2014 for labour costs in the business economy (industry and services of the business economy), putting it just above Austria and below Finland. Hourly labour costs in Germany were €31.9 (Figure 1).

This means that German private sector remains near the bottom of the list of high-wage countries in the EU – the nine economies where labour costs are above the euro area average (€28.9). However, within this group, the figures differ considerably: At €42.1 per hour, Denmark has the highest labour costs, followed by Belgium (€41.1) and Sweden (€40.1). The lowest labour costs within the group of EU high-wage countries are found in Austria, where the figure for the private sector is just below that for Germany, at €31.6. In 2014, 19 countries had labour costs in the private sector below the euro area average. However this group of countries is much more heterogeneous than the group of high-wage countries. Ireland (€28.4) and Italy (€27.3) are on top, with labour costs slightly below the euro area

FIGURE 1

Labour costs per hour worked[1] in the private sector[2] in 2014



[1] Data on labour costs and hours worked refer to all employees including apprentices.

[2] Economic activities B to N (NACE Rev. 2); B-F: Industry and construction; G-N: Services of the business economy.

Sources: Eurostat; Deutsche Bundesbank; IMK calculations (data as of 28.09.2015).

average but significantly higher than the EU average of €24.6. Then comes the UK, with labour costs of €25.1 per hour in 2014 that were also above the EU average. This is mainly due to the above-mentioned revision of British labour costs (see Footnote 3). Furthermore, UK labour costs measured in euros anyway displayed greater volatility because of exchange rate fluctuations than in the case of euro area members. 16 economies had private sector labour costs that were below the EU average (Table 1). These ranged from €21.0 in Spain to a mere €3.8 in Bulgaria. A total of eight economies had labour costs of under €10 per hour.

Average labour costs in the private sector grew by 1.5% in the EU in 2014 and 1.3% in the euro area. The average development was thus similarly weak to the previous year, when costs had risen by 1.2% and 1.1% respectively. Growth in German labour costs of 1.8% was slightly above average, while France and Italy had below-average growth at 1.0% and 0.4% respectively. At 7.1% the highest growth – measured in euros – was in the United Kingdom, but this was largely due to the appreciation of the British pound against the euro (Figure 2). Calculated in pounds sterling the increase was a mere 1.7%. Other steep increases of around 6% occurred

TABLE 1

Labour costs per hour worked in euros by kind of economic activity in 2014

	Private sector[1]				Private service sector[2]				Manufacturing[3]			
	LC/ hour	position	% in Euro[4]	% in LCU[4]	LC/ hour	position	% in Euro[4]	% in LCU[4]	LC/ hour	position	% in Euro[4]	% in LCU[4]
Denmark	42.1	1	1.4	1.4	42.7	1	1.4	1.4	41.6	2	1.6	1.6
Belgium	41.1	2	0.9	0.9	40.6	2	0.8	0.8	43.2	1	1.1	1.1
Sweden	40.1	3	-2.3	2.7	39.6	3	-2.4	2.7	41.2	3	-2.4	2.7
Luxembourg	35.8	4	3.0	3.0	38.8	4	3.5	3.5	31.4	9	1.7	1.7
France	35.3	5	1.0	1.0	35.2	5	1.0	1.0	36.4	5	1.3	1.3
Netherlands	33.1	6	2.2	2.2	32.3	6	2.0	2.0	34.6	7	3.3	3.3
Finland	33.0	7	1.7	1.7	31.4	7	1.5	1.5	36.0	6	1.8	1.8
Germany	31.9	8	1.8	1.8	29.1	9	1.7	1.7	37.0	4	2.5	2.5
Austria	31.6	9	3.0	3.0	30.2	8	2.7	2.7	34.4	8	2.9	2.9
Ireland	28.4	10	0.5	0.5	27.2	10	0.0	0.0	30.9	10	2.1	2.1
Italy	27.3	11	0.4	0.4	27.1	11	0.1	0.1	27.4	11	0.6	0.6
UK	25.1	12	7.1	1.7	25.1	12	7.1	1.6	24.8	12	7.7	2.3
Spain	21.0	13	0.1	0.1	20.2	13	0.1	0.1	22.8	13	0.6	0.6
Cyprus	15.8	14	-2.0	-2.0	16.3	14	-2.1	-2.1	12.9	16	-1.0	-1.0
Slovenia	15.5	15	2.4	2.4	16.1	15	1.8	1.8	15.3	14	3.8	3.8
Greece	14.7	16	-0.7	-0.7	14.5	16	-1.3	-1.3	15.1	15	1.7	1.7
Portugal	12.7	17	-1.0	-1.0	14.0	17	-0.2	-0.2	10.6	17	-1.2	-1.2
Malta	12.0	18	1.7	1.7	12.4	18	1.7	1.7	na	na	0.2	0.2
Estonia	10.2	19	6.0	6.0	10.3	19	6.2	6.2	9.4	19	5.7	5.7
Slovakia	10.0	20	5.1	5.1	10.2	20	6.6	6.6	9.8	18	4.4	4.4
Czech Republic	9.6	21	-3.7	2.1	9.7	22	-4.3	1.3	9.4	20	-2.6	3.2
Croatia	9.3	22	-1.2	-0.5	10.0	21	-1.1	-0.3	8.1	21	-1.0	-0.3
Poland	8.1	23	3.8	3.5	8.1	23	3.7	3.3	7.3	23	4.9	4.6
Hungary	7.9	24	-0.5	3.5	8.1	24	-0.1	3.9	7.4	22	-0.5	3.4
Latvia	7.0	25	5.7	5.9	7.3	25	5.5	5.7	6.1	24	5.3	5.6
Lithuania	6.6	26	4.6	4.5	6.7	26	4.7	4.7	6.1	25	4.2	4.2
Romania	4.8	27	6.2	6.8	5.1	27	7.0	7.6	4.2	26	6.5	7.1
Bulgaria	3.8	28	6.2	6.2	4.0	28	6.6	6.6	3.1	27	6.7	6.7
EA	28.9		1.3	1.3	27.9		1.2	1.2	31.0		1.9	1.9
EU	24.6		1.5	1.5	24.6		1.4	1.4	25.1		2.1	2.1

Note: The calculation of the labour cost survey 2012.
na = data not avaitlabe

[1] Economic activities B to N (NACE Rev. 2); B-F: Industry and construction; G-N: Services of the business economy.

[2] Economic activities G to N; G: Wholesale and retail trade; repair of motor vehicles and motorcycles; H: Transportation and storage; I: Accommodation and food service activities; J: Information and communication; K: Financial and insurance activities; L: Real estate activities; M: Professional, scientific and technical activities; N: Administrative and support service activities.

[3] Economic activity C: Manufacturing.

[4] Rate of change in percent compared to the previous year in euros or local currency, respectively.

Sources: Eurostat; Deutsche Bundesbank; IMK calculations (data as of 28.09.2015).

in Estonia, Romania and Bulgaria, and 5.1% in Slovakia. All four countries are in the lower third of the rankings. In the group of EU high-wage countries, Austria and Luxembourg recorded the greatest increase, at 3.0%, whereas in Sweden, changes in the exchange rate meant that hourly labour costs calculated in euros declined by 2.3%; calculated in national currency, they increased by 2.7%.

In the crisis countries within the euro area, labour costs in the private sector either stagnated in 2014 or continued to fall. The most dramatic decline was in Cyprus (-2.0%) followed by Portugal (-1.0%). In Greece, labour costs once again declined (-0.7%). In Spain, Italy and Ireland, they remained more or less steady, with changes of 0.1%, 0.4% and 0.5% respectively.

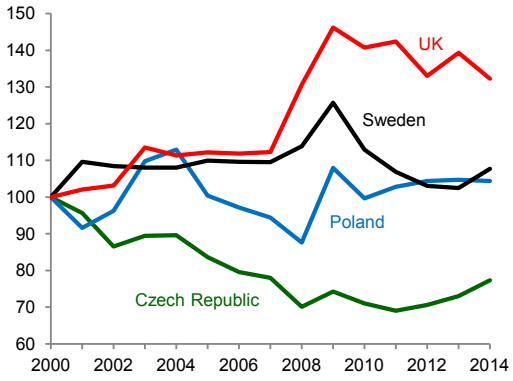
A longer term view of the development in labour costs in the private sector in European economies shows the actual extent to which they have changed in recent years in the crisis countries (Table 2). Between 2008 and 2014, labour costs in Greece declined by 2% per year on average, but the decline from 2008 onwards was so dramatic that the long-term average for the period from 2000 onwards shows an overall increase of only 1.1% per year. This means that Greece recorded by far the lowest long-term increase in labour costs amongst the European economies reviewed here.

Developments in Portugal and Ireland were similar, if less dramatic. With average growth rates of -0.1% and 0.3% per year, labour costs have effectively stagnated in both countries since 2008. Over the longer period from 2000, Portugal has recorded the second lowest increase.

FIGURE 2

Exchange rates of selected countries vis-à-vis the euro

2000=100



An increase (decrease) is equivalent to a depreciation (appreciation) of the national currency vis-à-vis the euro.

Sources: Deutsche Bundsbank; IMK calculations.

In Spain, growth rates in labour costs have more than halved since the global economic and financial crisis in 2008. Up to that date they increased at a rate above the euro area average, but from 2008 onwards they grew at just below the average rate.
The changes observed in Italy are much smaller. Following annual growth of 3.1% in labour costs between 2000 and 2008, the average growth rate since 2008 has been 2.4%.

Among the group of high-wage countries, Germany stands out in particular. Between 2000 and 2008 it had the lowest growth rates of all European economies surveyed, with average labour costs rising by a mere 1.8% per year. Since 2008, growth in German labour costs has accelerated slightly by an average of 0.3 percentage points per year and is now just above the average trend in the euro area. However there is no discernible change in the long term (Figure 3).

Turning to the developments in the first two quarters of 2015 shows that the increase in labour costs in the European Union (2.2%) and the euro area (1.7%) has been, on average, slightly higher than during the corresponding period in the previous year (1.4% and 1.3%). In Germany growth, at 3.0%, has even been significantly higher during the first half of 2015 than during the corresponding period in 2014 (1.4%).

In crisis-hit Cyprus and Greece, the decline in labour costs (-1.3% and -4.5% respectively) continued during the first six months of 2015. This means that labour costs in Greece have declined for the sixth year and in Cyprus for the third year in succession. Portugal, which also recorded declining labour costs between 2012 and 2014, experienced growth of 1.6% during the first half of 2015. During the same period Spain's labour costs more or less level-pegged (+0.2%), and in Italy growth was a mere 0.7%.

Labour costs in the private service sector

Both in terms of value creation and employment, the private service sector is quantitatively the most significant sector in the private sector. In Germany, hourly labour costs in this sector were €29.1 – €1.2 higher than the euro area average. This puts Germany in ninth place in the rankings behind Austria (€29.6), as in previous years (Table 1). The highest labour costs in the private service sector – and in private sector as a whole – were found in Denmark, at €42.7, followed by Belgium at €40.6 and Sweden at €39.6 (Figure 4). Average private service sector labour costs in the EU were €24.6 in 2014.

TABLE 2

Average annual growth rates of labour costs per hour worked in local currency units from 2000 to 2014 in the private sector

	2000-2008		2008-2014		2000-2014	
	Local currency	Euro	Local currency	Euro	Local currency	Euro
Greece	3.5		-2.0		1.1	
Portugal	3.1		-0.1		1.7	
Germany	1.8		2.1		2.0	
EA	2.9		2.0		2.5	
France	3.2		1.8		2.6	
Netherlands	3.3		1.9		2.7	
Belgium	2.8		2.6		2.7	
Italy	3.1		2.4		2.8	
Austria	2.6		3.1		2.8	
EU	3.5		2.0		2.8	
Cyprus	5.1		0.2		2.9	
Denmark	3.6		2.2		3.0	
Ireland	5.2		0.3		3.1	
Sweden	3.4	(1.8)	2.8	(3.8)	3.2	(2.6)
Spain	4.5		1.6		3.3	
UK	4.8	(1.3)	1.4	(1.2)	3.3	(1.3)
Luxembourg	3.7		3.0		3.4	
Finland	4.3		2.7		3.6	
Malta	3.6		3.7		3.7	
Slovenia	7.4		1.5		4.8	
Czech Republic	7.4	(12.3)	3.0	(1.3)	5.5	(7.5)
Poland	7.0	(8.8)	3.7	(0.7)	5.6	(5.2)
Slovakia	8.5		3.3		6.2	
Lithuania	10.5	(11.4)	1.2	(1.2)	6.4	(6.9)
Hungary	9.8	(10.2)	3.1	(-0.4)	6.8	(5.5)
Bulgaria	9.6		6.8		8.4	
Estonia	12.8		3.5		8.7	
Latvia	15.6	(12.3)	2.6	(2.6)	9.8	(8.0)
Romania	22.3	(13.2)	6.8	(3.5)	15.4	(9.0)
Croatia	na	na	0.0	(-0.9)	na	na

na = data not available

[1] Economic activities B to N (NACE Rev. 2); B-F: Industry and construction; G-N: Services of the business economy.

Sources: Eurostat; Deutsche Bundesbank; IMK calculations (data as of 28.09.2015).

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The average trend in labour costs in the private service sector in 2014 virtually mirrored developments in private sector as a whole. In the euro area they increased by 1.2% and in the European Union by 1.4%. German labour costs in this sector increased at a rate slightly above the average – 1.7% – following virtual stagnation (0.3%) in 2013. A historical comparison, however, reveals that the development was not particularly dynamic, as the figure for 2014 was exactly the same as the average annual figure during the period 2000 to 2008 (Table 1). This meant it was lower than the average for the period 2008 to 2014 (2.1%).

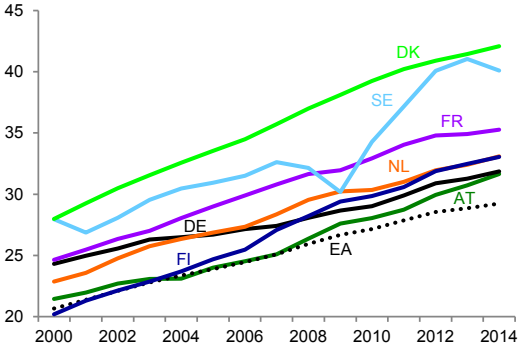
Following a number of years during which labour costs in the private service sector developed more slowly than in private sector as a whole, the figures for the first six months of 2015 showed the same average growth rates in both areas (1.7% in the euro area, 2.2% in the European Union). This applies to a greater or lesser extent to developments in most countries.

An increase of 3.1% during the first half of 2015 in Germany indicates that labour costs in the private service sector are set to increase at a significantly faster rate than in the previous two years.

FIGURE 3

Long-term development of labour costs in the high-wage group of countries in the private sector

in Euro



[1] Economic activities B to N (NACE Rev. 2): B-F: Industry and construction; G-N: Services of the business economy

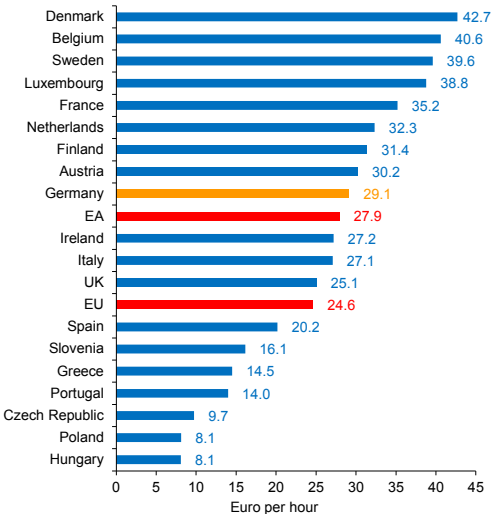
AT= Austria, DE = Germany, DK = Denmark, EA = Euro Area, FI = Finland, FR = France, NL = Netherlands, SE = Sweden.

Sources: Eurostat; Deutsche Bundesbank; IMK calculations (data as of 28.09.2015).

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FIGURE 4

Labour costs per hour worked[1] in the private service sector[2] in 2014



[1] Data on labour costs and hours worked refer to all employees including apprentices.

[2] Economic activities G to N (NACE Rev. 2); G: Wholesale and retail trade; repair of motor vehicles and motorcycles; H: Transportation and storage; I: Accommodation and food service activities; J: Information and communication; K: Financial and insurance activities; L: Real estate activities; M: Professional, scientific and technical activities; N: Administrative and support service activities.

Sources: Eurostat; Deutsche Bundesbank; IMK calculations (data as of 28.09.2015).

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Labour costs in manufacturing

Labour costs in the manufacturing are, on average, higher than in the private service sector, with a bigger gap of €3.1 per hour in the euro area, compared with one of €0.5 in the European Union as a whole. Germany stands out in this context, with a gap of almost €8.0 between labour costs in manufacturing (€37.0) and those in the private service sector (€29.1). In 2000 the differential was €5.1. This meant that in 2014 German labour costs in this sector were 21.4% higher than in the private service sector (Table 1).

In the country rankings for manufacturing in 2014, Germany, as in the previous year, comes in fourth, above France (€36.4) (Figure 5). The highest labour costs in manufacturing are found in Belgium (€43.2), followed by Denmark (€41.6) and Sweden (€41.2). In a total of nine economies, labour costs in manufacturing are above the average for the euro area.

In the euro area, labour costs in manufacturing increased by 1.9% in 2014 compared with 2.1% in the European Union. The figures were thus virtually identical to those of the previous year (both 2.1%). In Germany, labour costs in this sector increased by 2.5% – considerably less than the previous year (3.2%). Within the group of high-wage countries, Germany experienced the third highest increase behind the Netherlands (3.3%) and Austria (2.9%), as Sweden recorded a significant drop in labour costs as a result of the depreciation of the Swedish krona against the euro.

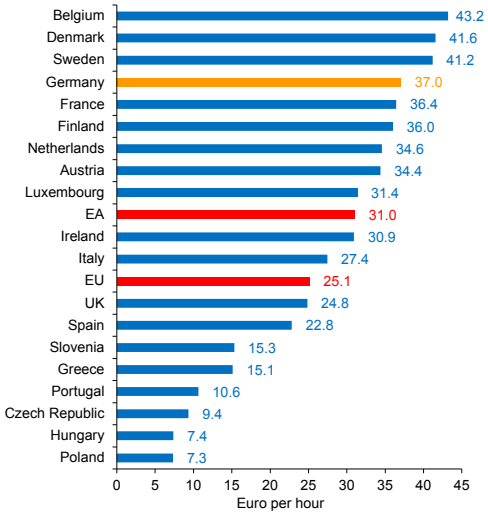
During the first half of 2015, manufacturing labour costs increased by an average of 2.0% in the EU and 1.7% in the euro area. This development is virtually identical to that of the corresponding period in the previous year.

It is striking that – unlike previous years – development in labour costs in the private service sector and manufacturing were similar during the first six months of 2015. Usually labour costs in manufacturing increase significantly more than in the private service sector. At 2.5%, the figures for Germany in the first six months of 2015 were slightly above average (euro area: 1.7%; European Union: 2.2%) but slightly lower than for the private service sector (3.1%). Whether this means that further divergence of German labour costs in these two sectors has been stopped, remains to be seen.

In the other European high-wage countries, with the exception of Denmark and Luxembourg, manufacturing labour costs are higher than in the private service sector (Figure 6), whereas in many Eastern European countries they are considerably higher in the private service sector.

FIGURE 5

Labour costs per hour worked[1] in manufacturing[2] in 2014



[1] Data on labour costs and hours worked refer to all employees including apprentices.

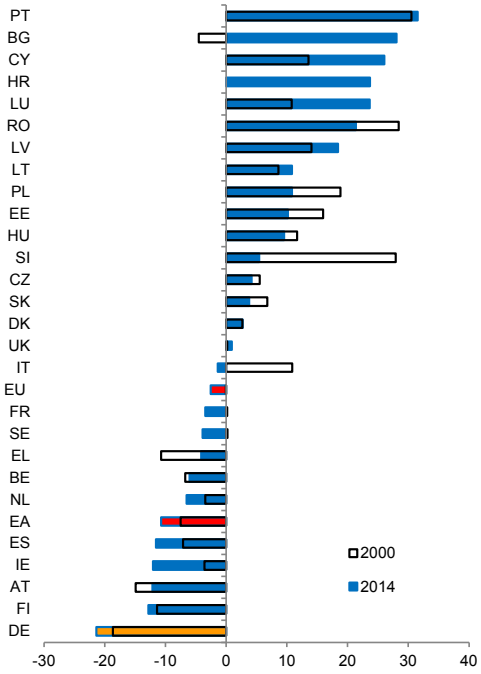
[2] Economic activity C (NACE Rev. 2).

Sources: Eurostat, Deutsche Bundesbank, IMK calculations (data as of 28.09.2015).

FIGURE 6

Deviation of labour costs in the private service sector[1] relative to the manufacturing sector[2]

in percent



There are no data for Malta for the manufactoring sector. Data for Croatia are only available from 2008 onwards.

[1] Economic activities G to N (NACE Rev. 2).

[2] Economic activities C (NACE Rev. 2).

AT = Austria, BE = Belgium, BG = Bulgaria, CY = Cyprus, CZ = Czech Republic, DE = Germany, DK = Denmark, EA = Euro Area, EE = Estonia, EL = Greece, ES = Spain, EU = European and Monetary Union, FI = Finland, FR = France, HU = Hungary, IE = Ireland, IT = Italy, LT = Lithuania, LU = Luxembourg, LV = Latvia, MT = Malta, NL = Netherlands, PL = Poland, PT = Portugal, RO = Romania, SE = Sweden, SI = Slovenia, SK = Slovakia, UK = United Kingdom.

Sources: Eurostat; Deutsche Bundesbank; IMK calculations (data as of 28.09.2015).

Labour costs in the public service sector

As a result of the euro area crisis and the austerity policies introduced in many European countries, the extent and development of labour costs in the public service sector are of particular interest. Unfortunately, though, full details are not available for all member states of the European Union. There is, for example, no information from the 2012 LCS for Belgium, Greece, Malta, Austria and Sweden, which means that it is not possible to calculate levels of labour costs for these countries. Figure 7 shows labour costs in the public service sector for those countries for which information is available.

It is, however, possible to compare developments in all EU countries since the global economic and financial crisis, as information from the LCI has been available for all economies since 2008.

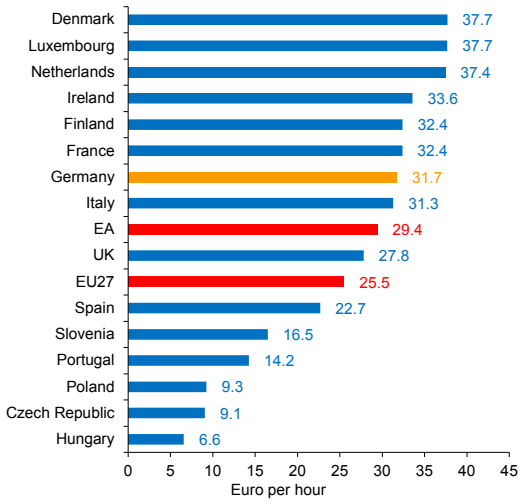
The following statement can be made for those countries for which information is available across the entire period under review: While labour costs developed faster in the public service sector than in the private service sector between 2000 and 2008, this development was reversed in most countries following the outbreak of the global economic and financial and euro area crises (Table 3).

This trend was particularly strong in the crisis-hit countries of Greece, Portugal and Ireland, where the impact of austerity policies can be observed to have had a dramatic effect on the development of public sector labour costs. Between 2008 and 2014, labour costs in this sector in Greece declined by an average of 5.9% per year, in Portugal by 2.5% per year and in Ireland by 0.8%. Cyprus – another crisis-hit country – also experienced annual declines. Labour costs in this sector in Spain more or less level-pegged during this period, whereas they increased by an average of 0.9% per year in Italy.

In any comparison of labour costs in the public and private service sectors, the figures for Germany stand out. Between 2000 and 2008 public service labour costs only grew at a rate (0.9%) that was half the annual increase in the private sector. This meant that Germany had by far the weakest increase in public service sector labour costs of all the economies reviewed in this period. Since 2008 the trend, at 2.6% per year, has been significantly stron-

FIGURE 7

Labour costs per hour worked[1] in the public service sector[2] in 2014



[1] Data on labour costs and hours worked refer to all employees including apprentices.

[2] Economic activities O to S (NACE Rev. 2); O: Public administration and defence; compulsory social security; P: Education; Q: Human health and social work activities; R: Arts, entertainment and recreation; S: Other service activities.

Sources: Eurostat, Deutsche Bundesbank, IMK calculations (data as of 28.09.2015).

ger and more dynamic than in the private service sector (2.1%).

During the first six months of 2015 the increase in Germany was 2.8% – almost the same as in the private service sector (3.1%). And average European figures also display only small differences between these two sectors.

Developments of German labour costs this year and next year will be of particular interest in view of the introduction of a statutory minimum wage in the country. And it is not just the impact on general inequality that will be interesting: in the context of labour costs, the question arises whether it will enable any further divergence of labour costs between the various sectors of the economy to be stopped. Developments during the first six months of 2015, during which labour costs in service sectors increased at a somewhat higher rate than in manufacturing, are likely to be partly due to the introduction of the minimum wage. It will be possible to make more precise statements on the impact on the development of labour costs in the aggregate economy and in individual sectors in the next IMK report on the development of labour costs, when complete information on labour costs for 2015 is available.

Unit labour costs and export prices as indicators of price competitiveness

The labour costs discussed above have an important influence on production costs and a country's potential export performance, but in themselves are not sufficient indicators of international competitiveness. A better way of assessing the price competitiveness of the national economy is to look at unit labour costs, as these take into account labour productivity as well as labour costs (see methodological annex in Herzog-Stein et al. 2013). If a country has high labour productivity, then it can produce competitively even if it has high labour costs.

A recent publication by the Cologne Institute for Economic Research (Institut der Deutschen Wirtschaft - IW) states that Germany „is one of the industrial countries with the highest labour costs anywhere in the world" (IW 2015)[4]. Allowances for differences in the relative productivity of the countries concerned are not mentioned, let alone made.

Unit labour costs are based on labour costs per unit produced but do not include further production costs such as energy or capital investment. They are therefore less suited as indicators of competitiveness for particularly energy- or capital-intensive sectors. Furthermore they provide no information about company profit margins. To that extent, unit labour costs only offer an approximation of the price competitiveness of an economy and are not identical with the prices of exported goods and services. They also cannot be calculated for exports alone, so unit labour costs for the aggregate economy or for the industrial sector have to be used.

At first glance, industrial unit labour costs would appear to be a more suitable indicator, as they leave out many areas that are not relevant for exports but are included in unit labour costs for the aggregate economy. However even this is not unproblematic as an indicator. Firstly, calculating industrial unit labour costs ignores exported services, which for individual countries such as Greece account for a significant proportion of exports (more than 50%). The proportion is considerably lower in Germany, but still significant – during the period under review it increased to a good 16%. Secondly, not all unit labour costs of relevance for exports are included, as the industrial sector makes use of many production-related services from other sectors (Ludwig 2013). Looking at the industrial sector

[4] The result calculated by the Cologne Institute, which put labour costs for manufacturing in Germany at €37.8 in 2014, also deviate from the figure of 37.0 euros produced by destatis and Eurostat. At the same time the IW considerably underestimates the economies of scope achieved in Germany as a result of cost-effective upstream input from the services sector.

TABLE 3

Average annual growth rates of labour costs per hour worked in the euro area from 2000 to 2014 in the private and public service sector

	2000-2008		2008-2014		2000-2014	
	privat[2]	public[3]	privat[2]	public[3]	privat[2]	public[3]
Greece	3.4	5.8	-1.9	-5.9	1.1	0.6
Portugal	3.2	3.0	-0.2	-2.5	1.7	0.6
Germany	1.7	0.9	2.1	2.6	1.9	1.6
Italy	2.7	4.1	2.0	0.9	2.4	2.7
EA	2.8	na	1.9	1.6	2.4	na
France	3.2	na	1.7	1.8	2.6	na
Netherlands	3.2	3.7	1.9	2.3	2.6	3.1
Belgium	2.9	2.9	2.6	2.3	2.7	2.6
Ireland	5.0	5.6	0.1	-0.8	2.9	2.8
Austria[1]	2.6	na	3.4	3.8	2.9	na
Spain	4.3	na	1.4	0.4	3.0	na
Cyprus	5.3	4.9	0.3	-0.8	3.1	2.4
Malta	3.0	5.1	3.9	3.7	3.3	4.5
Finland	4.1	3.9	2.7	3.0	3.5	3.5
Luxembourg	3.8	3.7	3.4	2.8	3.6	3.3
Slovenia	7.1	6.3	0.6	0.1	4.3	3.6
Slovakia	8.8	9.4	2.7	4.3	6.2	7.2
Estonia	12.5	13.8	3.3	3.0	8.5	9.0
Latvia	15.8	16.9	2.5	-0.1	9.9	9.3

na = data not available

[1] Value for Austria refers to the period 2009 - 2014.

[2] Economic activities G to N (NACE Rev. 2); G: Wholesale and retail trade; repair of motor vehicles and motorcycles; H: Transportation and storage; I: Accommodation and food service activities; J: Information and communication; K: Financial and insurance activities; L: Real estate activities; M: Professional, scientific and technical activities; N: Administrative and support service activities.

[3] Economic activities O to S (NACE Rev. 2); O: Public administration and defence; compulsory social security; P: Education; Q: Human health and social work activities; R: Arts, entertainment and recreation; S: Other service activities

Sources: Eurostat; Deutsche Bundesbank; IMK calculations (data as of 28.09.2015).

in isolation tends to overestimate unit labour cost trends increases when these are lower in other sectors. In the case of Germany, Ludwig (2013) comes to the conclusion that around 10% of labour costs are saved by the impact of upstream input. In addition, the industrial sector covers more than the export sector, as it also produces goods that are not exported. Some of these drawbacks can be partly avoided if one looks at unit cost trends in the aggregate economy, as here upstream input and services are automatically taken into account. For all these reasons, this report will discuss both indicators. Despite these problems, changes in national unit labour costs compared with other countries remain an important indicator for the development of an individual country's price competitiveness.

As in the case of labour costs, the main focus is on the larger economies that have been members of the euro area since 1999. The only exception is Greece, which did not join the euro area until 2001, but is taken into account because of its prominent role during the euro crisis. Two countries that are not members of the euro area are also taken into account, as they have close trading relationships with Germany: the UK and Poland. In both cases, currency effects have to be taken into account (cf. also Figure 2).

For greater clarity the countries are divided into two groups.[5] In order to illustrate developments since the start of monetary union, the indicators for all the countries are set at 100 for the first quarter of the year 2000.[6] This makes it possible to trace the development of the unit labour costs for a particular country in relation to the other economies from the starting point.

Increase in unit labour costs below target inflation rate

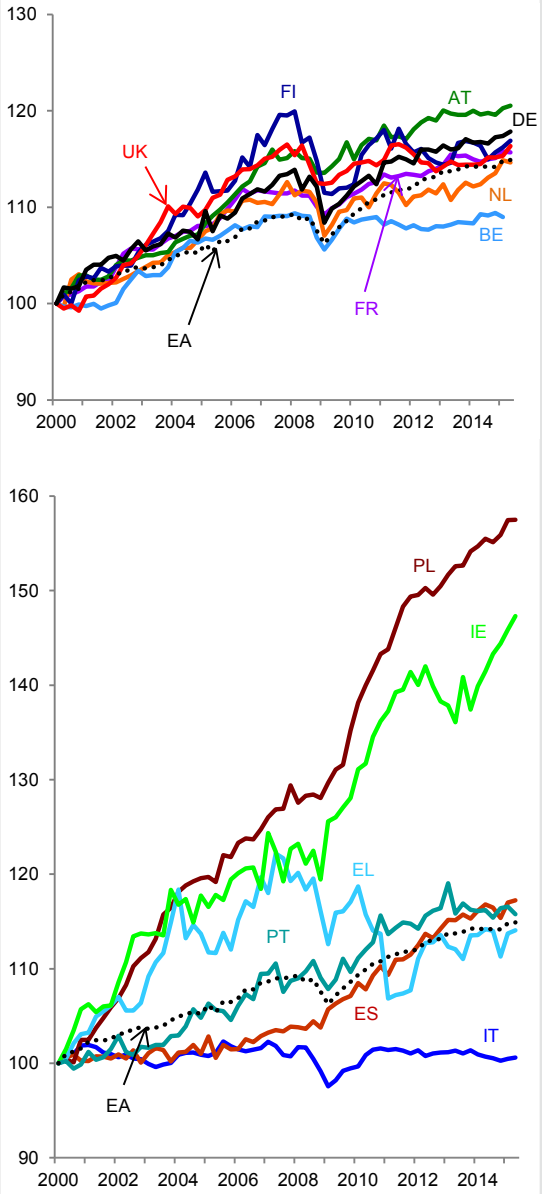
As Figure 8 shows, German labour productivity – the second component in unit labour costs – has slightly more improved since 2000 (17%) than in the euro area (just under 15%).[7] Labour productivity growth in Greece, which was running considerably higher than the euro area average during the years following introduction of the euro, sharply declined in the aftermath of the financial crisis. In 2010 productivity declined so much that the figure for the euro area was considerably higher than that for Greece in 2011. Since then, though, labour productivity growth has once again approached the average for the euro area.

If one looks at the growth of unit labour costs in the aggregate economy (Figure 9), one can see that in the case of Germany there was even a slight decline in the period between introduction of monetary union and the financial crisis. As unit labour costs increased for the euro area as a whole, Germany enjoyed continuous gains in price competitiveness – at least as far as unit labour costs were concerned. Since the major recession in 2009, developments in Germany have been similar to those in the euro

FIGURE 8

Development of labour productivity[1] in the euro area and in selected EU countries

2000q1=100



Note: Poland: In 2002 there is a break in the time series.

AT = Austria, BE = Belgium, DE = Germany, ES = Spain, EA = Euro Area, FI = Finland, FR = France, GR = Greece, IE = Ireland, IT = Italy, NL = Netherlands, PL = Poland, PT = Portugal, UK = United Kingdom.

[1] The calculation of labour productivity for all countries is in local currency (in hours, seasonal and calendar adjusted).

Quellen: Macrobond (Eurostat); IMK calculations (Datenstand 28.09.2015).

IMK

[5] The first group includes the two major economies in Germany and France as well as four small, open economies in Belgium, Finland, Austria and the Netherlands. Added to these as a comparator is the UK, which is not part of the euro area. The second group consists of countries that featured prominently during the euro crisis – Greece, Ireland, Portugal, Spain and Italy. For comparative purposes Poland, which is also not a member of the euro area, has also been included in this group.

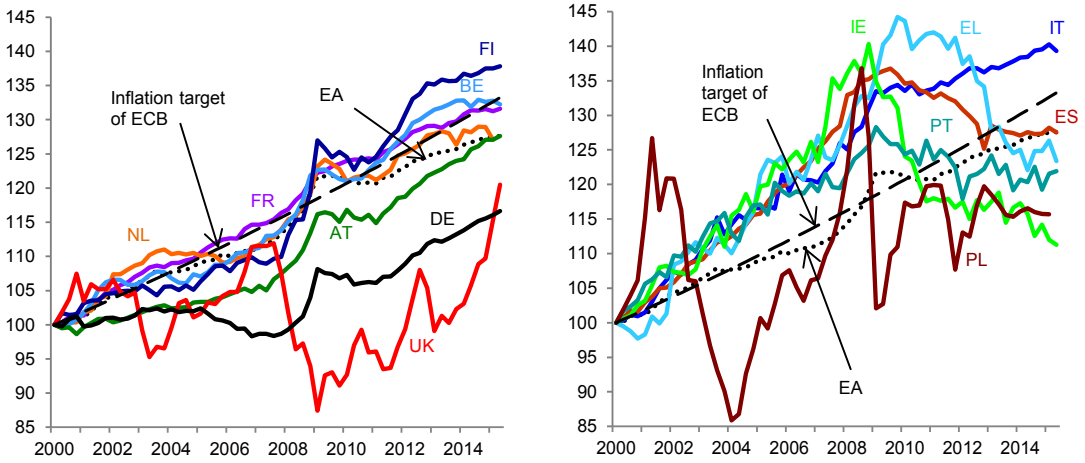
[6] The year 2000 has been taken as the reference point, as data for previous years is incomplete and any short-term impact of the introduction of the euro can be excluded.

[7] This macroeconomic average can only partly be applied at the level of companies. On average (including the average for companies) the labour productivity of German companies was higher than in other countries of the euro area, as Di Mauro and Ronchi (2015) demonstrate. However, the fluctuation of labour productivity from company to company in Germany is greater than in other countries (Di Mauro and Ronchi 2015, p. 51). Differences in the distribution of labour productivity in the corporate sector (Di Mauro and Ronchi 2015, p. 50-52) may influence countries' export performance.

FIGURE 9

Unit labour cost trends[1] in the whole economy[2] in the euro area and in selected EU countries

2000q1=100



Note: Poland: In 2002 there is a break in the time series.

[1] Unit labour costs (in persons). The calculation is in Euros for all countries.

[2] Economic activities B to N (NACE Rev. 2); B-F: Industry and construction; G-N: Services of the business economy.

AT = Austria, BE = Belgium, DE = Germany, ES = Spain, EA = Euro Area, FI = Finland, FR = France, GR = Greece, IE = Ireland, IT = Italy, NL = Netherlands, PL = Poland, PT = Portugal, UK = United Kingdom.

Sources: Macrobond (Eurostat); IMK calculations (data as of 01.10.2015).

IMK

area, which means that the German economy has been able to continue to operate on the basis of the competitive advantage it had established up to that point. As a result the German economy still enjoys an advantage of some 12% (data up to the first half of 2015) accumulated since the start of monetary union compared with the average unit labour costs for the euro area without Germany – despite the dramatic drop in unit labour costs since 2009 in the crisis-hit countries of Greece, Portugal, Ireland and even Spain. The positive development of the compensation of employees in Germany since 2009 has not resulted in any significant above-average increase in unit labour costs: Last year the increase in unit labour costs for the aggregate economy was 1.9% – only just above the euro area average of 1.2%. During the first six months of 2015 the increase compared with the corresponding period last year was 1.9% in Germany – one percentage point higher than in the euro area (0.9%). Despite the current convergence, Germany still has a significant price advantage compared with the euro area average.

In recent years the increase in unit labour costs in the euro area has been below the European Central Bank's inflation target. Up till 2010, average unit labour costs in the euro area remained close to the 2% target, but since then the stability level for unit labour cost developments set by the target inflation rate has not been fully achieved.

A closer inspection of developments in the crisis-hit countries of the euro area reveals that prior to the crisis they registered stronger growth in unit labour costs than the euro area as a whole. However, with the exception of Italy, crisis-related setbacks have resulted in growth – as in the case of Spain – dropping to the average level for the euro area or, in the case of Greece, Portugal and Ireland, even lower. Greece's later alignment with developments in the euro area is mainly due to a massive collapse in productivity in 2008 and 2010 which initially neutralized the sharp drop in pay levels around the year 2010.

The two countries outside the euro area registered strong swings. The UK experienced a significant drop in unit labour costs in 2007 and 2008, but since then has been falling into line with developments in the euro area. The main reason for this is a depreciation of the British pound sterling but not any massive change of unit labour costs in the national currency. The swings in Polish unit labour costs can also be explained in terms of currency fluctuations.

If one singles out the development of unit labour costs for the industry only (Figure 10), a similar pattern emerges as for the aggregate economy: growth in German unit labour costs even declined up till 2007 and since a temporary increase in 2009 has remained at the same level as when the euro was introduced. As the average for euro area countries increased, German industry has gained

in price competitiveness throughout – at least in terms of unit labour costs in industry. By contrast the crisis-hit countries of the euro area experienced above-average growth up to the onset of the financial crisis. The pace has slowed since 2010 and has remained stable more recently, but unit labour costs in the industry, unlike costs in the aggregate economy, indicate that Greece and Italy in particular have not been able to keep pace with the average growth in the euro area. The same goes for Spain, although in this case the gap is significantly smaller.

Unit labour costs versus export prices

As mentioned above, unit labour costs cover the cost of labour for each unit of production, but do not include other production costs such as energy and capital, let alone profit margins. It therefore makes sense to make a comparison with the development of export prices, which measure the average growth of prices of goods and services actually exported. Another reason why such a comparison is of interest is because following the financial crisis it was possible to observe a development in many crisis-hit countries whereby the decline in unit labour costs was not necessarily reflected in export prices (Herzog-Stein et al. 2013a). Despite declining unit labour costs in Greece, Spain, Ireland and Portugal, there was a significant rise in export prices.

This widening gap between export prices and unit labour costs has been a topic of discussion for the International Monetary Fund (IMF 2013) and the European Commission (EU Commission 2013). The latter has welcomed this development, as it sees an increase in profit margins, especially in export-oriented industries, as creating incentives for stronger allocation of resources to export related activities (EU Commission 2013, p. 19). Ultimately it is likely that many exporting companies will pursue a "pricing to market" strategy whereby price levels in the target country exert a strong influence on pricing of their own exports. The result is that export prices will not be automatically adjusted to changes in unit labour costs.

The gap between export prices and unit labour costs still exists. If one looks at the period from the end of 2008 to the middle of 2015, it is clear that export prices have also gone up for the crisis-hit countries (Figure 11), despite the drop in their unit labour costs (except in Italy). Export prices in Greece have risen to the same extent as the average for rest of the euro area, and the same thing can be observed in the case of Italy. Growth of export prices in Ireland was almost twice as high. As export prices in the peripheral countries of Europe, with the exception of Ireland, had already risen at a rate above the euro area average (Figure 11) and continued to rise after 2008, the gaps that have developed since the introduction of the euro have not been reduced to this day, even though export prices declined temporarily from 2013 onwards, especially in the crisis-hit countries.

However, there is one problem in interpreting this indicator and that is the fact that it is also influenced by changes in the composition of the goods exported. A larger proportion of high-price – and therefore normally higher value – exports, which actually points to an increase in competitiveness, results in higher export prices, which registers as a loss in price competitiveness. Increases in export prices as registered for some countries during the period under review should therefore not be entirely regarded as a deterioration but may instead reflect a change in the composition of exports towards goods with higher value-added.

Competitiveness and foreign trade

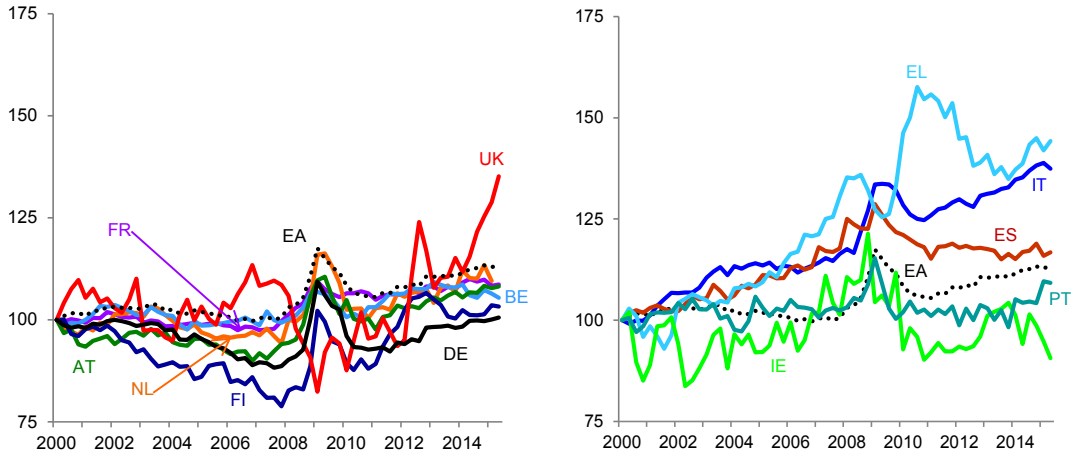
In the case of the crisis-hit countries there is likely to have been a significant improvement in price competitiveness within the euro area since the major recession, and this should have improved export opportunities for these countries. Exports have, indeed, increased, partly because of the depreciation of the euro. However, only some of the improvements in the current account balance are attributable to an increase in price competitiveness. In particular in the case of Greece, but also other countries in the euro area, another effect has played a crucial role (IMF 2013 and 2014, p. 117-125, Niechoj 2014): During the crisis and the ensuing austerity policies pursued in the euro area, incomes declined significantly and with them also demand for goods and services. This led in some cases to a sharp drop in imports. For example in Spain between 2008 and 2013 the price-adjusted decline in imports was more than 14%. It is largely this drop in imports that resulted in an improvement in the current account balance.

In addition to price competitiveness and patterns of demand, non-price competitiveness also should be taken into account. What is meant by this is the fact that a country's exports are not dependent just on the relative price of the goods and services on offer or the level of demand abroad, but also on quality and variety – i.e. the (relative) uniqueness of the product portfolio. This is a competitive advantage that is often pointed to in the case of German industrial goods. However, the situation regarding data for measuring non-price competitiveness is problematic (Ca'Zorzi and Schnatz 2007; Hubrich and Karlsson 2010; CompNet 2015).

FIGURE 10

Unit labour cost trends[1] in industry[2] in the euro area and in the United Kingdom

2000q1=100



[1] Unit labour costs (in persons). The calculation is in Euros for all countries.

[2] Economic activities B to N (NACE Rev. 2); B-F: Industry and construction; G-N: Services of the business economy.

AT = Austria, BE = Belgium, DE = Germany, ES = Spain, EA = Euro Area, FI = Finland, FR = France, EL = Greece, IE = Ireland, IT = Italy, NL = Netherlands, PT = Portugal, UK = United Kingdom.

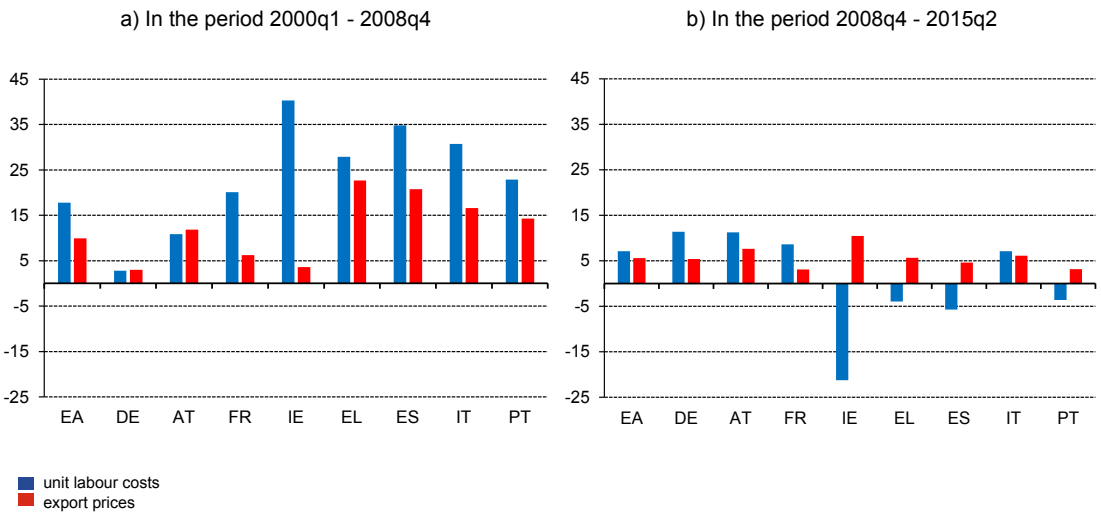
Sources: Macrobond (Eurostat); IMK calculations (data as of 01.10.2015).

IMK

FIGURE 11

Unit labour costs and export prices: Cumulative change in the business economy

in percent



EA = Euro Area, DE = Germany, AT = Austria, FR = France, IE = Ireland, EL = Greece, ES = Spain, IT = Italy, PT = Portugal.

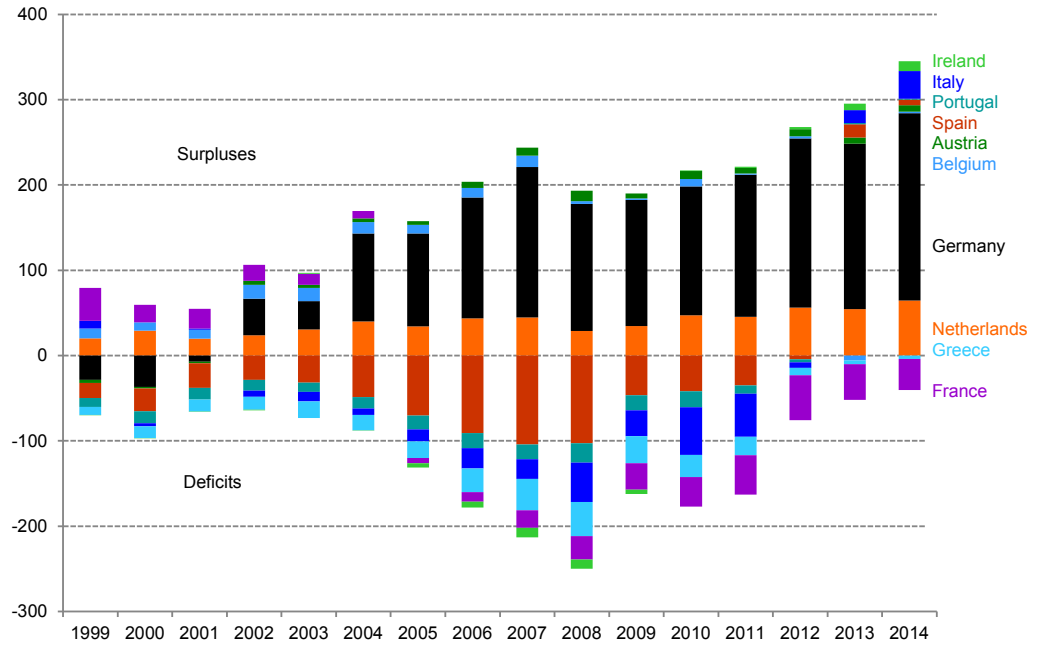
Sources: Macrobond (Eurostat); IMK calculations (data as of October 2015).

IMK

FIGURE 12

Current account balances in the euro area

EUR billion



Sources: Macrobond (AMECO); IMK calculations (data as of September 2015).

In line with the effects that can be empirically demonstrated – the increase in price competitiveness and the negative income effect – it has been possible to observe a recent reduction in formerly high current account deficits in the crisis-hit countries (Figure 12). All the countries with deficits have been able to reduce these and – with the exception of Greece – now have a surplus. France is the only country in the euro area whose deficit has increased since the financial crisis.

This means that the current account situation in the euro area has changed significantly. Whereas in the early years of monetary union the deficits in euro area countries were relatively small and the euro area as a whole had almost achieved a current account balance with the rest of the world, the situation changed from around 2004 onwards. First more extensive internal imbalances developed – growth in surpluses and deficits within the euro area – and then, during the course of the crisis, current account surpluses built up in all the euro area countries covered by this review, with the exception of Greece and France. The surplus in Germany remains particularly pronounced, having been reduced vis à vis the euro area but having massively increased vis à vis third countries.

This trend towards current account surpluses in the majority of euro area countries was, of course, only possible because the euro area was able to build up a surplus vis à vis the rest of the world. However it cannot be expected that the majority of euro area countries will maintain these surpluses in the long term. If incomes in Spain, Greece and Portugal recover and GDP returns to the pre-crisis level, then imports will also increase again and the current account balance of these countries will deteriorate (OFCE / ECLM / IMK 2014).

German wage trends and trade imbalances

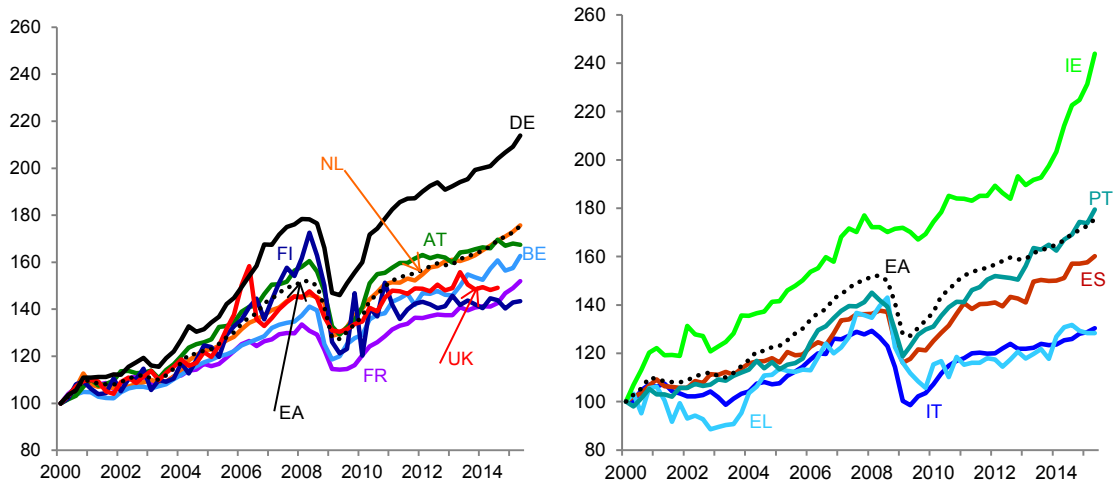
18 months ago the European Commission identified imbalances in Germany under its "Macroeconomic Imbalances Procedure" (EU Commission 2014). Prior to that the US Treasury had called on German politicians to stimulate domestic demand in order to reduce the surplus, support other euro area states in reducing their trade deficit and aid their economic recovery (U.S. Treasury 2013).

As the repeated growth in the German trade surplus last year showed, German export successes (Figure 13) are not helping to stabilize the trading environment because they have not so far been accompanied by an equally high increase in imports. There remains a large gap between Germany's export dynamics on the one hand and developments in the country's domestic economy on the other

FIGURE 13

Development of exports[1] in the euro area and in selected EU countries

2000q1=100



AT = Austria, BE = Belgium, DE = Germany, ES = Spain, EA = Euro Area, FI = Finland, FR = France, EL = Greece, IE = Ireland, IT = Italy, NL = Netherlands, PT = Portugal, UK = United Kingdom.

[1] The development of exports for all countries is in local currency. Price, seasonal and calendar adjusted. There are no comparable data for Poland before 2002.

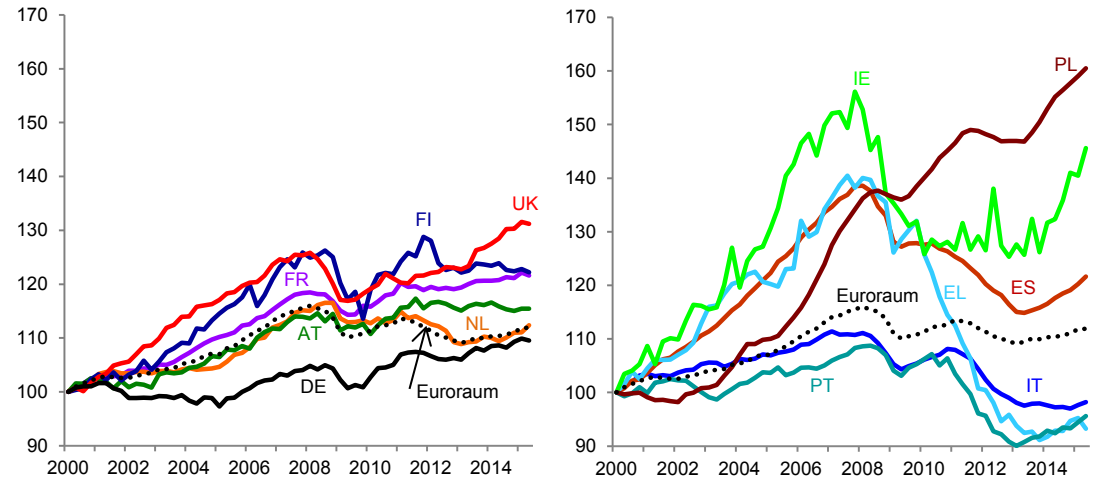
Sources: Macrobond (Eurostat); IMK calculations (data as of 28.09.2015).

IMK

FIGURE 14

Development of domestic demand[1] in the euro area and in selected EU countries

2000q1=100



Note: Poland: In 2003 there is a break in the time series. There are no seasonal adjusted data for Belgium.

AT = Austria, BE = Belgium, DE = Germany, EA = Euro Area, ES = Spain, FI = Finland, FR = France, EL = Greece, IE = Ireland, IT = Italy, NL = Netherlands, PL = Poland, PT = Portugal, UK = United Kingdom.

[1] The development of domestic demand for all countries is in local currency. Price, seasonal and calendar adjusted.

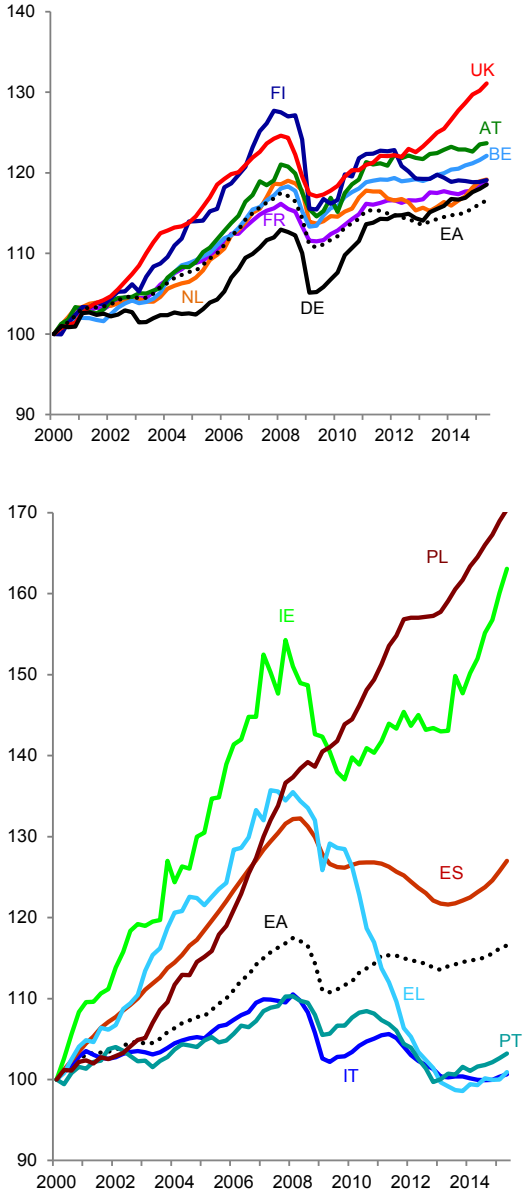
Sources: Macrobond (Eurostat); IMK calculations (data as of 28.09.2015).

IMK

FIGURE 15

Development of GDP in the euro area and in selected EU countries

2000q1=100



Note: Poland: In 2002 there is a break in the time series.

AT = Austria, BE = Belgium, DE = Germany, EA = Euro Area, ES = Spain, FI = Finland, FR = France, EL = Greece, IE = Ireland, IT = Italy, NL = Netherlands, PL = Poland, PT = Portugal, UK = United Kingdom.

[1] The calculation of GDP for all countries is in local currency. Price, seasonal and calendar adjusted.

Sources: Macrobond (Eurostat); IMK calculations (data as of 28.09.2015).

IMK

(Figure 14), which exert the greatest influence on imports. Thus, since the turn of the millennium, German exports – price adjusted – have more than doubled, whereas real private consumption – the biggest component in domestic demand – only increased by 10% during the same period. Even though German economic growth (Figure 15), at 1.6%, has lately been rather better than that of the euro area, this has not been enough to reduce the overall current account surpluses.

One important factor that explains the high price competitiveness of German exports and the country's relatively low demand for imports, is the past stagnation of wages. Last year, overall growth in wages (Figure 16) of 2.1% may have been somewhat higher than in the previous decade, but it was still much too low to generate any positive stimulus for demand in the euro area. Since the early 2000s, the development of the compensation of employees in the German aggregate economy has fallen well behind that of the euro area. Up till around 2008, growth in wages was below the euro area average and since then, wage increases have continued at a similar rate. For the years 2015 and 2016, higher rates of growth of 3% are expected (Horn et. al. 2015).

As can be seen in Figure 16, recent years have seen a clear correction of previously high wage growth in all crisis-hit countries. The slow-down in wage increases was particularly dramatic in Greece, while it was less steep in Ireland and in other crisis-hit countries nominal wages tended to stagnate – which meant that real wages declined.

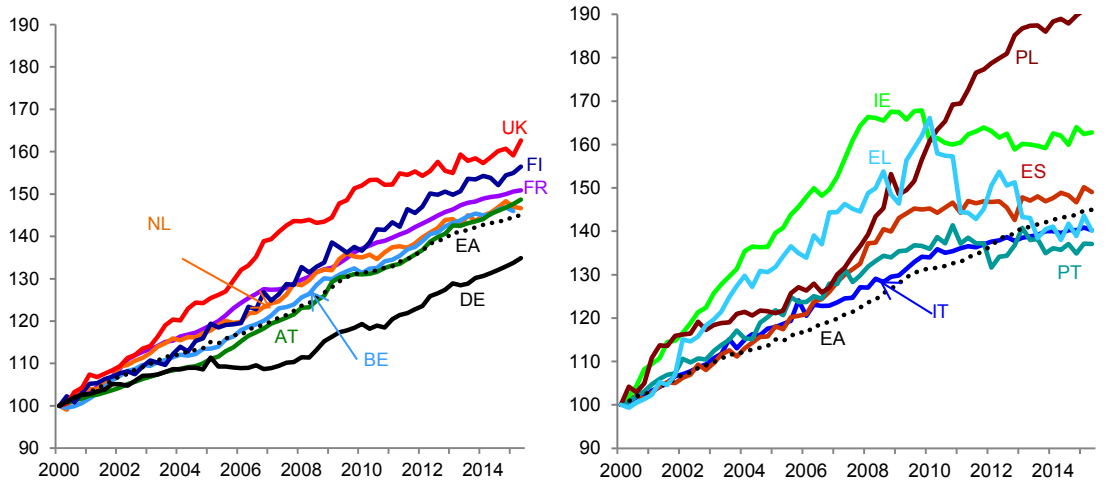
With its lower levels of wage increases in the aggregate economy and weak levels of imports, Germany has had a negative impact on the crisis-hit countries' process of economic adjustment. This link between wage trends and current account imbalances was examined in detail by the IMK with the help of macroeconomic simulations for the period 1999 to 2011 (Herzog-Stein et al. 2013b). In these simulations, aggregate economic development with – fictitious – higher wage increases was compared to the actual situation of lower wage increases in Germany. The basis for determining economically „optimum" wage increases was the macro-economic concept of a stability oriented wage policy in which wage increases in the aggregate economy make use of the redistributive scope created by trend productivity growth and the European Central Bank's target inflation rate (Herr and Horn 2012; Horn and Logeay 2004). With a medium-term annual increase in productivity of some 1 % per employee and an ECB target inflation rate of just under 2 %, overall wage increases should come in at just under 3%, which would be in line with the ECB's inflation target.

If such a macro-economically-oriented wage policy had been applied since the creation of the euro area, then by 2011 alone, nominal per capita wage levels would have been 19% higher (and 21% higher by 2014). The price increases thereby induced

FIGURE 16

Development of compensation of employees[1] in the business economy, in the euro area and in selected EU countries

2000q1=100



Note: Poland: In 2002 there is a break in the time series.

AT = Austria, BE = Belgium, DE = Germany, EA = Euro Area, ES = Spain, FI = Finland, FR = France, EL = Greece, IE = Ireland, IT = Italy, NL = Netherlands, PL = Poland, PT = Portugal, UK = United Kingdom.

[1] Compensation of employees per hour.Nominal, seasonal and calendat adjusted. In local currency.

Sources: Macrobond (Eurostat); IMK calculations (data as of 01.10.2015).

would have reduced the effectiveness of some of the nominal wage increases, but in this model real wages would have increased by almost one and a half percent per year – considerably more than the actual annual increase of a mere half a percentage point. The domestic economy would have developed far better and would have compensated for the impact of lower levels of export growth.

What is particularly interesting here is the impact on foreign trade of higher wages and the accompanying rise in domestic demand as well as the smaller improvement in price competitiveness: According to the IMK's model analysis, the assumed higher wages and higher unit wage costs would only have been partly reflected in export prices as part of a „pricing to market" strategy by German companies. After 13 years, export prices would have been just under 5% higher than their level in the base scenario. The resulting relatively small improvement in price competitiveness would have resulted in real exports growing at a rate that was almost 6% slower. Even so they would have roughly doubled within a period of 13 years. In the case of imports, the improved development of the domestic economy would have more than compensated for the slightly negative impact of lower increases in exports. Imports would have experienced an additional rise of almost 2%. The nominal external contribution, which is by far the most important component for the current account balance, would have been some €55 billion less after 13 years; the German surplus in 2011 would therefore have been reduced by one third. And because of their close trading links, the countries of the euro area would have significantly benefited.

In its annual report for 2014/2015, the German Council of Economic Experts (SVR) also looked at the factors determining current account imbalances and underlined three significant factors in the real economy that have influenced the increase in the German trade surplus: "Firstly, significant increases in turnover of German exporters as a result of the upswing in the global economy; secondly an improvement in the price competitiveness of German companies; and thirdly, the braking effect of wage moderation on consumer demand" (SVR 2014, p. 217).

In its further analysis, however, the SVR fails to underline the importance of wage growth for improving price competitiveness. Instead it refers

to a work by Gadatsch et al. (2014)[8], in which the authors attempt to demonstrate that reductions in labour costs following the Hartz reforms and the reformed financial policy during the first half of the last decade did not have any impact on the aggregate current account balance. Their simulations using a calibrated DSGE model (2-region model for Germany and the other euro countries) show a strong increase in German real net exports following labour cost reductions. But in their model the impact of this on the (nominal) current account balance is compensated by very strong price changes in the export sector: a real increase in exports is balanced by a reduction in export prices on account of lower labour costs. At the same time real and nominal imports hardly change at all.

The cause of these results probably lies in the assumptions underlying the model, which sees domestic private demand as a Cobb-Douglas aggregate of domestically produced and imported goods. This means that the elasticity of substitution is exactly one, which implies that nominal exports cannot be increased by reducing export prices. As far as imports are concerned, the Cobb-Douglas assumption means that the share of the value of imports in domestic private consumer demand remains constant. Using these assumptions, current account surpluses following reductions in labour costs are practically impossible within the framework of the model. Thus the model is not suited to investigating this issue and the reference made to it in the SVR annual report leads nowhere.

As experience in recent years has shown, long-term high current account imbalances within the European monetary union are a serious problem, as in times of crisis countries with high deficits encounter financing difficulties on international capital markets. The resulting adjustment processes, to some extent enforced from the outside, with fiscal consolidation, wage stagnation or even wage cuts are then linked to a serious loss of growth.

If, at the start of monetary union, Germany had pursued a different economic policy aimed at both strengthening the domestic economy and boosting exports, with annual wage increases of some 3%, then the crisis-hit countries would not have been put under such strong pressure. Europe's economy would have developed in a more stable manner overall without any negative impact on Germany. On the contrary, higher wages would also have had a positive influence on the domestic economy and GDP and at the same time have prevented massive redistribution to the detriment of employees. The fact remains that at the same time a more expansive financial policy with significantly higher public investment, as recently suggested by the International Monetary Fund (IMF) and as frequently called for by the IMK (most recently Horn et al. 2015) would have been necessary in order to rectify German current-account surpluses (IMF Staff 2015). This is all the more urgently required, as any long-term improvement in economic development for the crisis-hit countries will lead to their imports increasing again - which could once again result in current account deficits.

[8] A slightly expanded and modified form of this paper by the SVR has also been published by the German Bundesbank as a discussion paper (Gadatsch et al. 2015).

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