Macroeconomic Imbalances in the EU

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Contribution to the Project

This milestone provides a first analysis of the causes of macroeconomic imbalances and thus contributes to the assessment of the strengths and deficiencies of the current EU governance structure. This is a precondition for policy conclusions which intend to modify the institutions at the EU level to overcome the current sluggish economic development.

Macroeconomic Imbalances in the EU

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Abstract

This paper aims to identify different growth patterns in the EU which led to the emergence of macroeconomic imbalances. It provides a detailed statistical picture of the evolution of various macroeconomic variables on the demand as well as on the supply side, before, in and after the financial and economic crisis of 2008/09. It investigates the causes and discusses various 'channels' which led to macroeconomic imbalances by means of a descriptive analysis of the key determinants of macroeconomic developments, such as wage and price developments, productivity growth etc. Special emphasis is given to developments of the share of labour in national income, the real interest rate and the real exchange rate. The analysis of this data set provides a comprehensive picture of the underlying causes for the specific growth patterns as well as a first assessment of their role in the development of macroeconomic imbalances within the EU. It derives tentative conclusions as to how macroeconomic imbalances can arise in a monetary union and how they can be addressed properly by economic policy.

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1 Introduction

Macroeconomic imbalances[1] within the European Monetary Union (EMU) are at the heart of the current crisis. Before the outbreak of the financial and economic crisis in 2007/08, the EMU member states embarked on different development paths, which were characterised by different growth patterns on the demand and supply side. These patterns led to large current account surpluses and deficits across member states. Moreover, they led to substantial changes not only in flows (e.g. current accounts) but also in stocks and stock prices (e.g. private sector debt and house prices), as well as to structural changes on the production side of the economy. These developments were not sustainable and made many countries highly vulnerable during the financial and economic crisis.[2] They are also a major cause for the subsequent sluggish and uneven recovery and the crisis of public finances. Furthermore, they highlighted the incompleteness of the monetary union and showed the limits of the existing governance structure and institutions at the EU level to overcome the crisis. Macroeconomic imbalances are now widely seen as a major problem for the stability and sustainability of the EMU.

The institutional incompleteness of the EMU was one of the main factors behind these developments. The monetary union was flawed from the very beginning (de Grauwe (2013)). Firstly, it is not an optimal currency union (OCA).[3] Upward and downward wage and price flexibility are not high enough to guarantee adjustment after asymmetric shocks. Labour migration within the EMU is also rather limited. Secondly and more importantly before and during the crisis, the incomplete institutional architecture of the monetary union aggravated the boom and bust cycles which led to macroeconomic imbalances. The common monetary policy, in conjuncture with

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[1]In this paper, the term 'macroeconomic imbalances' is used as a synonym for 'external' or 'current account imbalances'. The reason is that developments in the current account often reflect domestic developments, which are usually denominated as 'internal imbalances'. By using the broader term, we take into account these interlinkages.

[2]Aiginger (2011) found that current account balances are one of the factors which explain cross-country differences in the economic performance during the recent crisis

[3]The OCA theory was first developed by Mundell (1961). When the EMU was founded, it was expected that its economies would become more and more homogeneous over time in terms of economic structure and institutions. This is often called 'endogenous OCA theory'. For a more elaborated discussion to what extent the EMU is an OCA see e.g. Breuss (2011), Handler (2013).

divergent price developments reduced real interest rates in high-growth and high-inflation countries. This further stimulated domestic demand and amplified the boom. Strong domestic demand led to rapidly expanding imports, and consequently to high current account deficits. Contrarily, in low-growth and low-inflation economies real interest rates were higher and restricted domestic demand. This, in conjuncture with solid export growth caused substantial current account surpluses. For a time, the so-called real interest channel was more effective than the counteracting competitiveness channel. Due to a fundamental change in the risk perceptions of financial investors ahead of the establishment of the EMU, nominal interest rates had converged and did not counteract the effect of the real interest channel.[4]

An important feature of theses developments is that they are symmetric. Domestic demand booms and current account deficits were financed by large capital flows coming from current account surplus countries. Banks intermediated the credit expansion of domestic households and firms by running up large stocks of debt abroad (Lane (2013)). This made current account deficit countries highly vulnerable to 'sudden stops' of capital flows when the financial crisis began and caused a sharp decline in domestic demand.[5] The legacy of high stocks of financial debt impeded a recovery when the global crisis ended. Households and firms tried to reduce their debt burdens by restraining their expenditures and consequently deflated demand, which aggravated the economic crisis even more. The countries suffered (and still suffer) from a *balance sheet recession*.[6] Furthermore, the lasting boom in domestic demand before the crisis induced structural changes on the production side of the economy. The closed, domestic-oriented sectors, such as construction and services expanded relatively to open, trade-oriented sectors. Because these developments were unsustainable and domestic demand is unlikely to return in the near future, these structural shifts need now be reversed, at least partly. Such adjustment processes however take time and are never easy for firms and employees alike. The current account surplus countries on the other hand sold a large amount of their products to the

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[4]For a more elaborated discussion of the channels at work, see European Commision (2006), European Commision (2009) and Ederer (2010).

[5]Lane and Milesi-Ferretti (2012) investigate the macroeconomic adjustment mechanism at work when current account deficits are rebalanced.

[6]For a detailed explanation of the mechanisms of a balance sheet recession, see Koo (2009).

booming deficit countries. Production and employment consequently shifted to the open, trade-oriented sectors such as manufacturing. As exports in surplus countries were at least partly the mirror image of domestic demand in deficit countries, the former also face a need to adjust and shift production and employment to more domestic-oriented sectors. Although they are not as vulnerable on the financial side, current account surplus countries had built up large stocks of foreign assets before the crisis, which have come under severe stress afterwards. This can potentially damage the financial system of surplus countries.

After the unsustainable, domestic-driven booms in deficit countries had come to an end, the framework for economic and fiscal policy of the EMU aggravated the crisis even more and forced several countries into a recession. The Stability and Growth Pact (SGP) restricted public expenditures, particularly in the countries which had been affected most severly. It was reinforced during the crisis by introducing new, even stricter rules. Fiscal policy consequently acted pro-cyclically and destabilised the European economies. Consolidation measures which were put into effect in a parallel undertaking in all EU countries depressed demand and drove economies (further) into recession. Social unrest and the deterioration of the support for the EU by the public, particularly in Southern Europe, is threatening the cohesion and even the existence of the EMU.

This paper attempts to identify the different growth patterns in the EU which led to this situation. It will provide a detailed statistical picture of the evolution of various macroeconomic variables on the demand as well as on the supply side, before, in and after the financial and economic crisis of 2008/09. Furthermore, it will look into the causes of macroeconomic imbalances by means of a desciptive analysis of the key determinants of macroeconomic developments, such as wage and price developments as well as productivity growth. Special emphasis will be given to the developments of the share of labour in national income, the real interest rate and the real exchange rate. The analysis of this data set will provide a comprehensive picture of the underlying developments for the specific growth patterns as well as a first assessment of their role in the development of macroeconomic imbalances within the EU. It will derive tentative conclusions as to how macroeconomic imbalances can arise in a monetary union and how they can be adressed properly by economic policy. Macroeconomic imbalances are usually discussed

with regard to EMU countries. In this paper, we extend the discussion to all EU member states, so as to be able to detect similar patterns in non-EMU countries as well. The aim of the paper is to provide a comprehensive statistical picture of the trends and developments outlined above.

The remainder of the paper is structured as follows: Section 2 explains and justifies the definition of four country groups which are the basis for the subsequent analysis. Identifying patterns on the basis of country groups provides a clearer albeit coarser picture. Section 3 describes the evolution of macroeconomic imbalances within the EMU. Section 4 deals with the question whether macroeconomic imbalances were caused by income convergence. Section 5 looks into demand developments across member states and discusses their relation to current accounts. Section 6 gives an overview of the changes on the supply side which came along with and were caused by these developments. The potential causes and underlying developments of macroeconomic imbalances, and in particular the competitivenness channel, the real interest channel, and the income distribution channel are discussed in section 7. Section 8 moves ahead in time and deals with the impacts of the financial and economic crisis of 2007/08 and the developments since then on macroeconomic imbalances. Finally, section 9 concludes and draws some tentative implications for economic policy.

2 Definition of Country Groups

Most of the following analysis is based on a classification of EU member states into different country groups. Before discussing the results we therefore we briefly explain the motivation and the criteria for splitting EU member countries countries into groups. In order to do so, we apply three different criteria:

1. **CA:** Current Account (in percent of GDP, accumulated over the period 2000-2007)

2. **CAC:** Changes in Current Account (difference between 2000 and 2007 in percent of GDP)

3. **GDPpC:** GDP per Capita (2000, EU27 = 100%)

The first criterion can be interpreted as a variable which reflects the state of the current accounts. We accumulated it over the whole pre-crisis period so as to avoid that the classification into a particular group depends on a specific year. By doing so, we distinguish countries with a positive current account from those with negative ones. The second criterion can be seen as reflecting macroeconomic developments over the period from 2000 to 2007. This allows us to separate countries with ameliorations and deteriorations in their external balances. The third criterion - GDP per capita - has been introduced to capture the specific characteristics of 'catching-up countries'. Due to strong economic growth and high investment, these countries usually import more than they export, and finance their catching-up process through foreign direct investment flows. Their current account deficits could therefore be interpreted not as poor macroeconomic developments, but rather as a sign of a catching-up process.

For each criterion we defined a threshold which allows us to split the countries into groups. For the first criterion, the boundary is defined as having a positive or negative accumulated current account. For the second criterion, an increase in the current account balance of 2 percent of GDP has been chosen as threshold; by doing that we capture only countries which improved their current account balance substantially and the classification into groups is less arbitrary. The threshold value for the third criterion is a GDP per capita of less than 80 percent of the EU27 average in the year 2000. The three criteria would theoretically allow eight different groups, but as it turns out, only four country groups emerge:[7]

- **Group 1:** CA > 0, CAC > 2%, GDPpC > 80%
  Austria, Germany, Netherlands, Sweden

- **Group 2:** CA > 0, CAC < 2%, GDPpC > 80%
  Belgium, Denmark, Finland, France, Luxemburg

- **Group 3:** CA < 0, CAC < 2%, GDPpC > 80%
  Cyprus, Greece, Spain, Ireland, Italy, Malta, Portugal, United Kingdom

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[7]The only country which does not fit into one of the four groups is Malta. According to our criteria, it would be in a separate group (CA < 0, CAC > 2%, GDPpC > 80%). To avoid a group with only one member we decided to put Malta into Group three (see below).

- **Group 4:** CA < 0, CAC < 2%, GDPpC < 80%
  Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Romania, Slovakia, Slovenia

The first and second group correspond to what is usually named 'Northern Europe'. Group one includes Germany and its immediate neighbours Austria and Netherlands, as well as Sweden. In group two we find countries such as France and Belgium which exhibit positive albeit substantially decreasing current account balances over the period. The third group mainly corresponds to the countries usually termed 'Southern Europe'. Interestingly, by applying our criteria, the United Kingdom is also a member of this group, although it is clearly not in the South of Europe. Nevertheless, the developments are similar, so that we decided to keep it in group three. The fourth group broadly reflects 'Eastern Europe'. Malta (see footnote 7) and Slovenia are somewhat special cases. Strictly applying our criteria, Slovenia would be in group three. However, its GDP per capita is close to the threshold, so that we decided to put it into the groups with its 'economic and geographical neighbours'. Figure 1 shows the first two criteria for all EU countries and the four country groups. The classification according to the GDP per capita criterion is displayed in Figure 6 in section 4.

All groups consist of EMU and non-EMU member states. Distinguishing non-EMU countries into those which maintain fixed and flexible exchange rate regimes further complicates the analysis. Sweden and the United Kingdom, which are part of group one and three respectively, have flexible exchange rates vis-à-vis the Euro. In group two, Denmark, which is the only non-EMU country, maintains a stable exchange rate. In group four, we find EMU countries, as well as non-EMU countries with fixed and flexibles exchange rates. Currency regimes are likely to have an impact on the development of growth patterns. In countries with flexible exchanges rates, huge current account surpluses and deficits are less likely to emerge. We take this matter into account when we go beyond the group level, and analyse the specific developments on the country level.

Figure 1: Current Account 2000 and 2007, as % of GDP
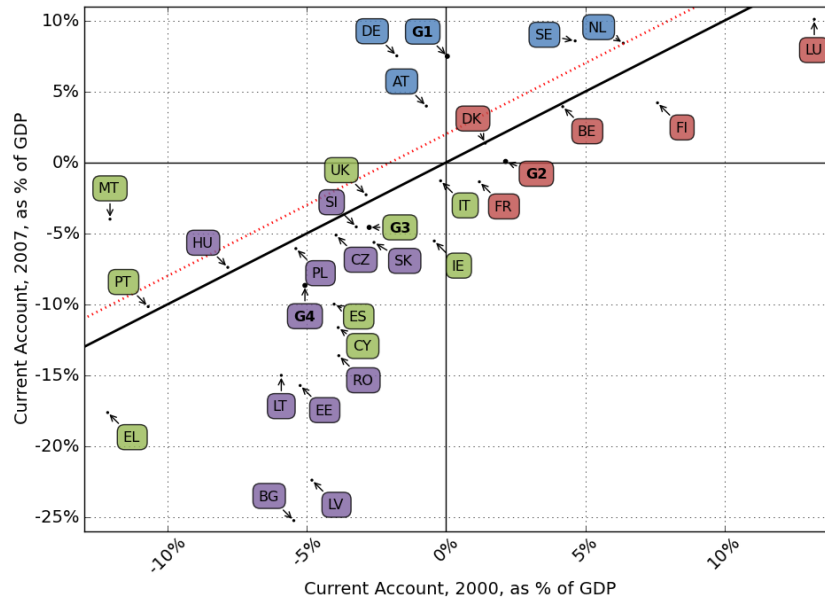
3 The Emergence of Current Account Imbalances

Our discussion starts with the emergence of macroeconomic imbalances within the EU in the pre-crisis period 2000-2007. Table 1 presents the already familiar picture of the current account balances in percent of GDP for all 27 EU countries over the period 2000-2012. Figure 2 shows their developments for all our four country groups. The most striking fact is the strong increase in the current account balance over the pre-crisis period in group one and a parallel decline in all other groups. In the first group, current accounts were largely balanced at the beginning of the period and increased to a surplus of over 7 percent of GDP. Group two started with a small surplus, which declined moderately to an almost balanced account in 2007. The countries in groups three and four already had substantial current account deficits in 2000, particularly in group four, which deteriorated even further until 2007. Interestingly, in group four the current account balance started only to decline as late as in 2005. At the eve of the crisis, the current account deficits

in groups three and four bottomed out at 5 and 8.5 percent of GDP, respectively. During and after the crisis however the deficit decreased substantially in group four, and to a smaller extent also in group three, whereas in the other groups the current account balance changed only marginally. In 2012, the surplus of country group one still remained at 6.5 percent of GDP. In group two the current account was rougly balanced, whereas in groups three and four the deficits had decreased to less than 3 percent.

Figure 2: Current account, as % of GDP
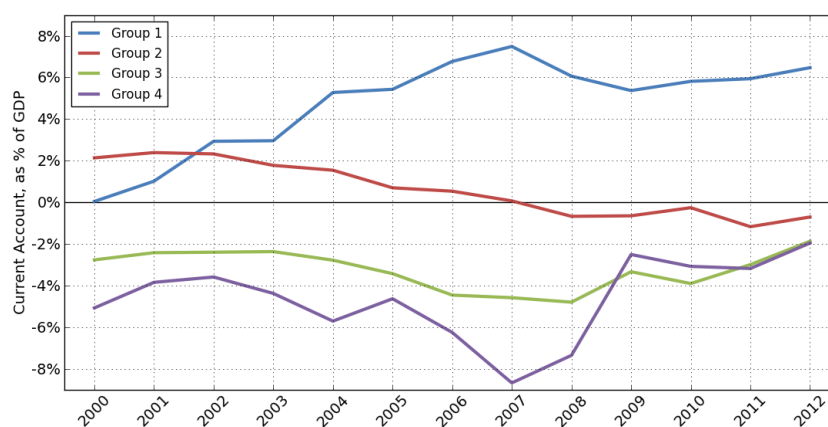
Data Source: AMECO and own calculations

All countries in group one exhibited strongly improving current account balances until 2007. The strongest increase happened in Germany, followed by smaller ones in Sweden, Netherlands and Austria. The current account surplus in 2007 peaked at 7.5 percent of GDP in Germany. In the Netherlands, the top value of 9 percent was already hit in 2006, whereas Sweden and Austria did not peak until 2008, when the current account surplus was at 8.5 and 5 percent of GDP, respectively. The surpluses have been reduced slightly in all countries since then. The Netherlands to a certain extent exhibit a different picture: After declinig dramatically during the crisis, their current account surplus in 2012 was almost as large as in 2007. In group two, only Denmark revealed a more or less constant (albeit volatile) current account balance. Finland started out at an immense surplus in 2000, which halved until 2007. In Belgium and France, the initial current account surplus decreased likewise substantially, turning the balance even into a deficit in the latter case. Since the crisis, the balances have deteriorated even further. The

Table 1: Current account, as % of GDP

Country	G	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
AT	1	-0.71%	-0.77%	2.70%	1.72%	2.21%	2.17%	3.22%	3.97%	4.84%	2.71%	3.07%	2.15%	2.97%
DE	1	-1.77%	-0.17%	2.00%	1.88%	4.67%	5.10%	6.48%	7.51%	6.15%	6.02%	6.14%	5.63%	6.39%
NL	1	6.36%	5.21%	6.07%	6.12%	8.58%	7.48%	9.02%	8.41%	4.72%	3.17%	5.07%	8.28%	8.23%
SE	1	4.64%	4.94%	5.09%	6.88%	6.76%	7.07%	7.90%	8.57%	8.82%	6.86%	6.92%	7.34%	7.05%
BE	2	4.19%	4.30%	5.97%	5.59%	4.53%	3.21%	3.37%	3.93%	1.07%	0.74%	3.02%	1.04%	0.95%
DK	2	1.41%	3.13%	2.49%	3.45%	3.01%	4.34%	2.98%	1.36%	2.88%	3.40%	5.89%	5.65%	5.24%
FI	2	7.59%	8.42%	8.53%	5.09%	6.30%	3.48%	4.62%	4.20%	3.12%	1.99%	1.61%	-1.28%	-1.56%
FR	2	1.20%	1.31%	0.97%	0.51%	0.24%	-0.63%	-0.82%	-1.36%	-1.89%	-1.76%	-1.95%	-2.56%	-1.78%
LU	2	13.22%	8.76%	10.53%	8.14%	11.86%	11.54%	10.37%	10.09%	5.36%	7.17%	8.23%	7.10%	5.55%
CY	3	-3.87%	-3.23%	-3.74%	-2.26%	-5.66%	-6.15%	-7.20%	-11.64%	-12.18%	-10.73%	-9.17%	-4.82%	-4.81%
EL	3	-12.15%	-11.55%	-12.78%	-12.39%	-10.58%	-10.84%	-13.75%	-17.63%	-17.97%	-14.36%	-12.78%	-11.75%	-5.32%
ES	3	-4.02%	-4.33%	-3.75%	-4.03%	-5.88%	-7.45%	-9.02%	-9.99%	-9.59%	-4.76%	-4.39%	-3.70%	-0.85%
IE	3	-0.42%	-0.49%	-0.41%	0.84%	-0.11%	-3.02%	-3.73%	-5.54%	-5.68%	-2.34%	1.14%	1.12%	4.95%
IT	3	-0.20%	0.29%	-0.32%	-0.78%	-0.35%	-0.89%	-1.49%	-1.29%	-2.85%	-1.99%	-3.51%	-3.12%	-0.52%
MT	3	-12.07%	-3.68%	2.36%	-2.96%	-5.72%	-8.51%	-9.68%	-4.00%	-4.86%	-7.82%	-4.57%	-0.51%	-0.83%
PT	3	-10.70%	-10.60%	-8.51%	-6.69%	-8.27%	-10.31%	-10.73%	-10.16%	-12.60%	-10.79%	-10.35%	-7.23%	-1.87%
UK	3	-2.87%	-2.34%	-2.10%	-1.71%	-2.14%	-2.05%	-2.93%	-2.28%	-1.00%	-1.27%	-2.54%	-1.33%	-3.74%
BG	4	-5.47%	-5.55%	-2.40%	-5.34%	-6.46%	-11.67%	-17.60%	-25.25%	-23.16%	-8.96%	-0.38%	0.10%	-1.06%
CZ	4	-3.95%	-4.43%	-4.98%	-5.13%	-4.10%	-1.99%	-2.62%	-5.12%	-2.92%	-3.27%	-5.16%	-3.89%	-2.61%
EE	4	-5.24%	-4.99%	-10.37%	-11.38%	-11.35%	-10.14%	-15.72%	-15.72%	-8.54%	4.20%	3.24%	0.62%	-3.08%
HU	4	-7.84%	-5.58%	-6.79%	-8.33%	-9.55%	-8.15%	-7.55%	-7.40%	-6.92%	-0.10%	1.17%	1.01%	1.87%
LT	4	-5.92%	-4.74%	-5.14%	-6.80%	-7.45%	-7.05%	-10.24%	-15.01%	-13.00%	2.05%	-0.37%	-3.68%	-0.51%
LV	4	-4.82%	-7.64%	-6.71%	-8.21%	-12.87%	-12.56%	-22.59%	-22.40%	-13.14%	8.63%	2.94%	-2.36%	-1.67%
PL	4	-5.39%	-2.39%	-2.15%	-1.71%	-4.20%	-1.25%	-3.05%	-6.07%	-5.63%	-3.10%	-4.29%	-4.49%	-3.31%
RO	4	-3.85%	-5.61%	-1.10%	-4.90%	-5.81%	-8.88%	-10.59%	-13.62%	-11.41%	-4.17%	-4.39%	-4.49%	-4.01%
SI	4	-3.23%	-0.38%	0.89%	-0.87%	-2.60%	-1.75%	-2.40%	-4.54%	-6.07%	-0.43%	-0.45%	0.12%	2.68%
SK	4	-2.59%	-7.16%	-7.50%	-6.37%	-6.68%	-8.59%	-8.30%	-5.64%	-6.28%	-2.47%	-2.51%	-2.47%	2.03%
Group	1	0.04%	1.02%	2.93%	2.96%	5.28%	5.43%	6.77%	7.49%	6.06%	5.37%	5.81%	5.94%	6.47%
Group	2	2.14%	2.39%	2.33%	1.78%	1.54%	0.70%	0.54%	0.07%	-0.67%	-0.64%	-0.26%	-1.17%	-0.70%
Group	3	-2.76%	-2.42%	-2.39%	-2.36%	-2.78%	-3.42%	-4.45%	-4.58%	-4.79%	-3.33%	-3.90%	-2.99%	-1.87%
Group	4	-5.07%	-3.84%	-3.58%	-4.37%	-5.70%	-4.63%	-6.24%	-8.67%	-7.34%	-2.50%	-3.07%	-3.17%	-1.95%
EU 27		-0.89%	-0.35%	0.23%	0.10%	0.46%	0.03%	-0.19%	-0.35%	-0.88%	-0.06%	-0.08%	0.15%	0.95%

Data Source: AMECO and own calculations | *Notes:* The AMECO foreign balance data does not correspond to the official stated data. Country aggregates were calculated summing up current accounts and GDP over countries.

exception is again Denmark, where the current account improved to a surplus of almost 6 percent of GDP.

In country group three, Cyprus, Greece, Spain and Ireland all exhibited substantial deteriorations in their balances, to a lesser extent also Italy. Cyprus, Greece and Spain particularly started out at a high current account deficit, which worsened to 12 percent of GDP (Cyprus), 18 percent (Greece) and 10 percent (Spain) in 2007. In Portugal and the UK, the current account balances remained broadly constant over the pre-crisis period, albeit, in particular in Portugal, with strongly negative numbers (-10 percent of GDP in 2007). Malta exhibited a highly volatile current account balance with numbers between +2 and -12 percent of GDP.

All countries in group four had stongly negative current account balances in 2007, which is not unusal or surprising in the case of catching-up economies. This group of countries however features a clear division into two sub-groups. In most of the flexible-exchange-rate countries, namely in the Czech Republic, Hungary and Poland, as well as in Slovenia[8] , the current account balance remained more or less stable, albeit clearly in deficit. Whereas in Hungary and Slovenia, they improved dramatically during and after the crisis and switched into a surplus in 2012, the balances remained broadly stable in the Czech Republic and Poland. In Bulgaria, Estonia, Latvia, Lithuania and Romania, which with the very exception of the last country all have fixed exchange rate regimes with the Euro, the current account balance declined drastically, in particular between 2005 and 2007. In the Baltic countries and Bulgaria, the current account deficit peaked in 2007 at astronomic numbers (25 percent of GDP in Bulgaria, 22 percent in Latvia and around 15 percent in Estonia and Lithuania). These balances however have changed dramatically during the aftermath of the crisis. All four countries had close to balanced accounts in 2012. In Slovakia, the current account deteriorated strongly in 2001 and remained firmly in negative territory until the crisis. Since then, it has improved substantially and turned into a surplus. Finally, but not uninterestingly, the current account balance of the EU as a whole remained constant and close to zero over the whole period.

In absolute terms, the picture is at least as drastic as when we analysed the current account balances in percent of GDP. Figure 3 shows the current

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[8]Slovenia maintained a stable exchange rate vis-à-vis the Euro from 2004 onwards and became member of the EMU in 2007.

account balances in billion Euro, summed up over the four country groups. The most distinctive feature of this graph is again the dramatic increase in the surplus in group one, which amounted to 270 billion Euro in 2007. This was mirrored by a likewise dramatic deterioration of the current account balance in group three, which peaked at -240 billion Euro in 2008. Even when we exclude the UK, which due to their economic size distort the picture to a certain extent, the current account deficit of group three was 225 billion Euro. Compared to these numbers, the current account deficit in group four, which amounted to 70 billion Euro in 2007, was rather small. In 2012, the macroeconomic imbalances situation remains to be about 'North vs. South'. In country group one, the surplus still amounted to 255 billion Euro, in group three the deficit remained at 95 billion Euro. Excluding the UK however, the current account deficit of group three decreased to 25 billion Euro. Comparatively, the deficits of groups two and four together amounted to only 40 billion Euro. Analysed on a country basis, this picture turns into a 'Germany vs. Spain' situation, at least until 2008, as these two countries contribute most to their group totals. The current account surplus of Germany in 2007 amounted to 180 billion Euro, whereas the deficit of Spain was around 105 billion Euro. In 2012, the surplus in Germany was still at 170 billion Euro, whereas it decreased to 10 billion Euro in Spain. Contrarily, the deficits of France and the UK increased to 35 and 70 billion Euro in 2012.

Figure 3: Current account, €
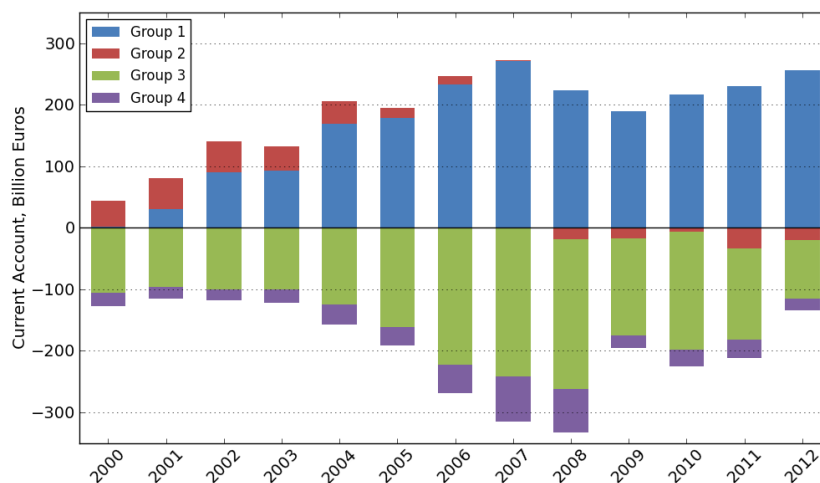
Data Source: AMECO and own calculations

Table 2: Current account, Billion €

| Country	G	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
AT	1	-1.48	-1.64	5.95	3.87	5.20	5.32	8.34	10.89	13.70	7.50	8.78	6.46	9.21
DE	1	-36.23	-3.54	42.74	40.35	102.49	113.35	150.00	182.50	152.14	143.06	153.38	145.87	168.94
NL	1	26.59	23.34	28.24	29.20	42.17	38.42	48.74	48.09	28.08	18.18	29.87	49.83	49.43
SE	1	12.43	12.54	13.56	19.20	19.72	21.09	25.15	28.96	29.41	20.05	24.23	28.43	28.79
BE	2	10.58	11.18	16.03	15.43	13.18	9.74	10.76	13.21	3.71	2.51	10.75	3.86	3.57
DK	2	2.44	5.61	4.59	6.50	5.94	9.01	6.51	3.09	6.78	7.59	13.92	13.58	12.82
FI	2	10.04	11.73	12.25	7.41	9.59	5.48	7.67	7.56	5.79	3.42	2.87	-2.43	-3.03
FR	2	17.22	19.64	14.94	8.10	3.94	-10.82	-14.83	-25.73	-36.60	-33.24	-37.85	-51.16	-36.12
LU	2	2.91	1.98	2.53	2.10	3.25	3.49	3.52	3.78	2.00	2.58	3.28	3.03	2.47
CY	3	-0.39	-0.35	-0.41	-0.26	-0.71	-0.84	-1.06	-1.85	-2.09	-1.81	-1.60	-0.87	-0.86
EL	3	-16.61	-16.75	-19.83	-21.17	-19.42	-20.93	-28.68	-39.34	-41.90	-33.18	-28.39	-24.49	-10.30
ES	3	-25.33	-29.48	-27.37	-31.58	-49.48	-67.77	-88.88	-105.21	-104.27	-49.86	-46.03	-39.36	-8.93
IE	3	-0.45	-0.58	-0.53	1.18	-0.17	-4.93	-6.64	-10.45	-10.17	-3.77	1.79	1.78	8.10
IT	3	-2.35	3.58	-4.18	-10.51	-4.90	-12.83	-22.27	-20.11	-44.90	-30.17	-54.52	-49.31	-8.17
MT	3	-0.53	-0.17	0.11	-0.14	-0.27	-0.42	-0.50	-0.22	-0.29	-0.47	-0.29	-0.03	-0.06
PT	3	-13.62	-14.25	-11.97	-9.60	-12.34	-15.91	-17.26	-17.21	-21.67	-18.19	-17.89	-12.36	-3.10
UK	3	-45.98	-38.34	-35.64	-28.09	-37.80	-37.92	-57.35	-46.99	-18.10	-19.91	-43.46	-23.31	-71.13
BG	4	-0.77	-0.86	-0.41	-0.98	-1.32	-2.72	-4.66	-7.77	-8.21	-3.13	-0.14	0.04	-0.42
CZ	4	-2.52	-3.19	-4.15	-4.33	-3.76	-2.08	-3.10	-6.76	-4.51	-4.64	-7.76	-6.08	-3.99
EE	4	-0.32	-0.35	-0.81	-0.99	-1.10	-1.13	-2.11	-2.53	-1.39	0.58	0.46	0.10	-0.52
HU	4	-3.95	-3.28	-4.79	-6.15	-7.84	-7.24	-6.76	-7.35	-7.30	-0.09	1.13	1.00	1.83
LT	4	-0.74	-0.65	-0.78	-1.13	-1.36	-1.48	-2.47	-4.31	-4.21	0.55	-0.10	-1.13	-0.17
LV	4	-0.41	-0.70	-0.66	-0.82	-1.43	-1.62	-3.61	-4.71	-3.01	1.60	0.53	-0.48	-0.37
PL	4	-10.02	-5.08	-4.50	-3.27	-8.58	-3.06	-8.29	-18.88	-20.46	-9.62	-15.23	-16.66	-12.63
RO	4	-1.57	-2.54	-0.54	-2.58	-3.55	-7.09	-10.35	-16.99	-15.95	-4.93	-5.45	-5.90	-5.28
SI	4	-0.69	-0.09	0.22	-0.23	-0.71	-0.50	-0.74	-1.57	-2.26	-0.15	-0.16	0.04	0.95
SK	4	-0.57	-1.69	-1.95	-1.88	-2.27	-3.31	-3.69	-3.09	-4.04	-1.55	-1.65	-1.70	1.45
Group	1	1.32	30.71	90.50	92.62	169.57	178.17	232.23	270.44	223.33	188.79	216.26	230.60	256.36
Group	2	43.18	50.14	50.34	39.55	35.90	16.90	13.62	1.91	-18.33	-17.13	-7.02	-33.12	-20.29
Group	3	-105.25	-96.34	-99.83	-100.16	-125.09	-161.54	-222.62	-241.39	-243.38	-157.35	-190.39	-147.96	-94.44
Group	4	-21.55	-18.43	-18.36	-22.35	-31.93	-30.22	-45.78	-73.95	-71.34	-21.39	-28.37	-30.76	-19.16
EU 27		-82.29	-33.92	22.65	9.65	48.45	3.31	-22.55	-42.99	-109.72	-7.08	-9.53	18.77	122.47

Data Source: AMECO and own calculations

An interesting question is whether the current account surpluses and deficits were in fact due to different developments in exports and imports, that is trade balances, or if other factors, like income flows or transfers contributed as well. Splitting current account balances into their components, it becomes evident that macroeconomic imbalances in the EMU are dominantly caused by the developments in trade balances (Table 3). In 2007, trade and income balances in group one were substantially positive, with the trade balance contributing 7 percent of GDP to the surplus in the current account. The markedly smaller surplus in the income balance (1.5 percent) was offset by a deficit in the transfer balance. The services balance of group one was close to zero. The other three groups exhibited a positive services balance but a negative trade balance. In groups three and four, the deficit in the trade balance amounted to 5 and 6 percent of GDP, respectively. The income balance was positive for groups one and two, and negative for country groups three and four. In the latter it amounted to -4.5 percent of GDP. Income thus flowed from the countries of groups three and four into countries of group one and two. This is a consequence of heavy investment from the 'North' in the 'South' and the 'East'. In groups two and three, transfers contributed only a small amount to the deficit in the current account balance, whereas it was positive in group four.[9] These patterns did not change substantially since then. In 2012, services, income and transfer balances basically remained the same. The deficit in the trade balance contrarily widened in group two and decreased in groups three and four.

In Figure 5 we can see that the trade balance of group 1 substantially improved over the pre-crisis period. Changes in the trade balance from 2000-2007 contributed roughly 4 percentage points of GDP to current account improvements; changes in the service and income balances roughly 2 percentage points each. On the other hand, the trade balance worsened by 2 and 2.5 percent of GDP in groups two and three, and was almost exclusively responsible for the deterioration of the current account. In group three, the service sector even counteracted the negative developments in the trade balance. In group four however, the big increase in the current account deficit was mainly due to a deterioration of the income balance, which decreased by around 3.5 percentage points of GDP. To sum up, whereas for the countries

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[9]The pattern for transfer flows is hardly surprising. Groups one, two and three consist of wealthier economies than group four. They contribute more to the EU budget than they receive. For group four the situation is exactly the opposite.

Figure 4: Trade balance, service balance, income balance, transfer balance, as % of GDP
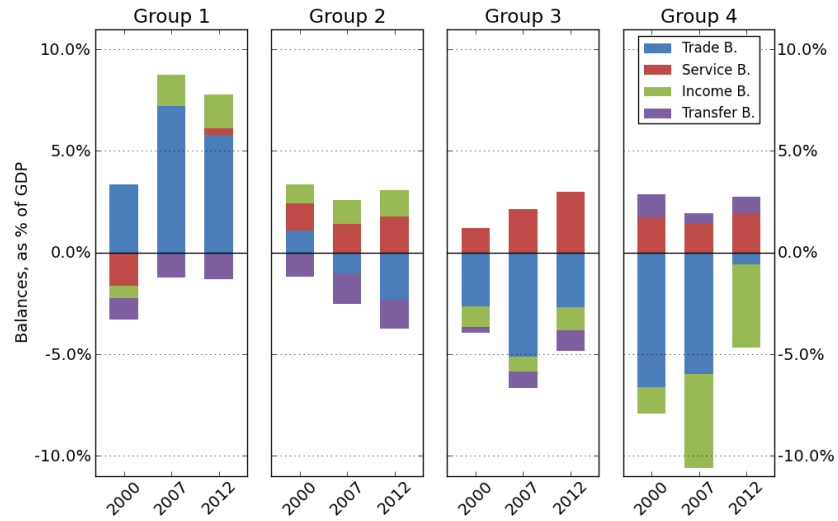
Data Source: AMECO and own calculations

of group four the income balance played an important role for the development of macroeconomic imbalances, in groups one to three the changes in the trade balance were the main contributing factor.

Figure 5: Changes in trade balance, service balance, income balance, transfer balance, as % of GDP

Data Source: AMECO and own calculations

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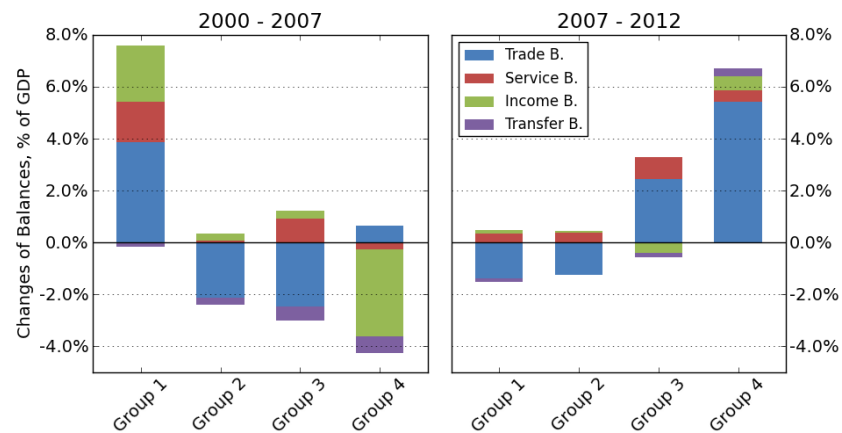
Within group one, Austria[10] is clearly an exception. The surplus in the Austrian service balance amounted to 5.5 percent of GDP in 2007, whereas its trade balance was roughly balanced. The only other country in this group which exhibited a substantial surplus in the service balance was Sweden (3.5 percent of GDP). In Germany, the service balance was in deficit; the trade surplus was in fact even larger than the current accout surplus. Austria was also the only country in this group with a negative income account. This however has changed since then; the Austrian income account was balanced in 2012. Nevertheless, the trade balance had increased substantially over the pre-crisis period in Austria as well. Within the group, it was only Sweden where it had decreased.

In group two, Finland and France are somewhat exceptional. In Finland, the trade balance in 2007 solely contributed to the current account surplus. In France however, the trade balance was even negative. The trade surpus nevertheless had declined in Finland in the pre-crisis period and continued to do so afterwards. Wheras in the other countries the patterns in the contributions of the various parts to the current accounts remained broadly stable until 2012, in Finland the large surplus in the trade balance vanished completely.

In group three, Ireland clearly stands out. Whereas in all other countries the trade balance was negative, the Irish surplus amounted to 10 percent of GDP in 2007. It had however deteriorated by 25 percentage points since 2000. Contrarily, the service account improved substantially over the pre-crisis period and was broadly balanced in 2007. The income account however remained highly negative (-13 percent of GDP). The trend was reversed during the aftermath of the crisis. The trade surplus more than doubled, whereas the income deficit increased. Another interesting observation is that the high trade deficit in Cyprus and Malta in 2007 was to a large extent compensated by a surplus in the service sector. This has not changed dramatically since then. The patterns in the trade balance and the other balances in group four are as heterogeneous as those in the current accounts. The Czech Republic was the only country which exhibited a trade surplus in 2007. The trade balance however has improved over the pre-crisis period not only in the Czech Republic but also in Hungary, Poland, Slovenia and Slovakia. This

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[10]A graphical representation of the balances for each country can be found in Figure A.1 and A.2

trend continued after the crisis, so that in 2012 the trade balance was positive in the Czech Republic, Hungary and Slovakia. In Poland and Slovenia the deficit had decreased. In all other countries, the trade deficit had increased substantially and contributed most to the current account deficits in 2007. After the crisis however, trade deficits delined.

4   Was there any Convergence within the EU?

Before we discuss growth patterns on the demand side and how they contributed to the emergence of macroeconomic imbalances, it is interesting to see if there was any convergence of income levels within the EU. Positive and negative current accounts can be sustained over a longer period without causing problems if they are the result of a catching-up process. Faster growing economies are usually attractive to foreign investment and can finance their imports if there is the promise of higher profits in the future. The main condition for positive expectations of investors is that the imported capital is used for productive investments. In this case, high-income countries can have sustained current account surpluses and finance the catching-up process of the deficit countries.

Catching-up in the EU was however only partly present in the 2000s (Figure 6). The countries of groups one and two had both very high levels of GDP per capita at the beginning of the period, the distance between them was rather small. Group three started out at a lower level, albeit still above the EU average. The gap between these three groups and group four was verly large (60 percentage points of the EU average). The economies in group four however exhbited a strong catching-up process until 2012. GDP per capita, relative to the EU average increased by 20 percentage points. In group two and three on the other hand, it decreased relative to the EU. These trends reflects a normal convergence process. Three facts however stand out. First, group three, which started at a lower level of relative prosperity and should have exhibited a smaller decline, actually converged faster than group two. This trend was already present at the group level before the crisis, but accelerated afterwards. The underlying developments at the country level were rather heterogeneous. Relative prosperity increased in Cyprus, Greece and Spain before the crisis, but decreased in Ireland, Italy, Malta, Portugal

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Table 3: Trade balance, service balance, income balance, transfer balance, as % of GDP

Country	G	Trade Balance				Service Balance				Income Balance				Transfer Balance			
		2000	2007	2009	2012	2000	2007	2009	2012	2000	2007	2009	2012	2000	2007	2009	2012
AT	1	-2.1%	0.4%	-1.1%	-1.9%	3.8%	5.3%	5.6%	5.7%	-1.7%	-1.2%	-1.0%	-0.1%	-0.8%	-0.6%	-0.8%	-0.8%
DE	1	3.0%	8.2%	5.6%	6.6%	-2.7%	-1.2%	-0.7%	-0.9%	-1.1%	1.7%	2.4%	1.9%	-1.0%	-1.2%	-1.3%	-1.3%
NL	1	5.7%	7.6%	6.3%	8.4%	-0.1%	0.6%	0.7%	0.5%	2.2%	1.7%	-2.4%	1.0%	-1.3%	-1.5%	-1.4%	-1.6%
SE	1	6.7%	4.7%	3.1%	2.5%	-0.4%	2.8%	3.3%	3.6%	-0.8%	2.3%	1.9%	2.3%	-0.9%	-1.2%	-1.5%	-1.4%
BE	2	2.1%	1.6%	-0.4%	-0.6%	0.8%	2.3%	3.1%	1.9%	2.3%	1.0%	-0.6%	0.9%	-1.0%	-0.9%	-1.4%	-1.3%
DK	2	4.2%	0.1%	2.8%	1.4%	1.8%	2.2%	1.1%	3.0%	-2.1%	1.1%	1.6%	3.0%	-2.5%	-2.0%	-2.1%	-2.1%
FI	2	11.1%	5.1%	1.8%	0.1%	-1.9%	0.0%	-0.1%	-0.7%	-0.8%	0.0%	1.6%	-0.1%	-0.8%	-1.0%	-1.2%	-0.9%
FR	2	-0.2%	-2.1%	-2.2%	-3.0%	1.2%	0.5%	0.4%	0.9%	1.4%	1.7%	1.8%	1.9%	-1.2%	-1.6%	-1.8%	-1.6%
LU	2	-12.4%	-8.4%	-9.0%	-13.8%	33.4%	40.6%	41.1%	44.2%	-12.9%	-19.6%	-34.0%	-27.6%	5.1%	-2.6%	9.0%	2.8%
CY	3	-27.2%	-29.8%	-25.5%	-21.6%	28.1%	23.5%	19.8%	21.6%	-6.6%	-5.8%	-4.2%	-3.9%	1.8%	0.4%	-0.8%	-0.9%
EL	3	-19.6%	-20.6%	-16.1%	-11.3%	6.0%	6.5%	4.7%	6.2%	0.3%	-2.9%	-2.4%	0.5%	1.2%	-0.6%	-0.5%	-0.8%
ES	3	-6.3%	-8.6%	-4.0%	-2.4%	3.2%	1.9%	2.1%	3.4%	-0.8%	-2.3%	-1.9%	-1.1%	0.0%	-0.9%	-1.0%	-0.8%
IE	3	26.0%	10.5%	20.1%	22.2%	-12.7%	-1.5%	-4.0%	1.9%	-13.7%	-13.4%	-16.7%	-17.7%	-0.1%	-1.2%	-1.7%	-1.5%
IT	3	0.9%	0.2%	0.1%	1.2%	0.1%	-0.4%	-0.6%	0.0%	-0.8%	-0.1%	-0.5%	-0.7%	-0.4%	-1.0%	-1.0%	-1.0%
MT	3	-18.7%	-16.6%	-18.8%	-16.1%	10.9%	15.3%	16.7%	21.8%	-2.5%	-2.5%	-7.3%	-7.1%	-1.8%	-0.2%	1.6%	0.4%
PT	3	-12.2%	-10.9%	-10.0%	-4.6%	1.2%	2.9%	2.6%	4.1%	-2.1%	-3.2%	-4.1%	-2.5%	2.4%	1.0%	0.7%	1.2%
UK	3	-3.4%	-6.4%	-5.9%	-6.9%	1.5%	3.7%	4.4%	4.6%	-0.4%	1.2%	1.2%	-0.1%	-0.6%	-0.8%	-1.0%	-1.3%
BG	4	-9.2%	-23.6%	-12.0%	-9.1%	3.8%	3.9%	3.1%	5.4%	-2.4%	-7.3%	-2.2%	-2.3%	2.3%	1.8%	2.1%	4.9%
CZ	4	-4.5%	1.3%	2.3%	3.9%	2.3%	1.4%	1.7%	1.4%	-1.7%	-7.1%	-6.7%	-7.1%	-0.1%	-0.6%	-0.6%	-0.9%
EE	4	-13.9%	-16.0%	-4.4%	-6.8%	10.3%	6.8%	10.1%	7.3%	-3.3%	-6.6%	-3.2%	-4.5%	1.6%	0.1%	1.6%	0.9%
HU	4	-6.5%	-0.8%	2.5%	4.0%	3.0%	1.7%	2.4%	3.8%	-5.0%	-7.0%	-4.4%	-6.5%	0.6%	-1.3%	-0.6%	0.5%
LT	4	-9.6%	-14.9%	-3.3%	-2.8%	3.4%	1.7%	1.6%	3.5%	-1.7%	-3.8%	1.8%	-4.3%	2.1%	2.0%	2.0%	3.0%
LV	4	-13.5%	-24.0%	-7.1%	-9.8%	6.4%	3.9%	5.6%	6.5%	-0.2%	-3.2%	7.6%	0.0%	2.5%	0.9%	2.5%	1.6%
PL	4	-7.2%	-4.0%	-1.0%	-0.8%	0.8%	1.1%	1.1%	1.1%	-0.4%	-3.6%	-3.5%	-4.5%	1.4%	0.4%	0.3%	0.9%
RO	4	-4.8%	-14.3%	-5.8%	-5.6%	-0.5%	0.4%	-0.2%	0.4%	-0.8%	-3.6%	-1.4%	-0.9%	2.3%	3.9%	3.2%	2.0%
SI	4	-5.7%	-4.9%	-1.5%	-0.9%	2.3%	3.2%	3.5%	4.9%	0.1%	-2.1%	-1.9%	-1.3%	0.2%	-0.7%	-0.5%	0.0%
SK	4	-5.0%	-1.8%	1.1%	4.5%	2.4%	0.7%	-1.6%	0.4%	-0.6%	-3.1%	-0.8%	-2.1%	0.5%	-1.4%	-1.2%	-0.8%
Group 1	1	3.3%	7.2%	5.0%	5.8%	-1.6%	-0.1%	0.4%	0.3%	-0.6%	1.5%	1.3%	1.7%	-1.0%	-1.2%	-1.3%	-1.3%
Group 2	2	1.1%	-1.0%	-1.4%	-2.3%	1.3%	1.4%	1.3%	1.8%	0.9%	1.2%	1.0%	1.3%	-1.2%	-1.5%	-1.6%	-1.5%
Group 3	3	-2.7%	-5.1%	-3.4%	-2.7%	1.2%	2.1%	2.0%	3.0%	-1.0%	-0.7%	-1.0%	-1.1%	-0.3%	-0.8%	-0.9%	-1.0%
Group 4	4	-6.6%	-6.0%	-1.3%	-0.6%	1.7%	1.5%	1.4%	1.9%	-1.3%	-4.6%	-3.1%	-4.1%	1.1%	0.5%	0.5%	0.8%
EU 27		-0.1%	-0.7%	-0.3%	0.2%	0.3%	1.3%	1.3%	1.8%	-0.5%	0.1%	0.0%	0.0%	-0.7%	-1.0%	-1.1%	-1.1%

Data Source: AMECO and own calculations

and the UK. After the crisis however, it declined drastically in all countries
except Malta, so that relative GDP per capita in 2012 was lower in almost all
countries than at the beginning of the period. The fact that the countries of
group three lost out on the EU average more than those of group two, points
at problems of the sustainablity of growth patterns in the former group before
the crisis, which led to a trend reversal afterwards. Second, and just as much
important, relative GDP per capita of group one did not decrease at all, but
in fact stagnated before and even increased after the crisis. The countries of
this group increased their prosperity level compared to the rest of the EU.
Looking at the country level however, we see that the only country which
actually increased its distance to the rest of the EU was Germany. In Austria,
the Netherlands and Sweden we see some evidence of a convergence process.
Third, the group of the richer (relative to the rather poor countries of Eastern
Europe) countries of the EU in itself did not converge but actually diverged
since 2000. More precisely, all other countries of groups one to three diverged
from Germany.

Figure 6: Relative GDP per capita, in PPP, EU 27 = 100
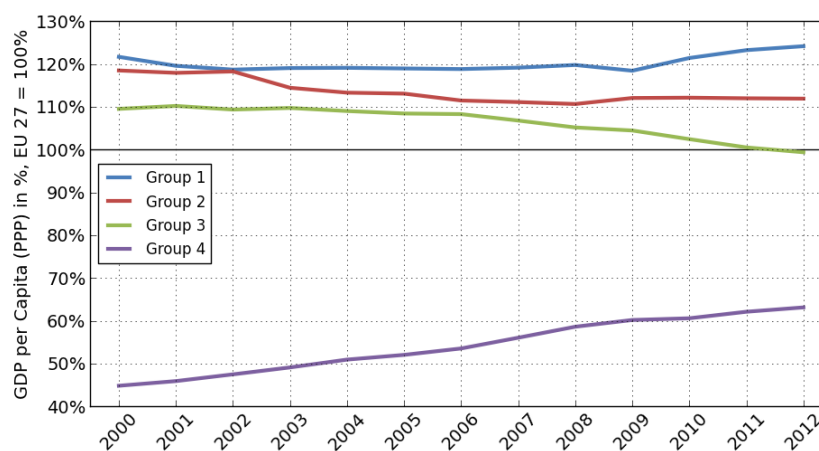
These trends and their relation to current account developments are high-
lighted in Figure 7a and 7b. They display current account balances and
changes in relative GDP per capita, both for the pre-crisis period and the
period from 2000 to 2012. Catching-up countries usually exhibit a current
account deficit, whereas rich countries which converge to the average should
have a surplus. For the period from 2000 to 2007, groups one, two and and

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four comply with this theoretical consideration. Groups one and two are in the upper-left panel with a positive current account and a declining relative prosperity. Group four on the other hand is located in the lower-right panel with negative current accounts and gains in relative GDP per capita. Group three however is situated in the lower-left panel, because it exhibited declining relative prosperity and current account deficits. For the whole period from 2000 to 2012, the pattern for groups two, three and four persisted. Group one however did not converge any longer and consequently moved into the upper-right panel.

Figure 7: Current accounts and relative income

(a) 2000 - 2007

(b) 2000 - 2012
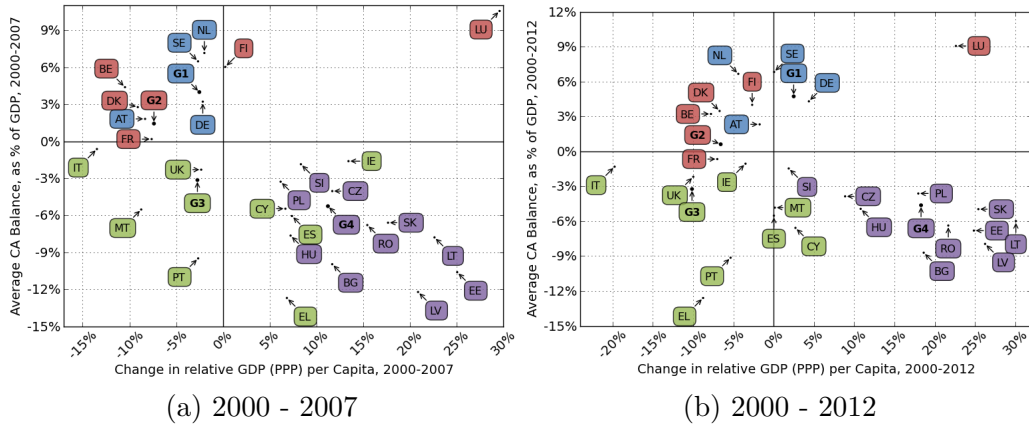
Data Source: AMECO and own calculations

5 Development pattern on the demand side

We are now exploring the contribution of pre-crisis demand developments to the emergence of macroeconomic imbalances. The key question is whether we can identify distinct growth patterns on the demand side between the aforementioned country groups. The developments in current account balances, or more precisely, trade balances, are the result of the levels and the changes in demand aggregates, in particular exports and imports. Imports however depend on the level of domestic demand and thus on private and public consumption as well as investment.

We start with the export side: The average EU growth rate of exports over the period 2000-2007 was around 5 percent (Table 4). Above average export growth can be found in group one (+6.5 percent p.a.) and in particular in group four, where exports increased by around 10 percent every year. Consequently, exports in 2007 were 50 percent higher than in 2000 in group one and doubled in group four. The export performance of groups two and three on the other hand was below EU average (export growth over the pre-crisis period on average was around 3.5 percent and 4 percent respectively). In 2007, they were roughly 30 percent higher than in the year 2000. Imports showed a similar, albeit somewhat different pattern. Real imports grew above average only in country group four, where they doubled between 2000 and 2007. In groups one and three they increased over the pre-crisis period by 40 percent, and by 35 percent in group two. Consequently the contribution of net exports to GDP growth was positive only in group one, whereas in all other groups it was negative. Interestingly, import growth in the EU as a whole exactly matched export growth, so that the net contribution of net exports amounted to zero. The positive contribution of the trade balance to growth in group one was therefore mostly due to export growth above average, whereas imports increased only slightly below average. Contrarily, import growth in groups two and three was below average, but export growth still further than imports. In group four, exports grew in line with imports, albeit starting at a different level. Nevertheless, in neither group exports and imports were balanced.

In group one all countries except the Netherlands exhibited above-average export growth. In groups two and three on the other hand only Finland and Ireland featured stronger export developments than the EU as a whole.[11] In group four, all countries exhibited high export growth. Net exports contributed strongly to GDP growth in all countries of group one. In groups two and three, only Belgium, Finland and Ireland had significantly positive net contributions of trade to growth. In group four, some flexible-exchange-rate countries, in particular the Czech Republic and Hungary, but also Slovakia had positive net contributions to growth, whereas in the Baltic States, Bulgaria and Romania foreign trade contributed negatively to GDP growth. Low import growth is a consequence of sluggish domestic demand developments.

[11]In general, when we discuss developments within country groups, we abstract from Cyprus, Luxemburg and Malta. Due to the smallness of their economy, they contribute very little to group developments.

Table 4: Demand, Average growth rates

Country	G	Private Cons. 00-07	Private Cons. 07-09	Private Cons. 09-12	Government 00-07	Government 07-09	Government 09-12	Investment 00-07	Investment 07-09	Investment 09-12	Equipment 00-07	Equipment 07-09	Equipment 09-12	Construction 00-07	Construction 07-09	Construction 09-12
AT	1	1.5%	0.9%	0.9%	1.3%	2.4%	0.0%	0.7%	-3.6%	3.1%	1.4%	-5.6%	6.0%	-0.2%	-3.2%	1.0%
DE	1	0.4%	0.5%	1.1%	0.6%	3.1%	1.4%	0.3%	-5.4%	3.1%	2.9%	-10.7%	3.9%	-2.2%	-1.9%	2.5%
NL	1	0.8%	-0.4%	-0.7%	3.4%	3.9%	-0.3%	1.2%	-5.4%	-2.2%	2.4%	-5.4%	1.5%	0.7%	-3.8%	-4.9%
SE	1	2.5%	-0.1%	2.6%	0.9%	1.6%	1.3%	4.6%	-7.4%	5.7%	5.2%	-9.7%	6.7%	5.0%	-7.3%	5.0%
BE	2	1.3%	1.3%	0.8%	1.6%	2.3%	0.5%	2.7%	-3.3%	0.7%	2.6%	-4.8%	1.8%	2.2%	-3.1%	-0.6%
DK	2	2.5%	-2.0%	0.6%	1.7%	2.0%	-0.3%	3.0%	-10.2%	0.6%	3.4%	-9.7%	2.4%	2.3%	-13.4%	-3.1%
FI	2	3.5%	-0.5%	2.4%	1.6%	1.5%	0.3%	3.2%	-7.2%	1.9%	2.8%	-5.3%	1.4%	3.1%	-8.4%	-1.8%
FR	2	2.1%	0.3%	0.6%	1.6%	1.9%	1.1%	2.9%	-5.3%	1.6%	2.1%	-8.3%	4.9%	3.1%	-4.9%	1.9%
LU	2	2.1%	-1.2%	2.1%	3.9%	3.0%	3.2%	6.7%	-7.1%	8.0%	7.7%	-15.0%	23.6%	5.9%	-0.9%	-0.2%
CY	3	4.6%	-0.2%	-0.3%	4.1%	6.4%	-6.0%	7.5%	-2.2%	-14.0%	5.2%	6.4%	-20.3%	8.6%	-17.1%	0.1%
EL	3	4.2%	1.3%	-7.7%	3.1%	1.1%	-0.9%	7.9%	-14.0%	-18.0%	11.4%	-11.8%	-14.6%	5.7%	-11.3%	-11.2%
ES	3	3.6%	-2.2%	-0.8%	5.0%	4.8%	-1.5%	5.4%	-11.6%	-6.9%	4.2%	-14.5%	-0.5%	6.2%	-21.2%	-21.0%
IE	3	5.1%	-3.1%	-0.9%	5.4%	-1.3%	-4.1%	5.7%	-19.3%	-11.9%	5.9%	-15.6%	-4.9%	2.4%	-5.9%	-10.1%
IT	3	0.9%	-1.2%	-0.9%	2.1%	0.7%	-1.5%	1.9%	-7.8%	-3.1%	1.6%	-11.2%	-1.6%	5.4%	-9.8%	-17.8%
MT	3	1.9%	2.4%	0.6%	1.9%	4.7%	3.6%	2.2%	-4.6%	-5.4%	2.4%	-25.6%	-10.1%	-2.5%	-5.6%	-4.4%
PT	3	1.6%	-0.5%	-2.4%	1.7%	2.5%	-2.9%	-1.3%	-9.3%	-9.6%	5.4%	-3.6%	-8.1%	5.8%	-9.8%	-4.6%
UK	3	3.0%	-2.3%	0.6%	2.6%	1.2%	0.8%	4.2%	0.2%	0.7%	1.6%	-13.4%	2.2%	12.3%	-7.9%	-11.4%
BG	4	7.2%	-2.2%	1.4%	2.9%	-3.8%	0.7%	15.6%	-3.8%	-8.3%	19.3%	-24.7%	12.3%	14.9%	21.5%	-0.1%
CZ	4	3.8%	1.5%	-0.6%	2.2%	2.6%	-1.0%	5.2%	-3.8%	-0.5%	6.6%	-5.3%	2.8%	3.5%	-3.0%	-3.7%
EE	4	9.3%	-10.1%	1.8%	4.0%	1.3%	1.5%	15.2%	-26.9%	12.1%	14.9%	-40.2%	33.5%	14.9%	-21.1%	2.2%
HU	4	4.0%	-3.7%	-1.3%	1.9%	0.9%	-1.1%	3.3%	-4.4%	-5.7%	4.1%	-8.3%	0.6%	2.7%	-1.9%	-10.2%
LT	4	9.4%	-7.7%	2.0%	2.5%	-0.5%	-0.7%	15.0%	-24.3%	5.6%	17.4%	-35.7%	15.5%	14.2%	-20.5%	0.6%
LV	4	11.2%	-14.6%	4.2%	3.2%	-4.1%	-2.4%	15.3%	-24.3%	5.6%	14.2%	0.4%	2.2%	21.5%	6.5%	1.6%
PL	4	3.5%	3.9%	2.2%	3.8%	4.7%	0.8%	3.7%	4.0%	2.3%	2.9%	-10.4%	4.3%	2.9%	-3.0%	7.6%
RO	4	10.6%	-1.0%	0.6%	-1.3%	5.1%	-1.0%	14.7%	-8.8%	3.4%	14.9%	-2.8%	-1.0%	14.9%	-7.4%	7.6%
SI	4	3.2%	1.2%	-0.2%	3.0%	4.2%	-0.5%	5.7%	-9.3%	-10.4%	3.6%	-14.4%	-1.3%	3.6%	-6.1%	-18.2%
SK	4	5.2%	3.1%	-0.6%	3.1%	6.1%	-1.3%	7.1%	-10.0%	5.4%	5.8%	-13.8%	16.5%	5.8%	-3.5%	-3.0%
Group 1	1	0.7%	0.3%	1.0%	1.2%	3.0%	1.1%	0.8%	-5.2%	2.5%	2.9%	-9.5%	4.0%	-1.1%	-2.8%	1.2%
Group 2	2	2.1%	0.1%	0.7%	1.7%	1.9%	0.9%	3.0%	-5.6%	1.5%	2.4%	-7.7%	4.1%	3.0%	-5.5%	-0.2%
Group 3	3	2.5%	-1.8%	-0.7%	2.9%	1.7%	-0.7%	3.8%	-9.9%	-3.9%	2.6%	-12.3%	-1.3%	4.6%	-9.5%	-5.7%
Group 4	4	5.2%	0.5%	1.0%	2.5%	3.2%	-0.2%	6.7%	-4.2%	0.7%	7.8%	-8.0%	2.4%	5.4%	-0.4%	-2.5%
EU 27		2.1%	-0.6%	0.2%	2.1%	2.2%	0.2%	3.0%	-7.3%	-0.5%	3.1%	-10.2%	1.9%	2.8%	-6.4%	-2.4%

Country	G	Domestic Demand 00-07	Domestic Demand 07-09	Domestic Demand 09-12	Exports 00-07	Exports 07-09	Exports 09-12	Imports 00-07	Imports 07-09	Imports 09-12	GDP 00-07	GDP 07-09	GDP 09-12
AT	1	1.5%	-0.6%	1.5%	6.5%	-7.5%	5.8%	5.4%	-6.9%	5.5%	2.2%	-1.2%	1.8%
DE	1	0.4%	-0.7%	1.6%	7.5%	-5.3%	8.3%	5.2%	-2.5%	6.7%	1.4%	-2.1%	2.6%
NL	1	1.6%	-0.4%	-0.3%	5.4%	-3.0%	6.1%	4.3%	-2.5%	5.6%	2.0%	-1.0%	0.5%
SE	1	2.5%	-2.3%	3.3%	5.4%	-6.4%	6.3%	4.5%	-5.8%	6.0%	3.0%	-2.8%	3.7%
BE	2	1.7%	-0.1%	1.0%	4.1%	-4.7%	5.1%	3.3%	-3.8%	4.7%	1.9%	-0.9%	0.7%
DK	2	2.4%	-4.0%	0.8%	3.5%	-3.3%	3.4%	6.2%	-4.8%	3.8%	1.6%	-3.3%	1.3%
FI	2	3.1%	-2.8%	1.9%	5.4%	-8.7%	2.9%	5.9%	-5.7%	3.0%	3.3%	-4.2%	2.0%
FR	2	2.2%	-1.2%	0.8%	2.5%	-6.4%	5.7%	3.8%	-4.5%	4.4%	1.8%	-1.6%	1.1%
LU	2	3.4%	-3.8%	6.0%	7.2%	-3.6%	3.2%	7.3%	-4.5%	5.8%	4.2%	-2.4%	1.6%
CY	3	4.9%	0.2%	-2.2%	2.9%	-5.7%	3.5%	5.5%	-6.0%	-1.2%	3.6%	0.8%	-0.2%
EL	3	4.4%	-2.9%	-8.4%	3.4%	-9.5%	1.0%	4.5%	-10.3%	-9.2%	4.2%	-1.7%	-6.1%
ES	3	4.3%	-3.5%	-2.1%	4.3%	-5.6%	7.3%	7.1%	-11.4%	0.9%	3.4%	-1.5%	-0.4%
IE	3	5.3%	-7.9%	-3.2%	5.6%	-2.5%	4.7%	5.7%	-6.4%	1.2%	5.1%	-3.8%	-0.1%
IT	3	1.4%	-2.8%	-1.5%	3.2%	-10.5%	6.5%	3.6%	-8.3%	1.4%	1.3%	-3.3%	-1.0%
MT	3	1.3%	0.1%	-0.9%	2.9%	-5.7%	7.8%	2.2%	-3.6%	4.9%	1.9%	0.6%	1.8%
PT	3	1.0%	-1.3%	-3.7%	4.5%	-3.6%	6.9%	3.2%	-4.0%	-1.8%	1.1%	-1.5%	-1.0%
UK	3	3.2%	-3.4%	1.0%	4.3%	-4.4%	3.5%	4.9%	-6.5%	3.5%	3.3%	-2.5%	1.0%
BG	4	8.3%	-3.7%	-0.5%	9.6%	-3.8%	8.7%	13.5%	-9.2%	4.9%	5.8%	0.2%	1.0%
CZ	4	4.1%	-1.5%	-0.3%	10.2%	-10.5%	9.5%	9.1%	-5.0%	8.0%	4.7%	-0.8%	1.0%
EE	4	10.4%	-15.6%	6.1%	11.1%	-7.2%	17.0%	10.9%	-20.5%	18.2%	7.6%	-9.2%	4.9%
HU	4	2.9%	-5.0%	-1.4%	11.9%	-2.6%	7.4%	10.0%	-5.2%	5.8%	3.5%	-3.0%	0.4%
LT	4	9.7%	-11.7%	2.4%	9.1%	-1.3%	14.2%	14.4%	-11.0%	12.3%	8.1%	-6.4%	3.7%
LV	4	11.3%	-18.8%	4.6%	9.6%	-0.1%	10.4%	14.1%	-22.9%	12.1%	8.8%	-10.8%	3.3%
PL	4	3.8%	2.2%	2.6%	11.1%	0.7%	7.5%	8.1%	-2.7%	5.6%	4.1%	3.4%	3.4%
RO	4	9.6%	-2.8%	0.9%	9.3%	-6.9%	6.6%	19.3%	-7.4%	6.6%	6.1%	0.1%	0.6%
SI	4	4.3%	-3.6%	-2.2%	9.3%	-7.1%	5.7%	9.0%	-8.6%	2.8%	4.4%	-2.4%	-0.2%
SK	4	5.5%	-1.2%	0.7%	11.4%	-7.1%	12.4%	10.3%	-8.5%	9.2%	6.2%	0.3%	3.2%
Group 1	1	0.8%	-0.8%	1.5%	5.0%	-5.1%	7.4%	5.0%	-3.1%	6.3%	1.7%	-1.9%	2.3%
Group 2	2	2.2%	-1.4%	1.0%	4.2%	-5.6%	4.9%	4.2%	-4.4%	4.4%	1.9%	-1.9%	1.2%
Group 3	3	2.9%	-3.3%	-1.0%	5.0%	-6.0%	5.2%	5.0%	-8.0%	1.5%	2.6%	-2.5%	0.0%
Group 4	4	5.2%	-1.9%	1.2%	10.5%	-2.8%	8.7%	10.5%	-6.3%	6.9%	4.8%	0.1%	2.1%
EU 27		2.3%	-2.1%	0.3%	5.2%	-5.3%	6.3%	5.2%	-5.4%	4.4%	2.3%	-2.0%	1.1%

Data Source: AMECO and own calculations | *Notes:* Private Cons.: Private Final Consumption, Investment: Gross Fixed Capital Formation, Government: Government Consumption. Exports and Imports include goods and services, Government: Government Consumption

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In group one, domestic demand increased by less than 1 percent annually between 2000 and 2007, in groups two and three by 2 and 3 percent respectively, and in group four by even 5 percent. Consequently, domestic demand in group one in 2007 was only 6 percent higher than in the year 2000 and contributed less than 1 percent to GDP growth every year. The low performance of group one in terms of domestic demand developments is mainly due to Germany, where it almost stagnated over the period under consideration. In 2007, domestic demand in Germany was only 2.5 percent higher than in 2000. In Austria and the Netherlands, it grew by 1.5 percent annually and in Sweden even by 2.5 percent every year. In the other three country groups domestic demand was sluggish only in Belgium, Italy and Portugal. Differentiating between the categories of demand, both consumption and investment contributed to these developments. Private consumption growth was particularly low in group one. Public consumption was higher in groups three and four than in groups one and two. Another distinctive feature of group one is the negative development of construction investment, in particular in Germany, which supressed domestic demand.[12] On the other hand, investment in equipment and machinery in group one is particularly strong. This pattern reflects heavy investment in the export-oriented industry, whereas the more inward-oriented categories of demand remained subdued. In groups two and three, a relatively strong contribution of construction investment, compared to investment in equipment and machinery is a noticeable feature.

To sum up, the emergence of current account imbalances in the pre-crisis period is due to developments on the export as well as on the import side. Surplus countries exhibited above average export growth, but also sluggish domestic demand. Deficit countries on the other hand featured strong expansions of domestic demand and below average export growth. This is in line with the above argument. Germany stands out of group one in terms of sluggish domestic demand, which was primarily due to a stagnating private consumption and to a strong decrease of investment expenditures in the construction sector.

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[12]This is a consequence of the subsequent adjustments after the post-unification construction boom.

6 Supply-side patterns

These growth patterns led to structural changes on the production side of the economy. Average growth of value added in the industrial, and in particular in the manufacturing sector before the crisis was significantly higher in country groups one and four than in groups two and three (Table 5), with group four exhibiting the highest increase. In the former two groups, the industrial sector expanded more than the construction and the service sector, whereas in groups two and three we find the opposite pattern. In group one, value added in the construction sector even declined over the pre-crisis period, a fact that is in line with the decreasing investment expenditures in construction, which we discussed in the previous section. Group four exhibited strong value added growth in all sectors except agriculture, a pattern which is typical for catching-up countries.

As a consequence of these patterns, manufacturing between 2000 and 2007 increased by a total of 25 percent in group one and doubled in group four, whereas the corresponding numbers amount to 13 percent and 6 percent in groups two and three. Contrarily, the construction sector and the service sector increased by a total of 15 percent in group two and 25 percent in group three. Manufacturing consequently contributed very little to GDP growth in both country groups. However, due to its size, the construction sector likewise contributed very little to growth in all groups. The lion's share of GDP growth in the pre-crisis period was provided by the service sector, which reflects the underlying tendency of structural change away from manufacturing towards services in all European countries.

Within group one, manufacturing grew in all countries, with Sweden featuring the highest increase. The decline of the construction sector in this group however is entirely due to Germany, where it decreased strongly. In groups two and three, value added in manufacturing grew only modestly with the very exception of Finland and Ireland. In the UK it stagnated completely between 2000 and 2007. The construction sector on the other hand expanded strongly in Greece, Spain and Ireland. It grew only moderately in the rest of the countries and even declined in Portugal. The service sector also expanded substantially in the aforementioned three countries, as well as in the UK. In group four on the other hand, all countries exhibited strong growth of value added in the manufacturing sector. The highest increases

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Table 5: Value added, Sectors, Average growth rates

Country	G	Agriculture			Industry			Manufacturing			Construction			Services			GDP		
		00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12
AT	1	1.3%	-0.5%	0.3%	3.2%	-5.0%	5.4%	3.6%	-6.4%	5.6%	0.8%	-5.5%	0.9%	2.3%	0.3%	1.1%	2.2%	-1.2%	1.8%
DE	1	6.2%	5.2%	-7.7%	2.6%	-10.1%	6.9%	3.0%	-12.9%	8.6%	-3.1%	-3.4%	2.9%	1.6%	0.6%	1.4%	1.4%	-2.1%	2.6%
NL	1	0.8%	3.3%	-0.1%	1.6%	-3.2%	2.4%	2.0%	-5.4%	3.3%	0.3%	-1.2%	-5.2%	2.3%	0.0%	0.8%	2.0%	-1.0%	0.5%
SE	1	4.0%	-1.5%	-1.2%	4.6%	-11.7%	8.3%	5.2%	-13.6%	9.3%	2.9%	-6.4%	5.3%	2.5%	-0.1%	2.7%	3.0%	-2.8%	3.7%
BE	2	-1.2%	1.9%	4.8%	1.0%	-5.0%	1.5%	1.1%	-7.6%	1.9%	3.1%	-0.5%	1.9%	2.2%	0.3%	1.2%	1.9%	-0.9%	1.3%
DK	2	-3.0%	-2.3%	-3.0%	-0.3%	-8.0%	0.5%	0.5%	-8.8%	3.2%	0.3%	-4.1%	-3.2%	1.9%	-1.3%	1.1%	1.6%	-3.3%	0.7%
FI	2	1.8%	2.5%	-0.1%	5.8%	-14.0%	2.4%	6.2%	-15.9%	3.1%	2.4%	-5.7%	3.6%	2.2%	-1.1%	1.4%	3.3%	-4.2%	2.0%
FR	2	-0.3%	5.3%	-	1.4%	-5.9%	-	1.3%	-5.8%	-	2.0%	-3.8%	-	1.9%	-0.6%	-	1.8%	-1.6%	1.1%
LU	2	-6.8%	2.5%	-3.3%	2.0%	-19.8%	-0.7%	1.6%	-20.6%	1.4%	5.2%	-5.8%	0.6%	4.6%	-0.5%	1.8%	4.2%	-2.4%	1.6%
CY	3	-3.0%	-3.5%	1.2%	1.2%	-1.0%	-3.3%	-0.4%	-1.4%	-3.9%	6.7%	-9.0%	-12.8%	3.9%	2.7%	1.5%	3.6%	0.8%	-0.2%
EL	3	-4.1%	3.6%	-1.1%	2.1%	-4.0%	-2.8%	1.4%	-2.6%	-4.2%	5.1%	-18.1%	-25.7%	4.9%	0.7%	-5.7%	4.2%	-1.7%	-6.1%
ES	3	-0.2%	-3.0%	4.1%	1.3%	-7.2%	1.3%	1.1%	-8.4%	0.9%	5.0%	-4.1%	-9.5%	3.9%	0.8%	0.7%	3.4%	-1.5%	-0.4%
IE	3	-4.6%	4.3%	-	5.7%	-0.2%	-	4.8%	-	-	4.9%	-21.3%	-	5.6%	-2.8%	-	5.1%	-3.8%	0.5%
IT	3	-0.5%	-0.6%	-1.5%	0.8%	-9.2%	1.2%	0.8%	-10.3%	1.5%	2.5%	-5.6%	-4.3%	1.4%	-1.6%	0.2%	1.3%	-3.3%	-0.1%
MT	3	-	-	-	-	-	-	-	-	-	-	-	-	1.9%	1.9%	-	1.9%	0.6%	1.8%
PT	3	-0.8%	-0.4%	0.4%	1.0%	-4.9%	1.9%	0.5%	-5.6%	2.2%	-2.0%	-7.8%	-10.4%	2.0%	0.7%	-0.4%	1.1%	-1.5%	-1.0%
UK	3	0.2%	-0.3%	-1.8%	-0.4%	-6.0%	-0.1%	0.0%	-6.2%	1.6%	2.4%	-8.2%	0.9%	3.9%	-1.2%	1.3%	3.0%	-2.5%	1.0%
BG	4	-4.9%	9.5%	-1.4%	6.5%	-3.0%	2.9%	8.5%	-1.2%	-	7.5%	8.2%	-8.2%	6.3%	1.3%	1.6%	5.8%	0.2%	1.0%
CZ	4	-2.0%	16.5%	-15.7%	7.9%	-2.4%	3.9%	9.4%	-3.3%	6.6%	2.3%	-1.2%	-2.2%	3.8%	-0.6%	0.9%	4.7%	-0.8%	1.0%
EE	4	0.3%	7.2%	-1.4%	7.6%	-15.9%	11.0%	8.2%	-18.0%	12.8%	10.4%	-17.0%	9.2%	7.3%	-7.0%	2.9%	7.6%	-9.2%	4.9%
HU	4	0.7%	14.7%	-6.4%	4.8%	-9.2%	4.2%	5.9%	-10.7%	5.6%	1.5%	-6.3%	-6.9%	3.3%	-1.9%	0.0%	3.5%	-3.0%	0.4%
LT	4	1.1%	1.9%	2.8%	9.0%	-6.7%	5.9%	9.7%	-7.4%	8.5%	18.9%	-25.6%	2.0%	7.0%	-3.7%	3.1%	8.1%	-6.4%	3.7%
LV	4	3.9%	3.3%	-1.1%	5.7%	-10.1%	10.0%	5.9%	-13.3%	13.3%	15.0%	-19.0%	-4.0%	9.0%	-7.9%	2.6%	8.8%	-10.8%	3.3%
PL	4	1.3%	3.6%	-0.9%	6.0%	3.6%	5.5%	8.5%	5.8%	6.1%	2.1%	8.6%	5.7%	3.5%	2.8%	2.4%	4.1%	3.4%	3.4%
RO	4	-	-	-	-	-	-	-	-	-	-	-	-	6.1%	-	-	6.1%	0.1%	0.6%
SI	4	1.2%	-4.6%	1.0%	5.2%	-7.6%	2.7%	5.6%	-8.9%	3.2%	6.1%	-5.5%	-13.3%	4.3%	-0.1%	0.3%	4.4%	-2.4%	-0.2%
SK	4	7.3%	4.6%	-0.5%	11.5%	-6.4%	10.2%	12.6%	-4.2%	13.3%	6.0%	5.4%	-0.9%	3.6%	3.2%	1.4%	6.2%	0.3%	3.2%
Group 1		3.9%	3.5%	-4.4%	2.7%	-9.1%	6.3%	3.1%	-11.7%	7.9%	-1.5%	-3.5%	1.4%	1.9%	0.4%	1.4%	1.7%	-1.9%	2.3%
Group 2		-0.4%	4.4%	-	1.6%	-7.0%	-	1.7%	-7.6%	-	2.0%	-3.6%	-	2.0%	-0.6%	-	1.9%	-1.9%	1.2%
Group 3		-0.8%	-0.9%	-	0.7%	-6.9%	-	0.8%	-10.9%	-	3.3%	-7.1%	-	3.1%	-0.8%	-	2.6%	-2.5%	0.0%
Group 4		4.8%	7.0%	-3.7%	8.7%	-1.6%	4.7%	10.6%	-1.3%	-	6.9%	2.2%	0.2%	5.7%	0.4%	1.6%	4.8%	0.1%	2.1%
EU 27		0.8%	2.3%	-	2.1%	-7.2%	-	2.4%	-9.8%	-	2.1%	-5.0%	-	2.6%	-0.3%	-	2.3%	-2.0%	1.1%

Data Source: AMECO and own calculations | *Notes*: Agriculture includes forestry and fishery products; Industry includes the energy sector, manufacturing and excludes building and construction. Romania was excluded from group 4 due to missing values. Missing group averages were not calculated due to missing country values.

in value added in this sector are found in Bulgaria, the Czech Republic, the Baltic economies, and in Slovakia. The construction sector grew primarily in the Baltic countries.

These growth patterns increased the disparities of countries inside the European Union. Group one already had a higher share of manufacturing in total value added in 2000 than groups two and three (between 3 and 5 percentage points). This difference however increased to 5 to 7 percentage points until 2007. In the latter group, the share of manufacturing even decreased over the pre-crisis period, whereas in group one it increased by 2 percentage points. The construction share on the other hand decreased in country group one and remained roughly constant in the other groups. Group four somehow stands out. Its manufacturing share started out at a rather low level in 2000, and increased to the highest level among all groups until 2007. This reflects the catching-up process of the Eastern European countries. Another distinguishing feature of the catching-up economies of group four is its relatively minor role of the service sector in the economy. Its share in GDP was between 6 and 10 percentage points lower than in the other three groups at the beginning of the period. This did not change significantly until the crisis. The share of the construction sector was highest in country groups three and four, and increased in both groups. This is probably only partly due to the catching-up process that these economies experienced. The construction share in group three, the much more developed countries, is higher than in group four. However it increased much more over the pre-crisis period in the latter group.

Within groups one and two, high shares of manufacturing can be found in Austria, Germany, Sweden, Belgium and Finland, whereas in Denmark, France and the Netherlands it was visibly lower. With the exception of the Netherlands it increased in all countries of group one, and decreased in all other countries of group two than Finland. Group three is the most heterogeneous. In Ireland the share of manufacturing was even higher than in all countries of groups one and two. In Spain, Italy, Portugal and the UK it ranged somewhere in the middle of these two groups. In Greece it was significantly lower. Nevertheless, it decreased in all countries of group three. Within group four, the manufacturing share increased in all countries but Latvia. The Czech Republic, Hungary, Romania, Slovenia and Slovakia had very high manufacturing shares, among the highest ones in the whole

EU. Poland and Lithuania exhibited a share comparable to the countries in group one, whereas in Bulgaria, Estland and Latvia it ranked lower. The differences between these countries are however marginal.

In terms of employment we find somewhat different but compatible patterns of structural change. The only group where employment in the manufacturing sector actually increased from 2000 to 2007 was the fourth. In all other countries of the European Union, even in group one, it decreased. This indicates high productivity gains in this sector. Employment in the construction sector on the other hand increased in all groups but the first, and more strongly than in the service sector. Due to its sheer size however, the service sector provided most of the new work posts over the period, contributing 3 to 5 times more than employment growth in the construction sector. Interestingly, this pattern is most distinctive in country group three. Within this group, we find a significant contribution to employment growth of the construction sector in Ireland and Spain. Total employment however increased highest in group three (1.7 percent p.a.), whereas in groups four (0.2 percent) and one (0.4 percent) it was lowest. In group four, employment increases in the manufacturing sector were thwarted by strong declines in agricultural employment, in particular in Poland and Romania.

The structural changes which we identified above are in line with what we expected. In group one, which already had the highest share of manufacturing at the beginning of the period, this sector grew strongly and increased its weight in the economy. These changes came primarily at the cost of the construction sector. In group three on the other hand the manufacturing share decreased substantially to the benefit of the construction and the service sector. Group four exhibited the typical pattern of catching-up economies: Manufacturing expanded strongly and raised its share in the total economy to the highest level in the EU. The construction sector and service sector expanded likewise at the cost of agriculture.

Employment on the other hand increased strongest in group three, whereas in group one only few new jobs were created before the crisis. The biggest contribution to new employment in group three however came from the service sector.

Table 6: Employment, Sectors, Average growth rates

Country	G	Agriculture			Industry			Manufacturing			Construction			Services			Total economy		
		00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12
AT	1	-1.6%	-0.9%	-1.3%	-0.2%	-1.1%	0.4%	-0.2%	-1.3%	0.3%	-0.4%	1.8%	1.2%	1.6%	1.0%	1.6%	0.9%	0.6%	1.2%
DE	1	-1.8%	0.5%	0.1%	-1.1%	-0.3%	0.5%	-1.0%	-0.4%	0.5%	-3.0%	-0.1%	1.4%	0.9%	1.0%	1.1%	0.2%	0.6%	1.0%
NL	1	-1.4%	-1.9%	-0.3%	-1.4%	-0.7%	-1.2%	-1.5%	-1.0%	-1.4%	-0.1%	0.0%	-2.1%	0.6%	0.6%	0.4%	0.8%	0.4%	0.1%
SE	1	-4.0%	0.5%	1.4%	-0.9%	-4.3%	-0.5%	-1.1%	-4.9%	-0.7%	3.2%	3.0%	2.9%	-0.4%	-0.4%	1.5%	0.7%	-0.8%	1.3%
BE	2	-1.9%	-2.9%	-3.6%	-1.2%	-2.2%	-1.5%	-1.5%	-2.5%	-1.6%	0.8%	1.7%	0.9%	1.4%	1.4%	1.2%	0.9%	0.8%	0.7%
DK	2	-2.9%	0.7%	-0.9%	-1.6%	-3.8%	-2.8%	-1.6%	-4.4%	-3.2%	2.1%	-4.8%	-2.1%	0.6%	0.6%	-0.7%	0.7%	-0.4%	-1.0%
FI	2	-1.5%	-0.9%	-1.5%	-0.6%	-2.2%	-1.8%	-0.7%	-2.8%	-1.9%	2.5%	-1.2%	1.5%	0.7%	0.7%	1.0%	1.2%	0.0%	0.4%
FR	2	-1.8%	-2.8%	-	-1.5%	-2.6%	-	-1.7%	-3.0%	-	2.9%	1.5%	-	-0.1%	-0.1%	-	0.8%	-0.4%	0.1%
LU	2	3.8%	-9.1%	1.5%	0.5%	-0.5%	0.2%	0.4%	-1.1%	0.2%	4.9%	1.8%	1.2%	4.0%	4.0%	2.8%	3.4%	3.0%	2.3%
CY	3	-1.1%	3.6%	-9.9%	0.5%	-0.7%	-3.8%	0.2%	-1.0%	-4.5%	5.7%	-1.3%	-8.6%	1.2%	1.2%	0.4%	2.9%	0.9%	-1.3%
EL	3	-4.3%	1.1%	-2.8%	0.4%	0.1%	-8.5%	0.5%	0.3%	-9.0%	3.8%	-2.6%	-17.5%	0.6%	0.6%	-4.4%	1.8%	0.3%	-5.5%
ES	3	-2.1%	-4.3%	-1.1%	-0.8%	-7.2%	-3.4%	-1.1%	-7.8%	-4.0%	5.9%	-17.0%	-15.7%	-0.1%	-0.1%	-1.2%	3.4%	-3.4%	-2.8%
IE	3	-1.9%	-6.8%	-3.8%	-0.8%	-6.7%	-3.4%	-1.5%	-6.8%	-2.9%	7.6%	-23.4%	-13.7%	-0.5%	-0.5%	-0.7%	3.4%	-4.3%	-2.1%
IT	3	-1.2%	-2.3%	-1.1%	0.2%	-2.6%	-1.8%	0.2%	-2.8%	-2.0%	3.3%	-0.5%	-3.3%	0.0%	0.0%	0.6%	1.4%	-0.7%	-0.2%
MT	3	3.0%	2.8%	-0.4%	-4.1%	-6.4%	0.6%	-4.1%	-6.7%	0.9%	2.7%	-1.5%	-0.8%	2.3%	2.9%	2.8%	1.0%	1.1%	2.2%
PT	3	-0.9%	-1.2%	-2.7%	-1.9%	-4.3%	-3.3%	-2.0%	-4.7%	-3.4%	-1.3%	-5.3%	-9.1%	0.6%	0.6%	-1.2%	0.3%	-1.1%	-2.4%
UK	3	-0.6%	1.1%	-	-3.9%	-4.4%	-	-4.2%	-5.5%	-	2.7%	-2.1%	-	0.0%	0.0%	-	0.9%	-0.5%	0.6%
BG	4	-1.1%	0.5%	-4.4%	1.3%	-3.8%	-4.6%	1.5%	-3.7%	-	9.3%	3.9%	-13.9%	0.9%	0.9%	-2.6%	2.0%	0.0%	-4.1%
CZ	4	-4.2%	-0.6%	-1.7%	0.3%	-3.7%	0.1%	0.6%	-4.0%	0.2%	0.6%	3.5%	-1.9%	1.7%	1.7%	0.1%	0.7%	0.2%	-0.1%
EE	4	-4.3%	-12.7%	7.7%	-0.4%	-6.0%	0.9%	0.2%	-6.8%	0.7%	9.4%	-18.6%	-2.2%	-1.8%	-1.8%	1.6%	1.7%	-5.1%	1.4%
HU	4	-7.1%	-6.1%	2.8%	-1.4%	-3.5%	0.8%	-1.2%	-3.6%	0.6%	3.3%	-3.7%	-3.6%	-1.0%	-1.0%	0.4%	-0.1%	-2.1%	0.4%
LT	4	-7.1%	-8.3%	-	0.5%	-6.3%	-	0.9%	-6.2%	-	10.8%	-15.8%	-	-0.2%	-0.2%	-	1.3%	-3.8%	-0.5%
LV	4	-3.4%	-10.2%	-4.6%	0.0%	-9.2%	-2.3%	0.1%	-11.2%	-1.9%	12.3%	-21.1%	-7.8%	-2.7%	-2.7%	-3.2%	2.5%	-6.4%	-3.6%
PL	4	-9.0%	-2.7%	-	1.4%	-0.3%	-	1.7%	-0.4%	-	2.5%	10.6%	-	3.3%	3.3%	-	0.6%	2.1%	0.6%
RO	4	-7.7%	-0.8%	0.5%	-0.1%	-6.2%	-0.8%	0.3%	-6.1%	-1.3%	8.0%	4.6%	-1.3%	1.0%	1.0%	0.7%	-2.0%	-1.0%	0.2%
SI	4	-3.2%	-1.9%	-2.1%	-1.0%	-4.6%	-2.4%	-1.0%	-5.1%	-2.7%	3.0%	5.4%	-9.7%	2.1%	2.1%	-0.2%	0.9%	0.4%	-1.7%
SK	4	-5.8%	-3.2%	-3.9%	0.1%	-3.8%	-0.4%	0.6%	-3.6%	-0.1%	4.5%	6.4%	-2.5%	1.9%	1.9%	0.8%	1.0%	0.6%	0.1%
Group 1	1	-1.9%	-0.2%	-0.1%	-1.0%	-0.7%	0.2%	-1.0%	-0.8%	0.3%	-2.0%	0.3%	1.0%	0.8%	0.8%	1.1%	0.4%	0.5%	0.9%
Group 2	2	-1.9%	-2.4%	-	-1.4%	-2.6%	-	-1.6%	-3.0%	-	2.6%	0.9%	-	0.2%	0.2%	-	0.8%	-0.2%	0.1%
Group 3	3	-1.9%	-1.8%	-	-1.3%	-4.2%	-	-1.4%	-4.6%	-	3.7%	-7.3%	-	0.0%	0.0%	-	1.6%	-1.3%	-1.0%
Group 4	4	-7.4%	-2.0%	-	0.4%	-3.3%	-	0.7%	-3.4%	-	4.5%	3.4%	-	1.6%	1.6%	-	0.2%	0.0%	-0.2%
EU 27		-5.1%	-1.8%	-	-0.8%	-2.8%	-	-0.8%	-3.1%	-	2.4%	-2.5%	-	0.5%	0.5%	-	0.9%	-0.4%	-0.1%

Data Source: AMECO and own calculations | Notes: Missing group averages were not calculated due to missing country values.

Table 7: Value Added Shares

Country	G	Agriculture				Industry				Manufacturing				Construction				Services			
		2000	2007	2009	2012	2000	2007	2009	2012	2000	2007	2009	2012	2000	2007	2009	2012	2000	2007	2009	2012
AT	1	1.9%	1.7%	1.4%	1.4%	23.7%	23.5%	21.7%	22.9%	20.1%	19.9%	17.8%	18.7%	7.7%	7.1%	7.0%	6.9%	66.7%	67.8%	69.9%	68.8%
DE	1	1.1%	0.9%	0.8%	1.0%	25.2%	26.4%	23.3%	26.0%	22.3%	23.1%	19.5%	22.3%	5.3%	4.1%	4.4%	4.5%	68.4%	68.6%	71.5%	68.5%
NL	1	2.5%	1.9%	1.5%	1.7%	19.1%	19.0%	18.2%	19.8%	14.6%	13.3%	11.7%	12.9%	5.7%	5.7%	6.0%	4.8%	72.7%	73.4%	74.3%	73.7%
SE	1	2.0%	1.7%	1.6%	1.6%	24.2%	22.8%	19.5%	20.0%	21.3%	19.1%	15.4%	15.7%	4.3%	5.3%	5.1%	5.8%	69.5%	70.2%	73.8%	72.6%
BE	2	1.3%	0.8%	0.7%	0.7%	21.9%	18.7%	16.5%	16.5%	18.7%	15.9%	13.4%	13.4%	5.2%	5.6%	5.8%	5.7%	71.5%	74.9%	77.0%	77.0%
DK	2	2.5%	1.0%	1.0%	1.3%	21.1%	20.0%	17.0%	16.8%	15.4%	13.5%	11.8%	10.7%	5.5%	5.7%	5.3%	4.7%	70.9%	73.3%	76.7%	77.2%
FI	2	3.5%	3.0%	2.8%	2.9%	28.0%	26.4%	20.4%	20.4%	25.6%	23.3%	16.8%	16.9%	6.3%	7.1%	7.1%	6.8%	62.1%	63.5%	69.6%	69.9%
FR	2	2.5%	1.9%	1.5%	-	17.8%	14.3%	13.0%	-	15.2%	11.9%	10.6%	-	5.0%	6.2%	6.4%	-	74.7%	77.5%	79.0%	-
LU	2	0.7%	0.4%	0.3%	0.3%	12.8%	10.7%	7.1%	7.7%	10.9%	8.8%	5.3%	6.2%	6.5%	6.4%	6.4%	5.8%	80.1%	82.4%	86.2%	86.1%
CY	3	3.8%	2.2%	2.4%	2.3%	12.2%	10.1%	9.5%	9.2%	9.7%	7.2%	6.7%	5.9%	8.8%	12.8%	10.4%	6.2%	75.3%	74.9%	77.8%	82.3%
EL	3	6.7%	3.5%	3.1%	3.4%	13.7%	12.7%	12.2%	14.3%	10.9%	9.3%	8.9%	9.7%	7.8%	7.8%	5.1%	2.1%	71.9%	76.0%	79.6%	80.2%
ES	3	4.2%	2.7%	2.4%	2.7%	20.8%	17.3%	15.3%	16.9%	17.9%	14.4%	12.2%	13.3%	10.3%	13.9%	13.1%	9.1%	64.7%	66.1%	69.2%	71.3%
IE	3	3.1%	1.4%	1.0%	-	34.1%	24.0%	26.4%	-	32.5%	21.9%	24.3%	-	7.5%	9.7%	5.6%	-	54.6%	65.0%	67.5%	-
IT	3	2.8%	2.1%	1.9%	2.0%	22.6%	20.8%	18.7%	18.3%	20.1%	18.3%	15.8%	15.5%	5.1%	6.3%	6.3%	5.9%	69.5%	70.8%	73.1%	73.8%
MT	3	2.2%	2.1%	1.8%	1.6%	23.3%	16.6%	15.4%	13.0%	20.7%	14.4%	12.6%	12.5%	5.3%	4.9%	4.5%	3.7%	69.3%	76.4%	78.3%	81.7%
PT	3	3.6%	2.4%	2.3%	2.2%	20.3%	18.0%	16.6%	18.5%	17.1%	14.1%	12.6%	14.3%	8.2%	7.3%	6.7%	4.9%	67.9%	72.3%	74.4%	74.4%
UK	3	1.0%	0.6%	0.6%	0.7%	20.8%	16.2%	15.6%	16.1%	15.6%	11.2%	10.5%	10.7%	6.2%	7.7%	6.8%	6.2%	71.9%	75.5%	77.0%	77.1%
BG	4	12.6%	5.6%	4.8%	6.4%	21.2%	24.3%	22.1%	24.5%	14.2%	17.8%	15.8%	-	5.1%	8.1%	9.2%	5.9%	61.1%	62.0%	63.8%	63.2%
CZ	4	3.6%	2.4%	1.9%	2.1%	30.9%	31.7%	30.0%	30.9%	25.9%	25.7%	22.6%	24.6%	6.6%	6.8%	7.1%	6.3%	58.9%	59.1%	60.9%	60.8%
EE	4	4.8%	3.5%	2.7%	3.7%	21.6%	20.4%	19.9%	22.3%	17.0%	16.0%	14.2%	16.0%	5.9%	10.7%	7.2%	7.4%	67.7%	65.4%	70.2%	66.6%
HU	4	5.9%	4.2%	3.5%	3.8%	27.1%	26.2%	24.8%	27.2%	22.9%	22.1%	20.1%	23.1%	5.3%	4.8%	4.9%	3.7%	61.7%	64.8%	66.8%	65.2%
LT	4	6.3%	3.9%	2.8%	3.5%	23.7%	21.9%	21.4%	25.1%	18.8%	17.8%	16.8%	21.1%	6.0%	11.2%	6.6%	6.2%	64.1%	63.0%	69.2%	65.3%
LV	4	4.5%	3.5%	3.8%	5.0%	18.6%	15.0%	15.8%	19.5%	14.4%	11.7%	10.9%	14.5%	6.8%	10.4%	8.0%	6.1%	70.0%	71.2%	72.5%	69.3%
PL	4	4.9%	4.3%	3.6%	4.0%	23.3%	24.4%	24.6%	24.8%	17.2%	18.0%	18.0%	17.6%	7.8%	7.4%	8.1%	7.4%	64.0%	63.9%	63.8%	63.8%
RO	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SI	4	3.4%	2.6%	2.4%	2.6%	28.1%	26.6%	22.9%	25.1%	24.4%	22.7%	18.8%	20.8%	6.7%	8.1%	7.9%	5.5%	61.9%	62.8%	66.8%	66.8%
SK	4	4.5%	4.0%	3.4%	3.6%	28.8%	30.0%	24.5%	27.8%	23.8%	23.2%	17.8%	22.1%	7.2%	8.5%	9.9%	8.1%	59.5%	57.5%	62.2%	60.4%
Group 1		1.4%	1.2%	1.0%	1.2%	24.2%	24.7%	22.0%	24.2%	20.9%	20.9%	17.7%	19.9%	5.4%	4.7%	4.9%	4.9%	69.0%	69.5%	72.0%	69.7%
Group 2		2.4%	1.7%	1.4%	-	19.2%	16.1%	14.2%	-	16.3%	13.2%	11.4%	-	5.2%	6.2%	6.3%	-	73.2%	76.0%	78.1%	-
Group 3		2.5%	1.7%	1.6%	-	21.5%	18.0%	16.7%	-	17.7%	14.3%	13.0%	-	6.7%	8.6%	8.0%	-	69.3%	71.8%	73.7%	-
Group 4		5.0%	3.8%	3.2%	3.7%	25.5%	26.1%	25.0%	26.2%	20.1%	20.4%	18.8%	19.2%	7.0%	7.4%	7.7%	6.7%	62.5%	62.7%	64.1%	63.4%
EU 27		2.2%	1.7%	1.5%	-	22.0%	20.0%	18.3%	-	18.6%	16.4%	14.4%	-	6.0%	6.9%	6.7%	-	69.8%	71.5%	73.6%	-

Data Source: AMECO and own calculations | *Notes:* Romania was excluded from group 4 due to missing values. Missing group averages were not calculated due to missing country values.

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7   Competitiveness, real interest rates and income distribution

We now turn to the development of other key variables which relate to the emergence of macroeconomic imbalances. As explained in the introduction, rapidly expanding economies tend to have higher inflation rates. Tighter labour markets usually lead to faster increasing wages, which ceteris paribus induce higher price hikes. Disparities in the inflation rates in a monetary union however cannot be counter-balanced by movements of the exchange rate. They consequently have a direct impact on the real economy.

The effect of wage and price divergence in the EMU is threefold. Firstly, changes in relative prices determine the competitiveness of an economy vis-à-vis its trading partners.[13] A higher inflation rate reduced competitiveness and consequently led to a deteriorating trade balance. This is the classical *competitiveness channel*. If it were the only mechanism at work, it would automatically counteract growth and inflation differentials. Faster growing economies with higher inflation rates would lose competitiveness, which would dampen the economic activity. On the opposite, slower growing economies with lower inflation rates would gain competitiveness and would consequently be stimulated.

There are however two more channels present, which could impede the counter-balancing effect of the competitiveness channel. The second one is the so-called 'real interest channel'. Higher inflation rates reduced real interest rates and therefore stimulated credit-driven domestic consumption and investment. This led to an even higher economic activity, which in turn induced higher wage and price inflation. The economic boom was reinforced. Whereas the presence of this mechanism was understood and widely accepted, its effect was severely underestimated before the crisis (European Commision (2006), European Commision (2009)).

The first two channels are widely discussed now. The third one is more unconventional and builds on Post-Keynesian theory. We call it the 'income distribution channel'. Different productivity, wage and price developments in the EMU may result in divergent patterns in the wage share. As we will see, the empirical effect of strong growth on the wage share is not conclusive.

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[13]In this paper we mean 'price competitiveness' when we refer to 'competitiveness'.

Still, the theoretical hypothesis is that a higher economic activity strengthens the power of labour unions and raises the wage share. If a rising wage share stimulates consumption more than it reduces investment, stronger economic activity will be the result. Thus, a rising wage share would deteriorate trade balances. This channel also counteracts the competitiveness channel and tends to destabilise divergent economic developments in a monetary union.

Competitiveness channel

We start with the competitiveness channel. Competitiveness is usually measured by means of the real effective exchange rate on the basis of consumer prices or unit labour costs. Here, we make use of unit labour costs instead of prices, because we are also interested in the underlying movements of productivity and nominal wages. We therefore postpone the discussion of the real exchange rates and directly start with observing unit labour cost developments (Figure 8). Before the crisis, (nominal) unit labour costs exhibited the already well-known pattern of divergence. In group one, unit labour costs did not increase at all from 2000 to 2007. In groups two and three on the other hand, they cumulatively rose by 15 percent over the same period. The countries of the latter two groups consequently lost out on the first group in terms of price competitiveness. The rise in unit labour costs in group four was even more drastic (+30 percent cumulatively). This pattern becomes much clearer in Figure 9. Relative to the EU average, only group one improved its unit labour cost position. The other three groups lost competitiveness relative to the rest of the EU, and particularly relative to the countries of group one. At the country level, a few facts stand out. In Germany and Sweden, unit labour costs (in Euro) actually decreased over the period. The UK, where they more or less stagnated, pushed down the mean value of group three. In group four, Poland and Slovenia exhibited only moderate increases in unit labour costs. We thus find that in the faster growing economies in general labour costs rose more than in the less dynamic ones. This is an indication that the competitiveness channel worked as expected.

To foster this argument, we look closer into the determinants of unit labour costs. They are by definition the ratio of nominal wages per employee to labour productivity. Divergent developments can therefore arise from both sources. For countries with flexible exchange rates vis-à-vis the Euro,

Figure 8: Unit labour costs, 2000 = 100
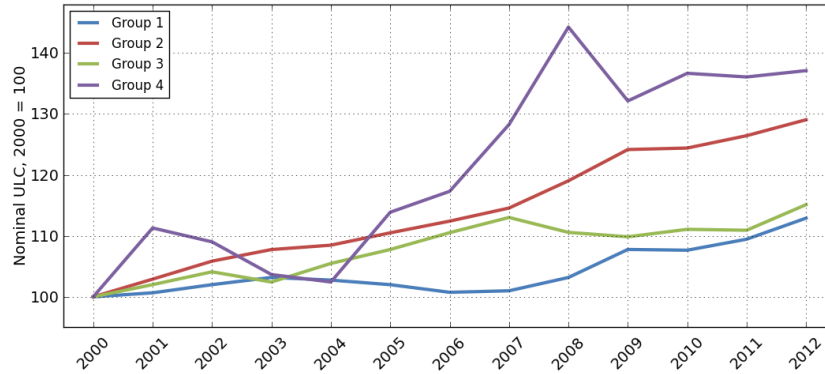
Figure 9: Relative unit labour costs, 2000 = 100
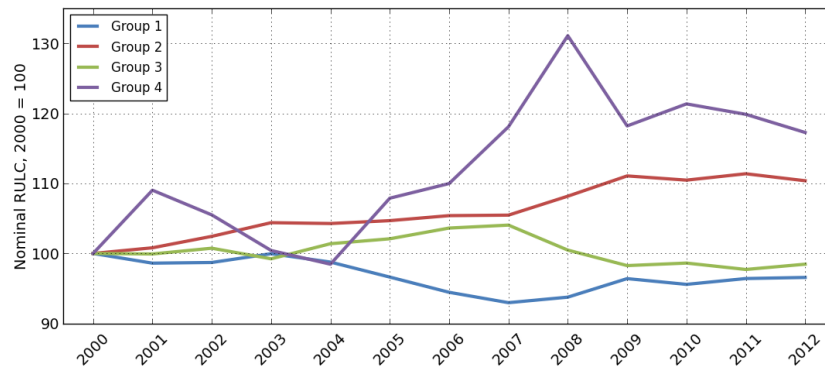
the movements of the latter variable also influence the development of unit labour costs. Separating out exchange rate movements will highlight the role of exchange rate regimes in general and of a monetary union in particular (Table 8).

Productivity growth in the first three groups was similar in the pre-crisis period, albeit with slightly lower rates in groups two and three (Figure 10). In group four, productivity grew at a much higher pace than in the other groups. Within groups one and two, productivity growth on average exceeded 2 percent only in Finland and Sweden. In all other countries it was around a mere 1 percent every year. In Austria, Germany and the Netherlands it

Table 8: Unit labour costs, Productivity, Wages compensation, Euro, Levels and changes

Country	G	ULC 2000	ULC 2007	ULC 2009	ULC 2012	Changes 00-07	Changes 07-09	Changes 09-12	Prod 2000	Prod 2007	Prod 2009	Prod 2012	Changes 00-07	Changes 07-09	Changes 09-12	Comp 2000	Comp 2007	Comp 2009	Comp 2012	Changes 00-07	Changes 07-09	Changes 09-12
AT	1	100.0	105.7	115.1	120.0	0.79%	4.36%	1.40%	100.0	109.5	105.5	107.5	1.30%	-1.81%	0.62%	100.0	115.7	121.5	129.0	2.11%	2.47%	2.03%
DE	1	100.0	97.8	105.6	109.0	-0.32%	3.93%	1.04%	100.0	109.0	103.2	108.2	1.24%	-2.70%	1.57%	100.0	106.6	109.0	117.9	0.92%	1.13%	2.63%
NL	1	100.0	115.1	124.9	127.9	2.04%	4.14%	0.80%	100.0	108.2	105.3	106.9	1.13%	-1.33%	0.48%	100.0	124.6	131.5	136.7	3.19%	2.76%	1.29%
SE	1	100.0	99.5	93.3	113.5	-0.07%	-3.17%	6.76%	100.0	117.0	112.1	120.1	2.26%	-2.09%	2.32%	100.0	116.4	104.6	136.3	2.19%	-5.19%	9.23%
BE	2	100.0	113.1	122.7	130.1	1.78%	4.12%	1.98%	100.0	107.3	103.7	105.5	1.01%	-1.70%	0.59%	100.0	121.4	127.2	137.3	2.81%	2.36%	2.59%
DK	2	100.0	121.3	136.3	136.4	2.79%	6.03%	0.03%	100.0	106.3	100.2	105.7	0.87%	-2.90%	1.79%	100.0	128.9	136.6	144.2	3.69%	2.95%	1.82%
FI	2	100.0	108.4	126.1	130.8	1.16%	7.84%	1.22%	100.0	115.5	106.1	110.9	2.08%	-4.18%	1.51%	100.0	125.3	133.7	145.1	3.27%	3.33%	2.75%
FR	2	100.0	114.6	122.6	127.5	1.96%	3.45%	1.31%	100.0	107.5	104.9	108.2	1.04%	-1.22%	1.03%	100.0	123.2	128.7	138.0	3.03%	2.19%	2.35%
LU	2	100.0	117.4	137.8	149.2	2.32%	8.33%	2.69%	100.0	105.6	94.7	92.8	0.78%	-5.28%	-0.68%	100.0	124.0	130.6	138.5	3.12%	2.61%	1.98%
CY	3	100.0	122.1	128.7	134.1	2.89%	2.68%	1.38%	100.0	104.9	104.8	108.3	0.68%	-0.05%	1.10%	100.0	128.0	134.8	145.2	3.59%	2.63%	2.50%
EL	3	100.0	117.9	131.6	121.0	2.38%	5.65%	-2.76%	100.0	117.9	113.2	111.1	2.38%	-1.99%	-0.64%	100.0	139.0	149.1	134.4	4.82%	3.56%	-3.39%
ES	3	100.0	124.3	133.0	124.1	3.15%	3.46%	-2.28%	100.0	100.2	104.2	111.9	0.03%	1.99%	2.39%	100.0	124.5	138.6	138.8	3.18%	5.52%	0.05%
IE	3	100.0	131.2	134.2	121.6	3.95%	1.15%	-3.23%	100.0	112.3	113.5	123.1	1.67%	0.53%	2.74%	100.0	147.3	152.3	149.7	5.69%	1.69%	-0.58%
IT	3	100.0	119.8	130.2	134.1	2.61%	4.26%	1.00%	100.0	99.3	94.1	94.5	-0.09%	-2.67%	0.14%	100.0	119.0	122.5	126.8	2.51%	1.48%	1.14%
MT	3	100.0	115.6	126.6	133.0	2.09%	4.67%	1.67%	100.0	106.0	104.8	103.7	0.83%	-0.54%	-0.37%	100.0	122.5	132.7	137.9	2.94%	4.10%	1.29%
PT	3	100.0	118.8	126.8	119.4	2.49%	3.32%	-1.98%	100.0	106.2	105.4	110.3	0.87%	-0.40%	1.53%	100.0	126.2	133.7	131.7	3.38%	2.91%	-0.48%
UK	3	100.0	103.7	86.6	100.7	0.52%	-8.62%	5.16%	100.0	115.7	111.1	112.3	2.10%	-2.02%	0.37%	100.0	120.0	96.2	113.1	2.64%	-10.46%	5.54%
BG	4	100.0	135.0	171.2	186.6	4.38%	12.60%	2.90%	100.0	128.7	129.2	151.1	3.67%	0.21%	5.36%	100.0	173.7	221.2	281.9	8.21%	12.84%	8.41%
CZ	4	100.0	155.0	172.0	189.3	6.46%	5.35%	3.25%	100.0	131.9	129.3	133.8	4.04%	-1.02%	1.15%	100.0	204.5	222.3	253.3	10.76%	4.28%	4.43%
EE	4	100.0	159.0	184.8	180.6	6.85%	7.80%	-0.76%	100.0	148.9	136.1	150.9	5.86%	-4.41%	3.51%	100.0	236.8	251.5	272.6	13.11%	3.05%	2.72%
HU	4	100.0	152.9	147.2	153.2	6.26%	-1.89%	1.35%	100.0	128.0	125.7	125.8	3.59%	-0.89%	0.02%	100.0	195.8	185.1	192.8	10.07%	-2.76%	1.36%
LT	4	100.0	136.5	148.5	138.8	4.55%	4.28%	-2.22%	100.0	157.6	149.2	168.7	6.72%	-2.70%	4.18%	100.0	215.2	221.6	234.2	11.57%	1.47%	1.87%
LV	4	100.0	148.8	164.2	153.4	5.84%	5.05%	-2.33%	100.0	152.4	138.4	170.2	6.21%	-4.71%	7.14%	100.0	226.8	227.2	261.2	12.41%	0.10%	4.76%
PL	4	100.0	106.3	102.2	109.1	0.88%	-1.97%	2.22%	100.0	126.5	129.6	141.0	3.41%	1.22%	2.85%	100.0	134.5	132.4	153.8	4.32%	-0.77%	5.13%
RO	4	100.0	159.2	158.4	157.8	6.87%	-0.24%	-0.14%	100.0	174.2	178.2	180.2	8.25%	1.14%	0.38%	100.0	277.3	282.3	284.4	15.69%	0.90%	0.24%
SI	4	100.0	113.3	130.8	131.4	1.80%	7.43%	0.15%	100.0	126.6	119.8	125.3	3.43%	-2.74%	1.52%	100.0	143.5	156.7	164.7	5.29%	4.49%	1.68%
SK	4	100.0	152.9	189.3	187.1	6.26%	11.25%	-0.39%	100.0	141.5	140.5	154.1	5.08%	-0.33%	3.11%	100.0	216.4	266.0	288.2	11.66%	10.88%	2.71%
Group	1	100.0	101.3	108.3	113.1	0.18%	3.43%	1.44%	100.0	109.6	104.5	109.0	1.32%	-2.36%	1.42%	100.0	111.0	113.2	123.3	1.50%	0.97%	2.89%
Group	2	100.0	114.6	124.2	129.1	1.96%	4.10%	1.29%	100.0	107.9	104.3	107.6	1.09%	-1.68%	1.05%	100.0	123.6	129.5	138.9	3.07%	2.35%	2.36%
Group	3	100.0	114.7	113.7	117.3	1.97%	-0.40%	1.03%	100.0	107.4	104.7	107.3	1.03%	-1.27%	0.81%	100.0	122.6	118.0	124.9	2.95%	-1.89%	1.92%
Group	4	100.0	133.6	138.2	143.4	4.23%	1.69%	1.25%	100.0	136.5	136.2	144.9	4.54%	-0.11%	2.10%	100.0	184.5	189.9	208.5	9.14%	1.44%	3.18%
EU 27		100.0	111.8	116.0	120.3	1.61%	1.83%	1.23%	100.0	110.0	106.6	110.4	1.37%	-1.55%	1.18%	100.0	123.2	123.7	133.1	3.03%	0.21%	2.45%

Data Source: AMECO and own calculations *Notes:* Aggregated with GDP weights

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was nevertheless still slightly higher than in Belgium, Denmark and France. Group three is very heterogeneous in terms of productivity growth. In Greece and the UK, average rates were above 2 percent. In Ireland and Portugal productivity grew at 1.7 percent and 0.9 percent on average. In Italy and Spain however, aggregate productivity stagnated over the pre-crisis period. All countries of group four exhibited strong productivity growth, which is typical for catching-up countries. It was highest in Romania, where it exceeded 8 percent on average every year, and in the Baltic countries (around 6 percent).

Figure 10: Productivity growth, 2000-2007
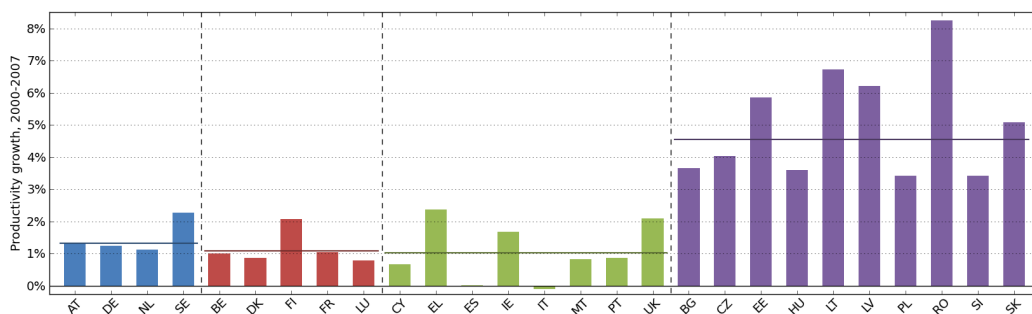
Data Source: AMECO and own calculations | *Notes:* The grey lines indicate group averages.

The variation in wage growth over country groups in the pre-crisis period was even more significant (Figure 11). Wage growth was lowest in group one (+1.5 percent p.a.), where it merely exceeded productivity growth. In groups two and three it was twice that rate (+3 percent p.a.) and exceeded productivity growth by far. In group four, wage growth was highest and twice the rate of productivity growth, which resulted in the high increases of unit labour costs which were shown in Figure 8. In terms of wage growth, the groups are even more heterogeneous than when we looked at productivity growth. In Germany wage growth was lowest and even below 1 percent every year on average. In Austria and Sweden it was around 2 percent and in the Netherlands even above 3 percent. In group 2, wage growth was above 3 percent in all countries except Belgium and therefore stronger than in the countries of group one (putting the Netherlands aside). Despite similar productivity developments, in most countries of group three nominal wage growth was higher than in the two aforementioned groups. Wage increases

were highest in Ireland (5.7 percent p.a.) and Greece (4.8 percent p.a.). In Cyprus, Spain and Portugal it was above 3 percent on average, whereas in Italy and the UK it was below. In all these countries wage growth was higher than productivity growth. In group four, only Poland and Slovenia had moderate wage increases; in almost all other countries it was close to or well above 10 percent.

Figure 11: Labour compensation growth in €, 2000-2007
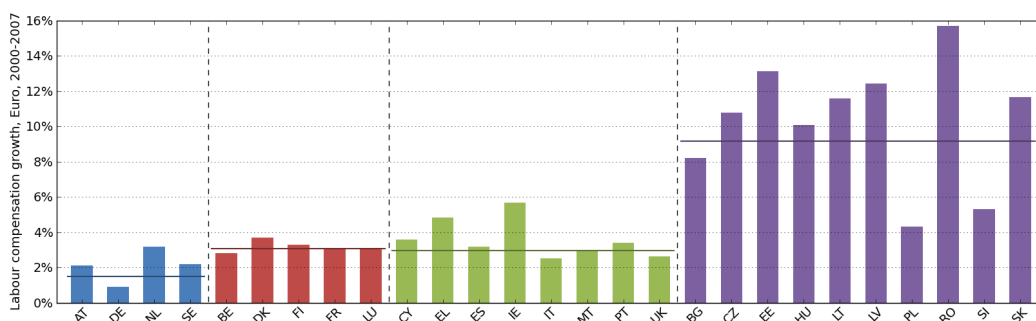
Data Source: AMECO and own calculations | *Notes:* The grey lines indicate group averages.

Nominal wage growth was broadly in line with productivity growth in group one and led to a stagnation of nominal unit labour costs between 2000 and 2007 (Figure 12). In groups two and three, it was substantially higher than productivity growth, so that nominal unit labour costs increased at almost 2 percent every year on average. In group four, the difference between nominal wages and productivity growth was almost 4 percent per year. Within group one, only the Netherlands (+2 percent p.a.) and Austria (+0.8 percent p.a.) had significant increases in nominal unit labour costs. In Sweden and in particular in Germany they even decreased over the pre-crisis period. In group two, in all countries except Finland, unit labour costs increased by close to or above 2 percent every year. The countries of group three all exceeded the benchmark of a yearly increase by 2 percent. The highest rises happened in Ireland (+4 percent p.a.) and Spain (+3 percent p.a.). Only in the UK unit labour costs rose only moderately. In group 4 allmost all countries exhibited strong increases in unit labour costs (4 percent or above). Only in Poland their annual growth rates lied below 1 percent on average.

As some countries of the EU are not part of the monetary union, exchange

Figure 12: Unit labour costs growth in €, 2000-2007

Data Source: AMECO and own calculations | *Notes:* The grey lines indicate group averages.
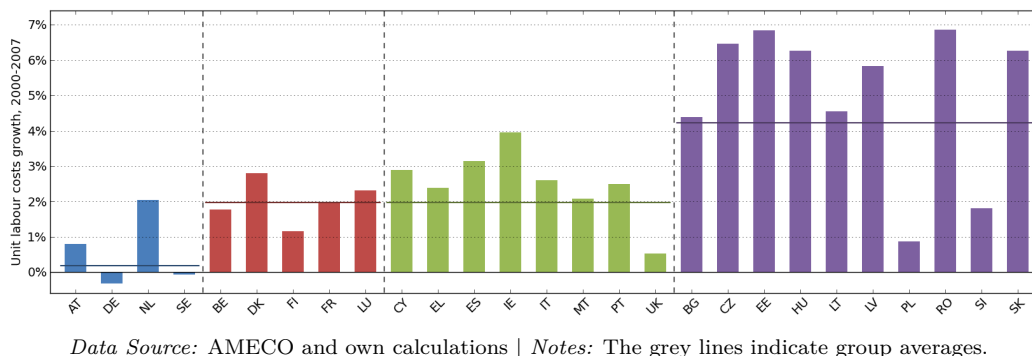
Figure 13: Relative unit labour costs growth, 2000-2007

Data Source: AMECO and own calculations | *Notes:* The grey lines indicate group averages.
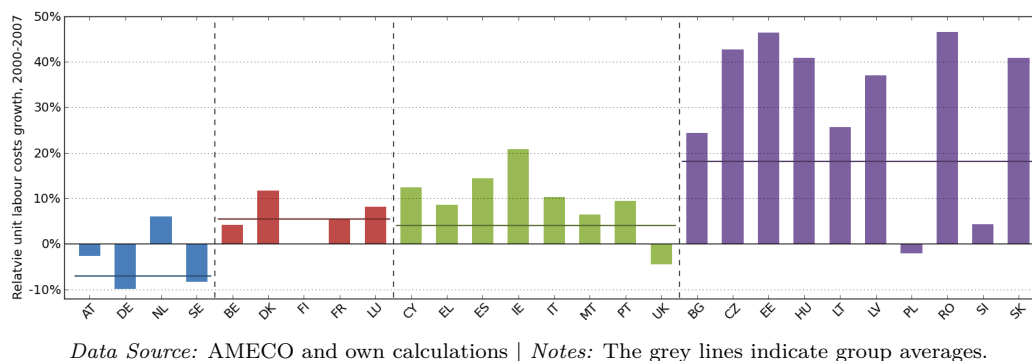
rate developments contributed to unit labour cost developments in country groups one, three and four. In group one, the only country with a flexible exchange rate is Sweden whose currency devalued by 9 percent between 2000 and 2007. Without this devaluation, unit labour costs would have risen 1.25 percent per year.[14] The same applies to the UK (group three) whose currency devalued by 11 percent. In group four, only in Latvia, Romania and Slovenia the currencies depreciated between 2000 and 2007. In Slovenia this led to moderate unit labour cost increases (in Euro), whereas in the other two countries, the depreciations merely alleviated the effect of strongly rising labour costs (in terms of national currency). In all other countries an ap-

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[14]In fact, they actually rose by 1.25 percent per year in national currency.

preciating currency contributed to a deteriorating competitiveness position, which was most significant in the Czech Republic and Slovakia, where the currencies appreciated by 25 to 30 percent.

Figure 14: Unit labour costs growth, decomposed, 2000-2007
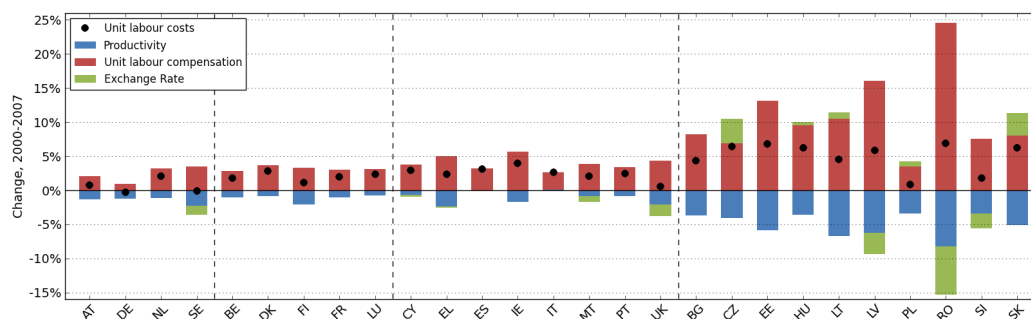
To sum up, the EU countries faced vast unit labour cost divergences. Productivity growth differences between groups one, two and three were only marginal and contributed basically nothing to these developments. Nominal wage increases on the contrary differed substantially. Nominal wages grew in line with productivity in group one, and exceeded the latter in groups two and four. Nominal unit labour costs consequently stagnated in group one and increased by 2 percent on average every year. Group four stands out as it exhibited significantly higher productivity increases. Wage increases nevertheless were even higher which resulted in a substantial increase in unit labour costs.

An interesting fact arises when we compare unit labour cost development with the target rate for inflation. Unit labour costs are the main determinant of prices (see below). Building on the assumption that prices rise line in line with unit labour costs, the target rate for the latter should be equal to the target inflation rate set by the ECB (slightly below 2 percent per year). Figure 15 illustrates that country groups two and three more or less fulfilled this requirement. Their unit labour costs grew on average around 2 percent every year. Group one on the contrary spectacularly failed to reach the target set by the ECB. As monetary policy needs to base itself on the average inflation rate of the whole EMU, it becomes clear that the nominal interest rate set by the ECB was too high for the surplus countries and too low for the deficit countries. This exacerbated the divergences in ecomomic

activity before the crisis. Below, we will see however that prices deviated considerably from unit labour cost developments.

Figure 15: Nominal ULC growth and ECB target inflation rate, 2000-2007
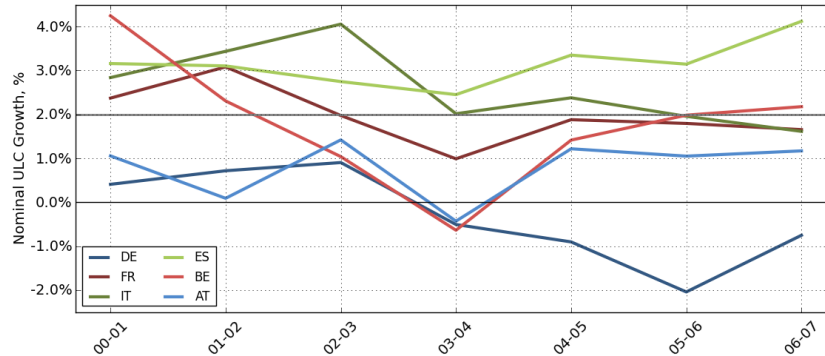
Data Source: AMECO and own calculations | *Notes:* Grey line corresponds to the ECB target inflation rate

So far we have discussed unit labour cost divergences within the EU. When looking at competitiveness vis-à-vis all main trading partners however, which is usually measured by the real effective exchange rate (REER), we get a similar picture, albeit with one major distinction. The REER is calculated including trading partners which are outside the EMU. Movements of the Euro thus have an immediate impact on the REER and consequently on competitiveness. The Euro appreciated from 2000 to 2007 against the US Dollar by 50 percent and the Japanese Yen by 60 percent.[15] Consequently, the REER deteriorated for most of the EU countries. In fact, only group one gained competitiveness vis-à-vis all its trading partners. Within this group however, Germany was the only country which faced a real depreciation. For groups two and three, the REER appreciated by almost 15 percent, and in group four by even 20 percent. As the movements of the (nominal) exchange rate usually tend to equalise current account imbalances[16], the nominal currencies of the surplus countries, had they not been part of monetary union, would have appreciated even more. In the deficit countries on the contrary

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[15]Before 2000 however, it depreciated substantially against these two currencies. Overall the Euro appreciated more than 15 percent until 2007 when an average of the 1990s is taken as the base value.

[16]As long as one accepts that the law of one price provides a long-term anchor for exchange rate movements.

exchange rate depreciations would have alleviated the pressure of loosing competitiveness. It is therefore safe to say that surplus countries benefitted substantially from being in a monetary union together with the deficit countries, as the weakness of the currency of the latter supported the improvement of their external position. Deficit countries on the other hand suffered from the common currency due to disproportional appreciations of their currency.

The discussion of unit labour costs implicitly assumed that firms translated cost developments into prices, which ultimately determine the competitiveness of their products. Looking at the (harmonised) consumer price index however we see that price divergence was actually less distincitive. Consumer prices increased in all groups between 2000 and 2007. However, the price hikes matched the rises in unit labour costs only in groups two and four, and were moderately higher in group three. In group one on the contrary, price inflation was much higher than labour cost inflation. Prices in group one in fact increased as much as in group two, and only slightly less than in group three. These developments had two implications: First, divergence in price competitiveness was not as drastic as it appeared when looking at unit labour costs. This could be one reason why the competitiveness channel was not so effective.[17] Second, firms in group one countries substantially marked up their costs and raised prices to a similar extent as their competitors in the rest of the EU. Thereby they increased their profit margins considerably. Consquently the labour income share in this group continually fell over the pre-crisis period. The effect of the falling labour share may have effected domestic demand and consequently counteracted the competitveness channel (see below).

Real interest rate channel and income distribtion channel

The second channel which was at work is the real interest channel. As the nominal interest rate is set by the ECB and is therefore similar in all countries, divergent price inflation in a monetary union led to different real in-

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[17]Looking at the GDP deflator however suggests that the development of producer prices lied somewhere in between those of consumer prices and unit labour costs.

Table 9: REER, 2000 = 100

Country	G	2000	2007	2009	2012	00-07	07-09	09-12
				Value			Changes	
AT	1	100.00	100.36	102.93	100.35	0.36	2.58	-2.59
DE	1	100.00	95.36	98.57	93.45	-4.64	3.20	-5.12
NL	1	100.00	112.56	117.08	111.48	12.56	4.53	-5.60
SE	1	100.00	98.11	87.49	97.17	-1.89	-10.62	9.68
BE	2	100.00	110.87	114.82	113.76	10.87	3.95	-1.06
DK	2	100.00	120.57	131.07	118.86	20.57	10.50	-12.21
FI	2	100.00	108.46	121.14	114.59	8.46	12.68	-6.54
FR	2	100.00	113.29	115.98	112.06	13.29	2.69	-3.92
LU	2	100.00	110.64	123.88	125.95	10.64	13.24	2.07
CY	3	100.00	117.94	119.94	118.98	17.94	2.00	-0.97
EL	3	100.00	112.54	119.23	102.97	12.54	6.69	-16.26
ES	3	100.00	120.13	123.48	108.08	20.13	3.35	-15.40
IE	3	100.00	136.32	136.63	112.86	36.32	0.32	-23.78
IT	3	100.00	119.71	124.97	120.01	19.71	5.26	-4.96
MT	3	100.00	124.23	129.39	125.68	24.23	5.16	-3.70
PT	3	100.00	111.45	113.24	102.57	11.45	1.80	-10.67
UK	3	100.00	104.91	82.39	88.75	4.91	-22.52	6.35
BG	4	100.00	127.91	154.01	160.86	27.91	26.10	6.85
CZ	4	100.00	147.69	155.47	162.18	47.69	7.77	6.71
EE	4	100.00	148.95	163.92	149.66	48.95	14.97	-14.27
HU	4	100.00	145.12	132.13	130.14	45.12	-12.99	-1.99
LT	4	100.00	127.05	130.89	115.77	27.05	3.84	-15.12
LV	4	100.00	138.41	145.06	128.82	38.41	6.65	-16.24
PL	4	100.00	99.47	90.43	91.12	-0.53	-9.04	0.69
RO	4	100.00	150.18	141.08	133.44	50.18	-9.10	-7.64
SI	4	100.00	106.09	115.42	110.04	6.09	9.33	-5.38
SK	4	100.00	140.84	165.97	155.08	40.84	25.14	-10.90
Group	1	100.00	98.46	100.52	96.88	-1.54	2.05	-3.63
Group	2	100.00	113.23	117.51	113.22	13.23	4.28	-4.30
Group	3	100.00	113.63	106.46	103.04	13.63	-7.17	-3.42
Group	4	100.00	122.29	119.65	118.04	22.29	-2.64	-1.61
EU 27		100.00	109.17	107.62	104.12	9.17	-1.55	-3.50

Data Source: AMECO and own calculations *Notes:* Aggregated with GDP weights

Table 10: HVPI, 2000 = 100, index

			Value				Avg. Changes	
Country	G	2000	2007	2009	2012	00-07	07-09	09-12
AT	1	100	114	118	128	1.9%	1.8%	2.6%
DE	1	100	113	116	123	1.7%	1.5%	1.9%
NL	1	100	119	122	130	2.5%	1.6%	2.1%
SE	1	100	113	119	124	1.7%	2.6%	1.4%
BE	2	100	115	120	130	2.0%	2.2%	2.8%
DK	2	100	113	119	128	1.8%	2.3%	2.4%
FI	2	100	110	116	126	1.4%	2.8%	2.7%
FR	2	100	114	118	126	1.9%	1.6%	2.1%
LU	2	100	121	126	139	2.8%	2.0%	3.1%
CY	3	100	118	124	135	2.4%	2.3%	3.0%
EL	3	100	126	134	146	3.4%	2.8%	2.9%
ES	3	100	125	129	139	3.2%	1.9%	2.5%
IE	3	100	125	127	129	3.2%	0.7%	0.5%
IT	3	100	118	123	133	2.4%	2.1%	2.6%
MT	3	100	117	124	134	2.2%	3.3%	2.6%
PT	3	100	124	126	136	3.1%	0.9%	2.6%
UK	3	100	113	119	132	1.7%	2.9%	3.5%
BG	4	100	151	173	189	6.1%	7.1%	2.9%
CZ	4	100	116	124	133	2.1%	3.4%	2.3%
EE	4	100	133	147	165	4.1%	5.3%	4.0%
HU	4	100	149	164	189	5.9%	5.0%	4.8%
LT	4	100	115	133	145	2.0%	7.6%	2.8%
LV	4	100	143	171	180	5.3%	9.1%	1.7%
PL	4	100	119	129	142	2.5%	4.1%	3.4%
RO	4	100	259	295	343	14.6%	6.7%	5.1%
SI	4	100	139	148	159	4.9%	3.2%	2.3%
SK	4	100	141	148	161	5.0%	2.4%	2.8%
Group	1	100	114	117	124	1.8%	1.6%	2.0%
Group	2	100	114	118	127	1.9%	1.8%	2.3%
Group	3	100	118	123	134	2.3%	2.3%	2.9%
Group	4	100	135	147	163	4.3%	4.5%	3.5%
EU 27		100	116	122	131	2.2%	2.2%	2.5%

Data Source: AMECO and own calculations *Notes:* Aggregated with GDP weights

terest rates.[18] The latter however are a major determinant for credit-driven consumption and investment. Real interest rates in the pre-crisis period were highest in the EMU in Germany, and lowest in Greece, Spain, Ireland and Portugal. The differences between the latter group of countries and Germany amounted to 1.5 percentage points. In the group two EMU countries, real interest rates were between half and 1 percentage point lower than in Germany. In group four real interest rates were lowest in the EU. In some countries, namely Bulgaria, the Baltic economies, and Hungary they were even negative. Low interest rates fuelled the expansion of domestic credit.

Figure 16: Long-term real interest rates, 2000-2007
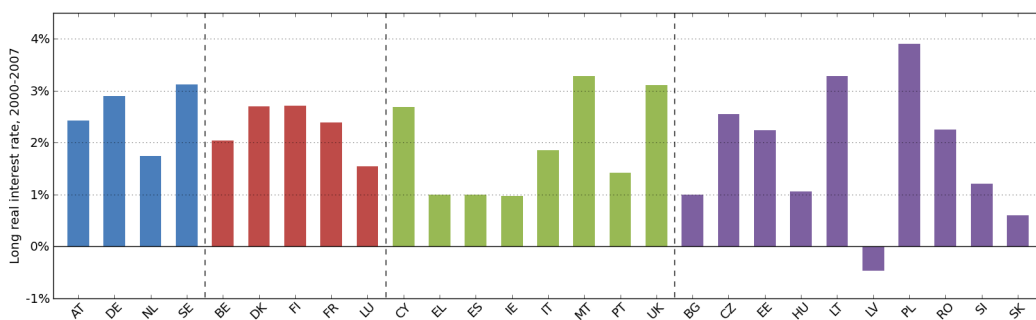
Data Source: AMECO and own calculations | *Notes:* Values are geometric country averages from 2000-2007. For some countries, averages were calculated for shorter periods due to missing values.

Private sector credit flow (as percent of GDP) increased dramatically during the pre-crisis period in many countries, namely in Bulgaria, Cyprus, the Baltic economies, Romania (more than 30 percentage points), Spain, Ireland, Portugal and Slovenia (more or almost 25 percentage points). Private sector debt (as percent of GDP) increased dramatically in these countries and rose to more than 200 percent in Portugal, Cyprus, Spain and Ireland in 2007.[19]

If we look at sectoral financial flows (accumulated over the pre-crisis pe-

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[18]The ECB sets the overnight rate in the interbank market. Long-term interest rates, which are relevant for consumer and producer credit, are furthermore determined by expectations of future nominal interest rates and future price inflation. However, interest rates for 10-year government bonds, which are used as a benchmark for private credit rates, had converged at the beginning of the 2000s.

[19]It breached the 200 percent limit in a series of other countries, namely in Sweden, the UK, Belgium, Denmark and the Netherlands. The rise during the considered period however was smaller.

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Figure 17: Private sector debt, as % of GDP, all countries, 2000 and 2007
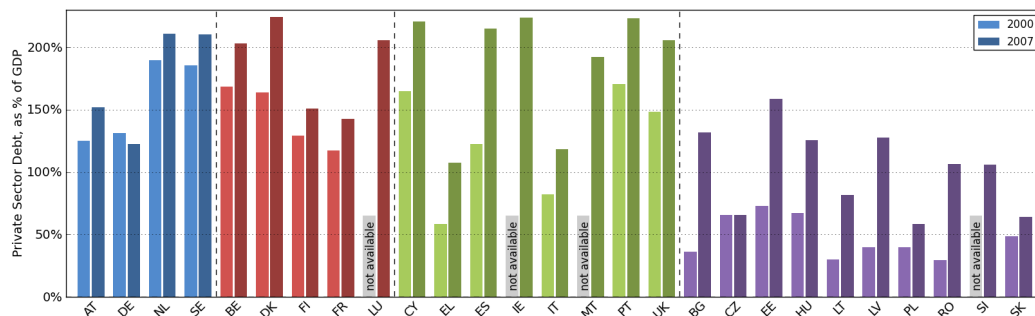
Data Source: European Commission, MIP Platform and own calculations

riod), we see that in Ireland, Finland, Greece, Spain, Slovakia, Denmark, UK, Bulgaria and the Baltic countries, households contributed, at least to a certain extent to the deficits in the current accounts. This is highly unusal as households tend to be net savers, not net investors.[20] However low interest rates and a booming domestic economy seemed to have tempted lenders as well as borrowers, and induced households to pile up debt. In Ireland, Greece, Bulgaria and Estland the accumulated deficit over the pre-crisis period in the household sector amounted to 40 percent of (2007) GDP in Ireland, 60 percent in Greece, 50 percent in Bulgaria and 30 percent in Estland. (Financial and non-financial) corporations on the other hand contributed most to the deficit in Spain (30 percent), Portugal (40 percent), Slovenia (35 percent), Estland (30 percent) and Latvia (40 percent). The state exhibited substantial deficits in Greece, Malta, Hungary and Poland.

The third channel we mentioned above is the income distribution channel. At the beginning of the pre-crisis period, in 2000, the (adjusted) wage share was similar in all country groups, ranging from 57 percent to 60 percent in total income (Table 11). Another similarity is that until 2007 it fell in all groups. The dynamics however were very different. Whereas in group two it remained almost stable and decreased moderately in group three, it fell dramatically in the other two groups. Within group one, it decreased most in Germany (-5.5 percentage points) and Austria (-3.5 percentage points), but also in the Netherlands and Sweden. In groups two and three, we find

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[20]The household sector includes firms which are not corporations such as one-person firms and business partnerships. This might be one reason for this sector to be highly indebted.

Figure 18: Accumulated financial flows, households, corporations, government, 2000-2007
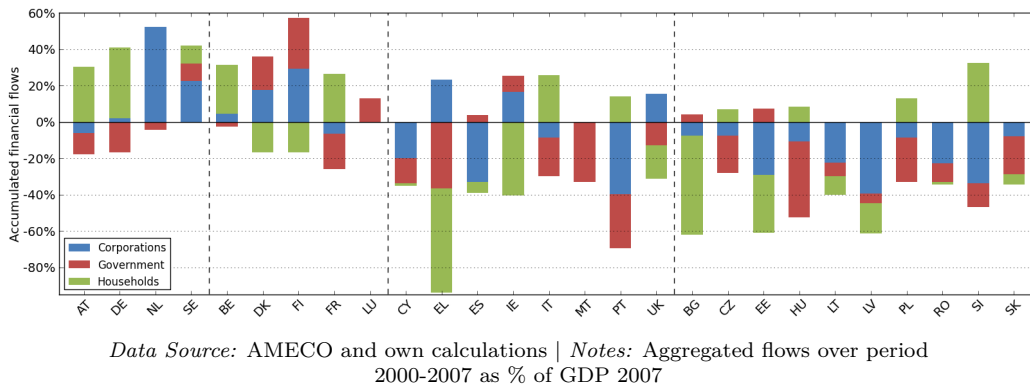
countries where the wage share increased moderately (Denmark, Ireland), was more or less stable (France, Finland, Italy, UK) or fell by several percentage points (Belgium, Greece, Spain, Portugal). Group four is once again more heterogeneous. The wage share increased in the Czech Republic and the Baltic economies whereas it fell in all other countries, in some cases even dramatically (Bulgaria, Poland, Romania).

A falling wage share ceteris paribus ceteris paribus[21] leads to weaker consumption expenditures. High-income households usually consume a smaller share of their income and have a higher savings rate, whereas for lower-income household we find the opposite pattern. A shift of incomes from the latter to the former thus reduces private consumption. On the other hand, a lower wage share ceteris paribus means that profitability has risen. Higher profitability should raise investment expenditures, because firms dispose of more liquidity and it is easier to finance new investments. Depending on whether the first is effect is higher than the second, the wage could theoretically raise or reduce domestic demand. The empirical literature however show that the consumption effect exceeds the investment effect by far (Stockhammer et al. (2009), Ederer (2008), Hein and Vogel (2008)). The decreasing wage share is likely to have restrained private consumption in Germany and other countries of group one, and consequently weakened domestic demand. The income distribution channel, just as the real interest channel counteracted

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[21]This means that here we do not consider the effect of the wage share on price competitiveness, as the latter is captured by the 'competitiveness channel'

the competitiveness channel and prevented current account imbalances from adjusting.

8 The financial and economic crisis 2007/08 and its aftermath

The financial and economic crisis in 2007/08 brought an abrupt end to the unsustainable developments which we have summarised in the previous sections. Particularly those countries where current account imbalances were accompanied by credit-driven construction and/or consumption booms were hit hardest. Between 2007 and 2009, when the global crisis was as its worst, GDP declined in almost all EU countries. Group three exhibited the sharpest decline, albeit closely followed by groups one and two. In group four on the other hand, GDP stagnated.[22] The impact of the crisis however was heterogeneous across all groups. Among the countries which suffered most in terms of economic activity were countries from all groups, namely Denmark, Finland, Ireland, Italy, the Baltic economies, and Hungary. Poland on the other hand continued to grow strongly during the crisis.

Due to the global dimension of the crisis, exports declined everywhere and had a major impact on aggregate demand. On the import side however there was a significant difference in the patterns exhibited by country groups. In groups one and two, imports declined less than exports, leading to a negative net contribution of trade to aggregate demand. In groups three and four, the impact of the crisis on imports was even worse than on exports, with the result of a positive contribution of net exports. In group three this was due to a sharp decline in domestic demand which mainly stemmed from a drop in investment expenditures. In group four on the other hand, the decline in exports was less dramatic than in group three, so that the contribution from net exports actually stabilised the economies. In groups one and two, investment and consequently domestic demand was less affected than in the other two country groups. An important particularity is that group three was the only one where private consumption decreased, which worsened the

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[22]It should however been taken into account that past growth was higher in the latter group. A stagnation therefore means that the deviation from the past growth trend is similar to other country groups.

Table 11: Wage share

Country	G	Value				Changes		
		2000	2007	2009	2012	00-07	07-09	09-12
AT	1	59.02%	55.46%	58.49%	57.40%	-3.57	3.04	-1.09
DE	1	60.56%	55.09%	58.37%	58.41%	-5.46	3.27	0.04
NL	1	58.85%	56.83%	60.29%	59.91%	-2.02	3.46	-0.38
SE	1	58.55%	56.90%	58.19%	56.50%	-1.65	1.29	-1.69
BE	2	61.31%	59.65%	62.57%	62.44%	-1.67	2.92	-0.13
DK	2	56.39%	58.32%	62.45%	58.41%	1.93	4.13	-4.04
FI	2	53.76%	53.66%	59.74%	58.18%	-0.09	6.07	-1.56
FR	2	57.25%	56.80%	58.85%	58.80%	-0.45	2.06	-0.06
LU	2	49.85%	45.78%	53.24%	49.06%	-4.07	7.46	-4.18
CY	3	56.18%	55.01%	55.64%	54.29%	-1.17	0.63	-1.35
EL	3	55.59%	53.47%	55.71%	50.50%	-2.13	2.24	-5.21
ES	3	58.87%	55.33%	57.79%	53.14%	-3.55	2.46	-4.65
IE	3	48.18%	50.27%	55.70%	50.56%	2.09	5.43	-5.14
IT	3	53.25%	53.66%	55.73%	55.55%	0.41	2.07	-0.18
MT	3	49.21%	50.79%	52.57%	51.47%	1.58	1.78	-1.09
PT	3	59.20%	57.23%	59.59%	55.57%	-1.97	2.36	-4.02
UK	3	62.53%	61.89%	64.45%	63.95%	-0.65	2.57	-0.50
BG	4	50.55%	46.09%	51.67%	51.09%	-4.46	5.58	-0.59
CZ	4	47.84%	49.55%	50.23%	53.03%	1.71	0.68	2.80
EE	4	49.67%	50.63%	56.58%	51.71%	0.95	5.96	-4.87
HU	4	53.58%	52.92%	52.11%	51.34%	-0.66	-0.81	-0.77
LT	4	48.81%	49.71%	51.08%	43.24%	0.91	1.37	-7.84
LV	4	49.09%	52.97%	52.82%	45.31%	3.88	-0.16	-7.50
PL	4	55.43%	46.46%	47.76%	45.97%	-8.97	1.29	-1.78
RO	4	72.08%	56.64%	59.66%	54.19%	-15.44	3.02	-5.46
SI	4	62.78%	59.88%	64.07%	64.18%	-2.90	4.19	0.11
SK	4	45.24%	42.33%	45.97%	43.89%	-2.91	3.64	-2.08
Group	1	60.06%	55.60%	58.65%	58.41%	-4.46	3.05	-0.24
Group	2	57.31%	56.88%	59.58%	59.00%	-0.43	2.69	-0.58
Group	3	58.85%	57.49%	59.28%	58.01%	-1.36	1.79	-1.27
Group	4	57.10%	50.69%	52.26%	50.27%	-6.41	1.58	-2.00
EU 27		60.51%	57.15%	59.59%	58.71%	-3.36	2.44	-0.89

Data Source: AMECO and own calculations

crisis substantially. In the other three groups, private consumption continued to expand and thus stabilised the economy during this period. Another interesting fact is that government consumption expanded everywhere, albeit in group three to a much lesser extent than in the other groups.

Looking at the country level, some interesting peculiarities arise. Investment decreased everywhere substantially, but most dramatically in Greece, Spain, Ireland, Malta and the Baltic economies. In the latter, both investment in machinery and equipment as well as construction investment collapsed, whereas in the former countries, construction investment contributed substantially more to the economic downturn than investment in machinery and equipment. Private consumption on the other hand suffered most in the Baltic countries, and to a lesser extent in Denmark, Spain, Ireland, Italy, Portugal, UK, Bulgaria and Hungary. Government consumption increased everywhere except in Ireland, Bulgaria, Lithuania and Latvia, where it acted pro-cyclically and worsened the economic downturn. Consequently, domestic demand collapsed in all these countries. On the trade side however, imports declined much more than exports in Greece, Spain, Ireland, Bulgaria, Hungary and the Baltic states, and consequently attenuated the economic downturn.

These patterns were mostly a consequence of the macroeconomic imbalances which had been built up before the crisis. In most of these economies, domestic demand had been the driver of the economic boom, primarily fuelled by increases in the amount of private domestic credit which in turn was financed by the current account surplus countries. The financial and economic crisis led to a 'sudden stop' of international credit flows as investors lost confidence and induced a reduction of the amount of credit to private households and firms by domestic banks (Lane 2013). Without the possibility to refinance their expenditures, domestic demand collapsed.

In 2009, the global financial and economic crisis seemed to be over. In the EU, most economies started to grow again. The legacy of the unsustainable development before the crisis in conjunction with the governance deficiencies of the EU however resulted in a continuation of divergent development patterns. Country groups one and four exhibited strong economic growth in the period from 2009 to 2012, followed by group two. In groups one and four GDP by 2012 exceeded its pre-crisis level (by 5 percent and 10 percent, respectively). In group two, economic activity almost resumed to where it

was in 2007. Group three on the other hand stagnated throughout this period and its economies remained around 5 percent below the pre-crisis level in 2012. Recovery in general was to a large extent due to resuming export growth, which led to a positive net foreign trade contribution to GDP in all country groups. In group two however, this contribution was close to zero, as exports grew almost in line with imports.

Domestic demand on the other hand increased in groups one, two and four, whereas in group three it declined over the period. Only in group one however it exceeded its pre-crisis level in 2012. In group three, domestic demand remained 10 percent below its peak. Private and government consumption, as well as investment all declined even further between 2009 and 2012 in group three. Particularly the construction slump continued almost unabatedly. Consequently, construction investment remained 30 percent below its 2007 level (and 5 percent below its 2000 level), and investment in machinery and equipment 25 percent (10 percent with respect to 2000). Private consumption was in 2012 about 5 percent lower than in 2007 (but still 13 percent higher than in 2000), and government consumption remained almost at the same level. Contrarily, in the other three groups, in 2012 private consumption was between 2 and 4 percent higher than in 2007, government consumption between 6 and 9 percent, and investment expenditures only 3 to 7 percent lower.

A number of countries continued to shrink after the crisis. In Cyprus, Greece, Spain, Italy, Portugal and Slovenia, GDP decreased on average between 2009 and 2012. Relatively weak growth was also exhibited by the Netherlands, Denmark, Ireland, Hungary and Romania. Other countries where GDP had declined dramatically during the crisis, like the Baltic economies, regained some of these losses afterwards. Still, GDP in 2012 remained below the 2007 level in Denmark, Finland, Spain, Ireland, Italy, Portugal, UK, the Baltic economies, Hungary and Slovenia. Greece and Latvia were worse off with GDP levels of 20 percent and 12 percent below peak. The latter countries were also those where domestic demand was lowest compared to the pre-crisis level. In a number of other countries, namely Spain, Ireland, Portugal, the Baltic economies, Hungary and Slovenia, domestic demand was also more than 10 percent lower than before the crisis. Private consumption was affected most in Greece, Spain, Ireland, Portugal and the Baltic countries, being 10 percent or more below the pre-crisis level in 2012. Investment

was more than 30 percent lower in Cyprus, Greece, Spain, Ireland, Malta, Portugal, Lithuania, Latvia and Slovenia. Government consumption declined around 15 percent in Greece, Ireland and Latvia, compared to 2007. Contrarily, exports exceeded their pre-crisis level in all countries but Finland, Cyprus, Greece and Italy.

The legacy of high stocks of financial debt impeded a recovery (or worsened the crisis) when the global economy started to pick up speed again. Falling asset prices, a deteriorating economic climate and drying-up financial flows from abroad made refinancing for banks more difficult and led to a cancellation of credit contracts. This in turn provoked bancruptcies and asset prices to fall further, as all sectors tried to pay back their debt (deleveraging) by selling assets. Households and firms tried to reduce their debt burdens by restraining their expenditures and consequently deflated demand, which aggravated the economic crisis even more. In almost all EU countries, the balance of financial flows of the non-financial corporative sector turned from a deficit into a surplus.[23] The exceptions were France, Italy, and Portugal were it remained in deficit. Those countries where the household sector had exhibited a deficit in the financial flows' balance before the crisis, it turned into a surplus or showed at least a significant improvement afterwards. The only exceptions to this rule were Hungary, Poland, and Romania, where (small) surpluses turned into deficits. Private sector credit flows[24] decreased in all EU countries after the crisis, and turned even negative in Greece, UK, Latvia, Lithuania, Hungary and Spain. These patterns provide evidence that many EU countries suffered (and still suffer) from a balance sheet recession (Koo (2009)).

This had serious consequences on production and employment. Industrial production in group one collapsed during the crisis, but quickly recovered to its pre-crisis level afterwards. In groups two and three it was almost equally hit, but bounced back less strongly and even continued to decrease in some countries (Cyprus, Greece, and UK). Consequently, none of the countries so far has regained its production level as before the crisis. In group four, production decreased only marginally and resumed growing quickly and strongly. Consequently, industrial production in 2012 exceeded its pre-crisis

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[23]In those countries which had exhibited a surplus in the balance of financial flows of the non-financial corporative sector already before the crisis, this surplus increased afterwards.

[24]In percent of GDP.

level by far. The only exceptions to this rule were Estland, Hungary, and Slovenia. The construction sector was hit most severely during the crisis in group three, and continued to shrink afterwards. In 2012, its production was still well below pre-crisis levels. The most affected countries were Cyprus (-45 percent, compared to 2007), Greece (-70 percent), Spain (-30 percent), Portugal (-40 percent). In all these countries, its value added in 2012 was far lower than in 2000. In group four, in the Baltic economies, Hungary, and Slovenia, the construction sector was severely hit, whereas it continued to expand strongly in Poland.

Industrial employment declined everywhere during the crisis and increased only marginally or decreased further afterwards. The very exception is Germany, where in 2012 it marginally exceeded its pre-crisis level. It should be mentioned however, that with some exceptions, employment in the industrial sector follows a long-term decline since 2000 (see section 5). Far more jobs were lost in the construction sector, in particular in groups two and three. In group one however, and in some countries of group four (Czech Republic, Poland, and Slovakia), employment in 2012 was even higher than in 2007. The countries where the construction boom until the crisis was pre-eminent, employment declined drastically during and after the crisis. The worst job-losses are found in Greece (-50 percent), Spain and Ireland (-60 percent) and Portugal (-30 percent). In the Baltic countries and Bulgaria we find similar collapses in employment. Total employment was affected most in Greece, Spain, and Ireland (-15 percent in 2012, compared to 2007), as well as Portugal, Bulgaria and Lithuania (-10 percent), and Latvia (-20 percent).

The long-lasting boom in domestic demand before the crisis had induced structural changes on the production side of the economy. The closed, domestic-oriented sectors, such as construction and services had expanded relatively to open, trade-oriented sectors. Because these developments were unsustainable and domestic demand is unlikely to return in the near future, these structural shifts need now be reversed, at least partly. Such adjustment processes however take time and are never easy for firms and employees alike. Current account surplus countries however face a similar albeit much less drastic need for readjustment. They had sold a large amount of their products to the booming deficit countries. Production and employment consequently had shifted to the open, trade-oriented sectors such as manufacturing. As exports in surplus countries were at least partly the mirror

image of domestic demand in deficit countries, the former also face a need to adjust and shift production and employment to more domestic-oriented sectors.

The framework for economic and fiscal policy of the EMU put the pressure of adjustment on the deficit coutries. At the time of the crisis, no rules or institutions to safeguard systemic banking crises or illiquid souvereign debt markets in the monetary union were established. Countries were pressured into bailing-out their banking sector (Greece, Ireland), and received financial support in the case of refinancing difficulties only after committing to drastic spending cuts in the public sector (Greece, Ireland, Portugal, Spain, Cyprus). This aggravated the economic crisis even more and forced several countries into a recession. Automatic stabilisers in the deficit coutries were practically 'turned off'. The Stability and Growth Pact (SGP), which was reinforced after the crisis, restricted public expenditures in all EMU countries, and limited boosting the economy, even in surplus countries. Consolidation measures which were put into effect in a parallel undertaking in all EU countries depressed demand and drove economies (further) into recession. Fiscal policy consequently acted pro-cyclically and destabilised the EMU. Furthermore, it led to social unrest and the deterioration of public support for the EU, particularly in Southern Europe, which is threatening the cohesion and even the existence of the EMU.

9 Conclusion

This paper has aimed to identify the different growth patterns in the EU which led to the emergence of macroeconomic imbalances. It has provided a detailed statistical picture on the demand as well as on the supply side and has discussed the various 'channels' which led to these imbalances. Finally, it has tentatively discussed the role of EMU's institutional framework in relation to them.

Before we briefly discuss the governance reforms which were put into effect during the crisis, we want to reiterate the importance of the last point. As we have discussed, the incomplete institutional architecture of the EMU aggravated the boom and bust cycles, and supported the emergence of macroeconomic imbalances. The common monetary policy, in conjuncture with di-

vergent price inflation, stimulated domestic demand and amplified the boom in high-growth and high-inflation countries. This led to rapidly expanding imports and high current account deficits. Contrarily, in low-growth and low-inflation economies real interest rates were higher and restricted domestic demand. This, in conjuncture with solid export growth caused substantial current account surpluses. For a time, the so-called real interest channel was more effective as the counteracting competitiveness channel.

These developments were symmetric. Domestic demand booms and current account deficits were financed by large capital flows coming from current account surplus countries. Banks intermediated the credit expansion of domestic households and firms by running up large stocks of debt abroad. This made current account deficit countries highly vulnerable to 'sudden stops' of capital flows when the financial crisis began and caused a sharp decline in domestic demand. The legacy of high stocks of financial debt impeded a recovery when the global crisis ended. Households and firms tried to reduce their debt burdens by restraining their expenditures and consequently deflated demand, which aggravated the economic crisis even more. The countries suffered (and still suffer) from a balance sheet recession.

After the unsustainable, domestic-driven booms in deficit countries had come to an end, the framework for economic and fiscal policy of the EMU aggravated the crisis even more and forced several countries into a recession. The Stability and Growth Pact (SGP) restricted public expenditures, particularly in the countries which had been affected most severely. Consolidation measures which were put into effect in a parallel undertaking in all EU countries depressed demand and drove economies (further) into recession.

Furthermore, the lasting boom in domestic demand before the crisis induced structural changes on the production side of the economy. The closed, domestic-oriented sectors, such as construction and services expanded relatively to open, trade-oriented sectors. Because these developments were unsustainable and domestic demand is unlikely to return in the near future, these structural shifts need now be reversed, at least partly. The current account surplus countries likewise face a need to adjust. Production and employment shifted to the open, trade-oriented sectors such as manufacturing. As exports in surplus countries were at least partly the mirror image of domestic demand in deficit countries, the domestic sectors need to be strengthened.

As a reaction to the crisis, a series of institutional reforms have been put into place. The main focus of theses reforms was to strengthen and reinforce the exisiting governance framework.[25] The new rules and procedures, and in particular the Stability and Growth Pact (SGP) and the Macroeconomic Imbalances Procedure (MIP) are embedded in the original architecture of the EMU and breathe the same spirit. The SGP was reinforced by the 'Six-Pack' and 'Two-Pack', and was complemented by the Treaty on Stability, Coordination and Governance (TSCG). They all aim at implementing more stringent rules on public deficits and debt, and on stricter sanctions in the case of non-compliance. The MIP likewise consists of a preventive and corrective arm, and foresees recommendations and sanctions for member states with 'excessive imbalances'. The decision whether a member state exhibits an excessive imbalance is based on a scoreboard of indicators and in-depth reviews of the countries' economic situation.[26]

These reforms however fail to support the elimination of the present macroeconomic imbalances and are even more unlikely to effectivly prevent them from emerging again. We have argued that the SGP has led to fiscal policy acting in an uncoordinated, pro-cyclical manner, giving to much emphasis on austerity and neglecting economic and political stability. The MIP on the other hand implies that imbalances arise solely within a single country, and not between countries. As we have discussed, the emergence of macroeconomic imbalances were supported by EMU's framework and are a symmetric phenomenon. They cannot be remedied by one country alone.

This current rule-based approach, which neglects the interlinkages between member states is threatening to destabilise the EMU. The economic and social situation is deteriorating in many Southern European countries, and the public support for the EU as an institution is waning. As opposed to the path taken hitherto, the EU needs a common, coordinated approach to economic policy. Adjustment in surplus and deficit countries likewise needs to be symmetric and coordinated to prevent further centrifugal and destabilising developments in the EMU. This approach has to be comprehensive,

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[25]For a more elaborated assessment of the existing governance framework and its reforms, see Aiginger et al. (2012), Ederer and Weingärtner (2013), Sachs (2013), Thillaye (2013a), Thillaye (2013b).

[26]For detailed information about the MIP, see European Commision (2012) and the Commission website (`http://ec.europa.eu/economy_finance/economic_governance/macroeconomic_imbalance_procedure/index_en.htm`).

as it needs to adress weaknesses in financial regulation ('banking union'), the fiscal policy framework, and a policy framework for social and territorial cohesion likewise. It needs to complement rule-based regulation with the possibility of coordinated and interventionist stabilisation policy. This framework has to be democratically legitimated and accountable, to ensure public support and guarantee the political stability of the EMU.

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A   Appendix

Figure A.1: Balances, as % of GDP, Group 1 and Group 2
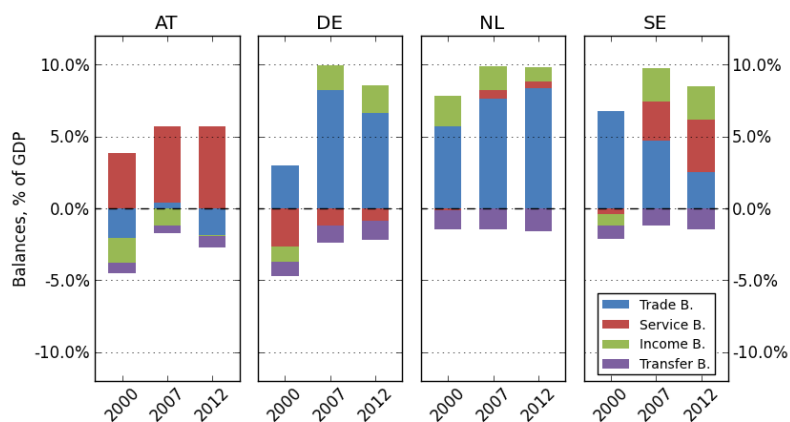
(a) Group 1
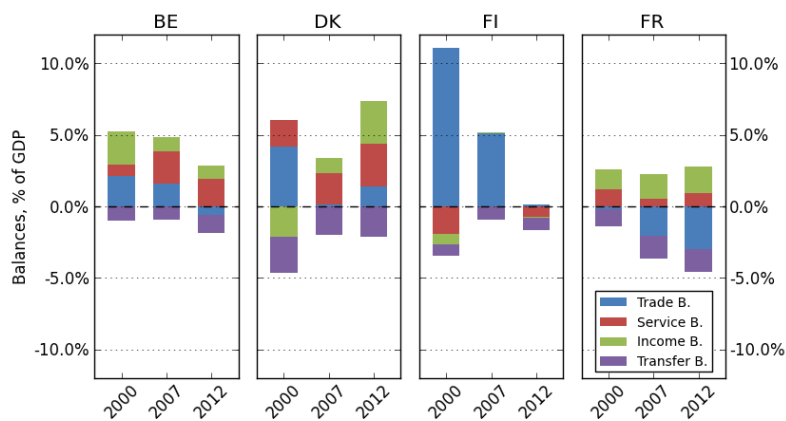
(b) Group 2 (without LU)

Data Source: AMECO and own calculations

Figure A.2: Balances, as % of GDP, Group 3 and Group 4
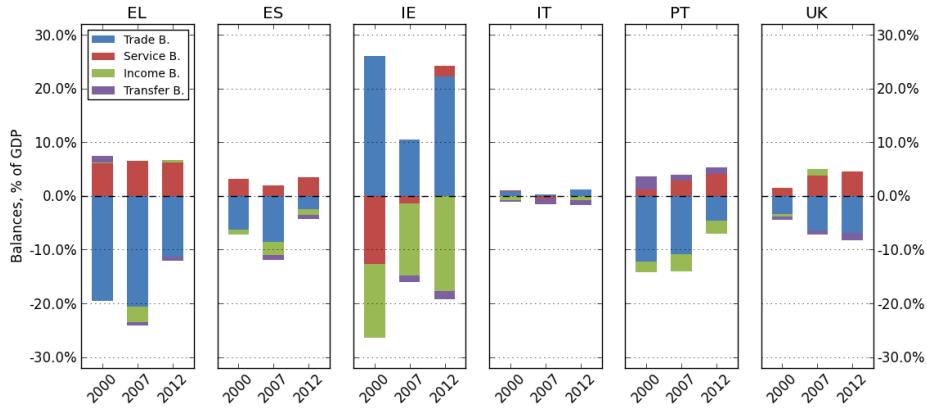
(a) Group 3 (without CY, MT)
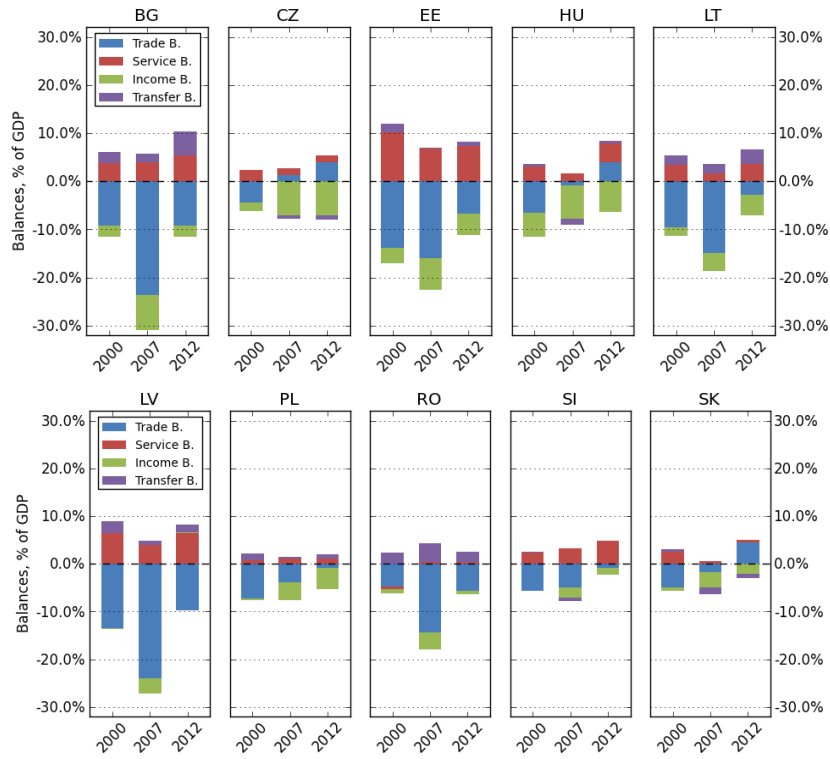
(b) Group 4

Data Source: AMECO and own calculations

Table A.1: Demand, 2000 = 100

Country	G	Private Cons. 2000	2007	2009	2012	Government 2000	2007	2009	2012	Investments 2000	2007	2009	2012	Equipment 2000	2007	2009	2012	Construction 2000	2007	2009	2012
AT	1	100.0	111.3	113.2	116.4	100.0	109.2	114.4	114.6	100.0	104.9	97.4	106.6	100.0	109.9	97.8	116.6	100.0	98.3	92.1	95.0
DE	1	100.0	102.8	103.8	107.2	100.0	104.1	110.6	115.2	100.0	102.2	91.5	100.4	100.0	122.1	97.3	109.3	100.0	85.5	82.2	88.5
NL	1	100.0	106.1	105.3	103.1	100.0	126.5	136.4	137.6	100.0	109.0	100.2	93.8	100.0	117.9	105.5	110.3	100.0	104.8	97.0	83.5
SE	1	100.0	118.9	118.6	128.0	100.0	106.1	109.5	113.9	100.0	136.9	117.3	115.2	100.0	142.2	116.0	140.8	100.0	140.3	120.6	139.5
BE	2	100.0	109.3	112.1	114.7	100.0	111.7	116.8	118.7	100.0	120.8	112.9	115.2	100.0	119.6	108.4	114.3	100.0	116.1	109.1	107.1
DK	2	100.0	119.0	114.4	116.4	100.0	111.8	117.4	116.3	100.0	123.0	99.2	100.9	100.0	126.3	103.1	110.5	100.0	117.1	87.8	83.1
FI	2	100.0	127.2	125.9	135.1	100.0	111.5	114.7	115.9	100.0	125.0	107.7	114.1	100.0	121.3	108.7	113.4	100.0	124.1	104.1	110.3
FR	2	100.0	115.8	116.4	118.4	100.0	112.0	116.3	116.3	100.0	122.2	109.6	114.8	100.0	115.3	97.0	112.1	100.0	124.0	112.1	111.6
LU	2	100.0	115.6	112.8	120.0	100.0	130.8	138.7	152.2	100.0	157.7	136.0	171.3	100.0	167.7	121.3	229.1	100.0	149.1	146.4	146.7
CY	3	100.0	137.2	136.8	135.4	100.0	132.5	150.1	148.8	100.0	166.3	159.1	101.3	100.0	142.6	161.5	81.8	100.0	178.0	157.7	110.5
EL	3	100.0	133.2	136.7	107.5	100.0	123.8	126.4	104.9	100.0	170.2	125.9	104.9	100.0	212.9	165.5	102.9	100.0	147.5	101.3	50.0
ES	3	100.0	127.8	122.2	119.2	100.0	140.9	154.8	150.6	100.0	144.5	113.0	91.2	100.0	133.8	97.8	96.4	100.0	148.7	116.9	84.9
IE	3	100.0	141.3	132.8	129.2	100.0	144.8	141.1	124.4	100.0	147.6	96.1	65.8	100.0	149.5	106.4	91.6	100.0	152.3	94.6	52.6
IT	3	100.0	106.4	103.9	101.1	100.0	115.5	117.1	111.9	100.0	114.1	96.9	88.1	100.0	111.9	88.3	32.3	100.0	118.1	104.7	91.3
MT	3	100.0	113.8	119.4	121.7	100.0	114.3	125.4	139.6	100.0	116.6	83.1	73.8	100.0	80.5	96.5	75.0	100.0	144.5	117.6	102.2
PT	3	100.0	111.5	110.4	102.7	100.0	112.4	118.2	118.2	100.0	91.3	83.1	61.5	100.0	103.8	84.1	89.7	100.0	83.5	74.3	51.7
UK	3	100.0	123.3	117.6	119.6	100.0	119.8	122.7	125.6	100.0	133.1	109.6	111.8	100.0	112.0	84.1	–	100.0	148.7	126.0	125.8
BG	4	100.0	162.4	155.2	161.8	100.0	122.0	113.0	115.4	100.0	276.2	277.4	213.6	100.0	344.7	195.2	152.4	100.0	225.5	333.0	–
CZ	4	100.0	129.6	133.6	131.0	100.0	116.7	122.8	119.1	100.0	142.7	132.2	130.2	100.0	156.7	140.4	232.0	100.0	127.2	119.6	106.9
EE	4	100.0	186.9	151.1	159.4	100.0	131.8	135.2	141.5	100.0	269.2	143.9	202.7	100.0	272.1	97.5	113.1	100.0	264.0	164.3	175.5
HU	4	100.0	131.2	121.7	117.0	100.0	116.2	116.2	116.2	100.0	125.8	115.1	96.5	100.0	132.2	111.2	195.6	100.0	120.5	116.0	84.1
LT	4	100.0	187.1	159.5	169.3	100.0	119.1	117.8	115.2	100.0	265.8	152.4	179.3	100.0	307.5	127.1	195.6	100.0	252.9	159.7	162.6
LV	4	100.0	210.6	153.4	173.5	100.0	124.5	114.5	106.4	100.0	270.7	146.2	172.1	–	–	–	–	–	–	–	–
PL	4	100.0	127.1	137.1	146.2	100.0	130.1	142.7	146.2	100.0	129.3	140.0	150.1	100.0	138.4	139.5	158.3	100.0	122.2	138.7	145.5
RO	4	100.0	202.3	198.3	202.1	100.0	91.4	101.0	98.0	100.0	260.4	216.4	239.2	100.0	272.3	218.4	200.8	100.0	264.6	226.9	282.5
SI	4	100.0	124.8	127.9	127.0	100.0	122.7	133.2	131.4	100.0	147.8	121.5	87.4	100.0	175.8	117.3	125.1	100.0	127.9	112.8	61.8
SK	4	100.0	142.8	151.7	149.0	100.0	124.2	139.8	134.3	100.0	161.6	131.0	153.5	100.0	157.8	143.1	185.3	100.0	148.3	138.2	125.9
Group	1	100.0	115.0	105.7	108.8	100.0	108.5	115.2	118.8	100.0	106.1	95.3	102.6	100.0	122.2	100.0	112.7	100.0	92.7	87.6	90.9
Group	2	100.0	115.9	116.2	118.8	100.0	112.1	116.5	119.7	100.0	122.7	109.3	114.2	100.0	118.2	100.7	113.7	100.0	122.8	109.6	109.1
Group	3	100.0	119.1	114.9	112.7	100.0	122.4	126.6	123.8	100.0	129.8	105.3	129.8	100.0	119.7	92.0	88.4	100.0	137.2	112.5	94.2
Group	4	100.0	142.3	143.7	147.9	100.0	118.8	126.6	149.0	100.0	157.5	144.4	147.7	100.0	169.3	143.1	–	100.0	144.5	143.2	125.9
EU 27		100.0	115.4	113.9	114.6	100.0	115.3	120.5	114.6	100.0	122.6	105.4	103.9	100.0	123.5	99.7	–	100.0	121.1	106.1	–

Country	G	Domestic Demand 2000	2007	2009	2012	Exports 2000	2007	2009	2012	Imports 2000	2007	2009	2012	GDP 2007	2009	2012
AT	1	100.0	105.9	104.3	114.5	100.0	155.1	132.8	157.5	100.0	144.6	125.3	147.3	116.8	114.0	120.5
DE	1	100.0	102.7	101.3	106.3	100.0	165.5	148.4	188.6	100.0	143.0	136.0	165.3	110.3	105.8	114.3
NL	1	100.0	111.9	111.0	110.1	100.0	136.3	128.3	153.2	100.0	133.9	127.4	149.9	114.7	112.5	114.4
SE	1	100.0	118.7	113.3	125.0	100.0	144.6	126.8	152.3	100.0	136.5	115.7	144.1	123.1	116.1	129.4
BE	2	100.0	112.3	112.0	115.2	100.0	127.2	115.4	134.0	100.0	125.1	115.3	133.0	114.3	112.2	116.8
DK	2	100.0	118.3	109.0	115.5	100.0	132.4	123.8	137.1	100.0	152.6	138.3	154.6	111.8	104.6	106.9
FI	2	100.0	124.0	117.1	123.7	100.0	144.8	120.6	131.5	100.0	149.2	132.7	144.9	125.2	114.9	121.7
FR	2	100.0	116.1	113.4	116.2	100.0	119.3	104.5	123.6	100.0	129.9	118.5	135.0	113.5	109.8	113.5
LU	2	100.0	126.5	117.0	139.5	100.0	162.7	151.3	166.5	100.0	164.0	149.6	177.2	133.3	133.2	129.5
CY	3	100.0	139.6	140.2	131.2	100.0	122.3	108.7	106.8	100.0	145.2	136.2	123.9	128.2	126.9	130.3
EL	3	100.0	135.6	135.6	98.2	100.0	126.7	103.8	147.2	100.0	136.2	127.1	109.7	133.2	128.7	121.2
ES	3	100.0	134.1	125.0	117.2	100.0	133.9	119.3	159.9	100.0	161.9	129.2	130.7	126.4	122.8	121.4
IE	3	100.0	143.1	121.4	110.1	100.0	146.5	139.3	120.5	100.0	147.5	108.3	133.7	141.9	131.3	133.4
IT	3	100.0	110.0	103.9	99.4	100.0	124.6	99.9	108.0	100.0	128.5	124.5	127.5	109.1	101.9	101.6
MT	3	100.0	109.5	109.8	106.8	100.0	121.9	114.0	142.8	100.0	116.5	122.3	124.8	113.8	115.1	121.4
PT	3	100.0	106.9	104.2	93.2	100.0	135.8	120.8	147.4	100.0	124.5	114.7	108.5	108.2	105.1	102.1
UK	3	100.0	124.9	116.6	120.3	100.0	133.9	124.4	138.1	100.0	140.0	123.3	135.6	123.0	117.0	120.6
BG	4	100.0	175.3	162.7	126.9	100.0	189.9	173.7	223.0	100.0	242.6	199.9	231.0	148.0	148.6	153.1
CZ	4	100.0	132.1	128.2	128.2	100.0	162.9	182.9	240.0	100.0	184.1	166.3	209.3	138.3	137.7	140.3
EE	4	100.0	200.3	142.7	170.6	100.0	197.4	130.6	245.2	100.0	206.3	130.5	215.4	167.2	136.1	159.0
HU	4	100.0	122.1	110.1	105.7	100.0	208.7	198.0	198.0	100.0	195.0	175.3	207.6	127.6	120.0	121.4
LT	4	100.0	190.9	148.7	159.8	100.0	219.8	214.0	318.7	100.0	256.9	203.6	288.5	172.2	148.6	168.1
LV	4	100.0	211.8	139.7	159.7	100.0	183.8	161.1	216.9	100.0	251.0	143.3	210.5	180.9	137.7	158.8
PL	4	100.0	130.0	135.8	146.8	100.0	190.0	189.6	235.2	100.0	172.6	163.3	192.5	151.4	151.9	156.0
RO	4	100.0	190.5	179.9	185.0	100.0	209.3	212.0	256.8	100.0	343.3	294.4	356.5	165.9	143.9	154.4
SI	4	100.0	134.2	124.6	116.4	100.0	186.3	161.4	190.8	100.0	182.5	152.3	165.3	152.1	128.9	128.2
SK	4	100.0	145.4	141.8	144.7	100.0	212.9	183.9	261.0	100.0	199.1	166.6	216.6	168.1	139.3	168.1
Group	1	100.0	105.9	104.3	109.0	100.0	155.3	140.0	173.6	100.0	140.4	131.7	158.1	112.5	108.3	116.0
Group	2	100.0	116.4	113.1	116.4	100.0	126.5	127.7	130.3	100.0	133.4	121.8	138.6	114.4	110.2	114.1
Group	3	100.0	122.1	114.3	110.8	100.0	132.0	116.5	135.5	100.0	140.3	118.7	124.2	119.6	113.6	113.7
Group	4	100.0	142.4	137.2	142.1	100.0	198.2	187.1	240.3	100.0	200.7	176.1	215.3	138.9	139.3	148.3
EU 27		100.0	117.0	112.2	113.1	100.0	143.2	128.5	154.5	100.0	143.0	127.9	145.6	117.3	112.6	116.3

Data Source: AMECO and own calculation

Table A.2: Demand, Growth contributions

Country	G	Private Cons. 00-07	07-09	09-12	Government 00-07	07-09	09-12	Investments 00-07	07-09	09-12	Equipment 00-07	07-09	09-12	Construction 00-07	07-09	09-12
AT	1	0.9%	0.5%	0.5%	0.3%	0.4%	0.0%	0.2%	-0.8%	0.6%	0.1%	-0.5%	0.5%	0.0%	-0.4%	0.1%
DE	1	0.2%	0.3%	0.6%	0.1%	0.6%	0.3%	0.1%	-1.0%	0.5%	0.2%	-0.9%	0.3%	-0.2%	-0.2%	0.2%
NL	1	0.4%	-0.2%	-0.3%	0.8%	1.0%	0.1%	0.3%	-0.8%	-0.4%	0.2%	-0.4%	0.1%	0.1%	-0.4%	-0.5%
SE	1	1.3%	-0.1%	1.3%	0.4%	0.4%	0.1%	0.9%	-1.4%	0.1%	0.4%	-0.8%	0.5%	0.5%	-0.6%	0.4%
BE	2	0.7%	0.6%	0.4%	0.4%	0.5%	0.4%	0.6%	-0.7%	0.1%	0.3%	-0.4%	0.2%	0.2%	-0.3%	-0.1%
DK	2	1.2%	-1.0%	0.3%	0.5%	0.5%	-0.1%	0.6%	-2.1%	0.1%	0.3%	-0.8%	0.2%	0.2%	-1.4%	-0.2%
FI	2	1.8%	-0.3%	1.3%	0.4%	0.3%	0.1%	0.7%	-1.4%	0.4%	0.2%	-0.3%	0.1%	0.5%	-1.1%	0.2%
FR	2	1.2%	0.1%	0.3%	0.4%	0.4%	0.3%	0.6%	-1.1%	0.3%	0.1%	-0.4%	0.3%	0.4%	-0.6%	0.0%
LU	2	0.8%	-0.4%	0.7%	0.7%	0.5%	0.6%	1.5%	-1.6%	1.7%	0.6%	-1.1%	1.7%	0.8%	-0.1%	0.0%
CY	3	3.1%	-0.1%	-0.2%	0.8%	1.2%	-0.1%	1.5%	-0.5%	-2.6%	0.3%	0.4%	-1.2%	1.2%	-0.9%	-1.4%
EL	3	3.0%	0.9%	-5.5%	0.7%	0.2%	-1.1%	2.0%	-3.6%	-3.2%	0.9%	-1.1%	-1.0%	1.0%	-2.6%	-2.0%
ES	3	2.1%	-1.3%	-0.5%	0.9%	0.9%	-0.2%	1.6%	-3.4%	-1.6%	0.3%	-1.0%	0.0%	1.2%	-2.3%	-1.6%
IE	3	2.6%	-1.4%	-0.4%	1.0%	-0.2%	-0.7%	1.6%	-4.6%	-1.9%	0.4%	-0.9%	-0.2%	1.3%	-3.8%	-2.0%
IT	3	0.5%	-0.7%	-0.5%	0.4%	0.1%	-0.3%	0.4%	-1.6%	-0.6%	0.2%	-1.0%	-0.1%	0.3%	-0.6%	-0.4%
MT	3	1.2%	1.5%	0.4%	0.3%	0.9%	0.8%	0.5%	-2.6%	-0.8%	-0.3%	-1.6%	-0.4%	0.6%	-1.1%	-0.4%
PT	3	1.0%	-0.3%	-1.6%	0.6%	0.5%	-0.6%	-0.3%	-1.0%	-1.9%	0.0%	-0.3%	-0.6%	-0.4%	-0.7%	-1.3%
UK	3	2.0%	-1.5%	1.0%	0.6%	0.2%	0.1%	0.8%	-1.6%	0.1%	0.1%	-0.7%	0.1%	0.6%	3.0%	0.0%
BG	4	5.0%	-1.6%	-0.3%	0.5%	-0.6%	0.2%	3.5%	0.1%	-2.3%	2.1%	-3.3%	0.0%	1.4%	-0.9%	0.0%
CZ	4	5.5%	0.7%	1.0%	0.9%	0.2%	0.3%	1.5%	-1.0%	-0.1%	0.9%	-0.7%	0.3%	0.5%	-0.4%	-0.4%
EE	4	2.0%	-5.7%	-0.7%	0.5%	0.2%	-0.3%	4.7%	-8.9%	3.1%	2.2%	-5.2%	3.1%	2.7%	-3.8%	0.3%
HU	4	2.2%	-2.0%	1.0%	0.6%	-0.1%	-0.1%	0.8%	-1.0%	-1.2%	0.4%	-0.8%	0.1%	0.3%	-0.2%	-1.1%
LT	4	6.3%	-5.1%	1.3%	0.6%	-0.4%	-0.4%	3.8%	-6.2%	1.1%	1.6%	-3.1%	0.9%	2.3%	-3.0%	0.1%
LV	4	7.7%	-10.3%	2.8%	0.8%	-0.6%	0.0%	4.5%	-7.6%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PL	4	2.3%	2.4%	1.4%	0.7%	0.8%	0.1%	0.9%	0.9%	0.5%	0.5%	0.0%	0.4%	0.4%	0.8%	0.2%
RO	4	6.8%	-0.8%	0.5%	-0.3%	0.8%	-0.2%	3.8%	-2.8%	0.9%	2.1%	-1.6%	-0.3%	2.0%	-1.1%	1.1%
SI	4	1.9%	0.6%	-0.1%	0.6%	0.7%	-0.1%	1.7%	-2.5%	-2.3%	1.0%	-1.6%	-0.1%	0.6%	-0.9%	-2.1%
SK	4	3.2%	1.7%	-0.3%	0.7%	1.0%	-0.2%	2.1%	-2.5%	1.2%	0.8%	-1.4%	1.5%	0.9%	-0.5%	-0.4%
Group 1		0.4%	0.2%	0.5%	0.2%	0.6%	0.2%	0.2%	-1.0%	0.4%	0.2%	-0.7%	0.3%	-0.1%	-0.3%	0.1%
Group 2		1.2%	0.1%	0.4%	0.4%	0.5%	0.2%	0.6%	-1.1%	0.3%	0.2%	-0.5%	0.2%	0.4%	-0.7%	0.0%
Group 3		1.6%	-1.1%	-0.4%	0.6%	0.3%	-0.2%	0.8%	-2.1%	-0.7%	0.2%	-0.8%	-0.1%	0.6%	-1.2%	-0.6%
Group 4		3.2%	0.3%	0.6%	0.5%	0.6%	0.0%	1.8%	-1.1%	0.2%	0.9%	-0.9%	0.2%	0.8%	-0.1%	-0.3%
EU 27		1.2%	-0.4%	0.1%	0.4%	0.5%	0.0%	0.6%	-1.5%	-0.1%	0.2%	-0.7%	0.1%	0.3%	-0.8%	-0.3%

Country	G	Domestic Demand 00-07	07-09	09-12	Exports 00-07	07-09	09-12	Imports 00-07	07-09	09-12	GDP 00-07	07-09	09-12
AT	1	1.5%	-0.6%	1.4%	3.2%	-4.3%	3.1%	2.2%	-3.5%	2.6%	1.7%	-1.2%	1.8%
DE	1	0.4%	-0.6%	1.5%	2.7%	-2.5%	3.8%	1.4%	-1.0%	2.8%	1.4%	-2.1%	2.6%
NL	1	1.5%	-0.4%	-0.2%	3.0%	-2.2%	4.4%	2.0%	-1.6%	3.6%	2.0%	-1.0%	0.5%
SE	1	2.4%	-2.2%	3.2%	2.6%	-3.2%	3.1%	3.0%	-2.6%	2.6%	3.0%	-2.8%	3.7%
BE	2	1.6%	-0.1%	0.9%	2.7%	-3.9%	3.9%	1.9%	-3.0%	3.5%	1.6%	-0.9%	1.3%
DK	2	2.2%	-3.9%	0.7%	1.9%	-1.7%	1.8%	1.6%	-2.3%	1.9%	1.8%	-3.3%	0.7%
FI	2	3.0%	-2.6%	1.8%	2.4%	-3.9%	1.2%	3.3%	-2.2%	1.2%	3.3%	-4.2%	2.0%
FR	2	2.1%	-1.2%	0.9%	0.7%	-1.7%	1.5%	1.8%	-1.3%	1.2%	1.6%	-1.6%	1.1%
LU	2	2.7%	-2.7%	4.3%	9.4%	-6.2%	5.3%	4.2%	-6.5%	7.8%	4.2%	-2.4%	1.6%
CY	3	4.8%	0.2%	-2.3%	1.6%	-2.8%	1.5%	3.6%	-3.3%	-0.6%	3.6%	0.8%	-0.2%
EL	3	4.9%	-3.3%	-9.5%	0.9%	-2.2%	0.2%	4.2%	-3.8%	-2.7%	4.2%	-1.7%	-6.1%
ES	3	4.3%	-3.7%	-2.2%	1.2%	-1.5%	1.9%	3.4%	-3.7%	0.3%	3.4%	-1.5%	-0.4%
IE	3	4.7%	-7.1%	-2.6%	4.7%	-2.1%	4.0%	5.1%	-4.6%	0.8%	5.1%	-3.8%	0.5%
IT	3	1.4%	-2.8%	-1.5%	0.9%	-2.9%	1.7%	1.3%	-2.3%	0.4%	1.3%	-3.3%	-0.1%
MT	3	1.4%	0.2%	-0.9%	2.3%	-2.7%	6.1%	1.9%	-1.6%	3.8%	1.9%	0.6%	1.8%
PT	3	1.1%	-1.4%	-4.0%	1.3%	-1.8%	2.1%	1.1%	-1.9%	-0.7%	1.1%	-1.5%	-1.0%
UK	3	3.3%	-3.5%	1.0%	1.2%	-1.0%	1.0%	3.0%	-1.9%	1.0%	3.0%	-2.5%	1.0%
BG	4	8.6%	-4.5%	-0.6%	4.9%	-2.7%	4.7%	5.8%	-7.3%	3.3%	5.8%	0.2%	1.0%
CZ	4	4.1%	-1.4%	-0.3%	5.9%	-2.7%	6.6%	4.7%	-3.4%	5.1%	4.7%	-0.8%	1.0%
EE	4	10.0%	-18.0%	6.1%	5.6%	-7.4%	12.5%	7.6%	-17.3%	12.7%	7.6%	-9.2%	4.9%
HU	4	3.0%	-5.0%	-1.3%	6.7%	-2.3%	6.5%	3.5%	-4.4%	4.8%	3.5%	-3.0%	0.4%
LT	4	9.8%	-13.3%	2.4%	4.7%	-0.7%	9.3%	8.1%	-7.4%	8.0%	8.1%	-6.4%	3.7%
LV	4	11.8%	-24.1%	4.7%	4.7%	-2.9%	5.6%	8.8%	-15.7%	6.8%	8.8%	-10.8%	3.3%
PL	4	4.0%	2.3%	2.7%	3.3%	0.0%	3.0%	4.1%	-1.2%	2.3%	4.1%	3.4%	3.4%
RO	4	9.5%	-3.5%	1.1%	3.5%	0.2%	2.4%	6.1%	-4.3%	3.4%	6.1%	0.1%	0.6%
SI	4	4.4%	-3.7%	-2.2%	5.4%	-4.8%	3.7%	4.4%	-6.2%	1.8%	4.4%	-2.4%	-0.2%
SK	4	5.7%	-1.2%	0.6%	8.0%	-6.2%	9.6%	6.2%	-7.4%	6.8%	6.2%	0.3%	3.2%
Group 1		0.8%	-0.7%	1.4%	2.8%	-2.6%	3.8%	2.0%	-1.4%	2.9%	1.7%	-1.9%	2.3%
Group 2		2.1%	-1.4%	1.0%	1.3%	-2.2%	1.9%	1.5%	-1.7%	1.7%	1.9%	-1.9%	1.2%
Group 3		2.9%	-3.3%	-1.0%	1.2%	-1.8%	1.5%	1.5%	-2.6%	0.4%	2.6%	-2.5%	0.0%
Group 4		5.3%	-2.0%	1.2%	4.8%	-1.6%	4.8%	5.3%	-3.9%	3.9%	4.8%	0.1%	2.1%
EU 27		2.3%	-2.1%	0.3%	1.9%	-2.1%	2.5%	1.9%	-2.1%	1.7%	2.3%	-2.0%	1.1%

Data Source: AMECO and own calculation

Table A.3: Sectors, Index, 2000 = 100

Country	G	Agriculture 2000	2007	2009	2012	Industry 2000	2007	2009	2012	Manufacturing 2000	2007	2009	2012	Construction 2000	2007	2009	2012	Services 2000	2007	2009	2012	GDP 2007	2009	2012
AT	1	100.0	109.1	108.0	108.8	100.0	124.9	112.6	132.0	100.0	128.2	112.3	132.4	100.0	106.1	94.8	97.5	100.0	117.6	118.3	122.1	116.8	114.0	120.5
DE	1	100.0	152.6	168.8	132.6	100.0	119.3	96.4	117.7	100.0	122.8	93.1	119.4	100.0	80.4	75.1	81.8	100.0	112.0	113.5	118.4	110.3	105.8	114.3
NL	1	100.0	105.5	112.6	112.4	100.0	112.0	105.0	112.8	100.0	115.1	103.0	113.5	100.0	101.9	99.5	84.6	100.0	117.2	117.2	120.1	114.7	112.5	114.4
SE	1	100.0	131.3	127.4	122.9	100.0	137.1	107.0	136.0	100.0	142.8	106.6	139.1	100.0	122.5	107.3	125.4	100.0	118.6	118.3	128.1	123.1	116.1	129.4
BE	2	100.0	92.0	95.5	109.8	100.0	107.0	96.6	101.1	100.0	107.8	92.0	97.3	100.0	123.8	122.6	129.7	100.0	116.2	116.9	121.2	114.3	112.2	116.8
DK	2	100.0	80.5	76.9	70.2	100.0	97.8	82.8	84.2	100.0	103.3	86.0	94.7	100.0	101.8	93.6	84.9	100.0	114.5	111.5	115.2	111.8	104.6	106.9
FI	2	100.0	113.6	119.2	118.7	100.0	148.4	109.7	117.8	100.0	152.4	107.8	118.0	100.0	118.1	105.0	116.8	100.0	116.5	114.0	118.8	125.2	114.9	121.7
FR	2	100.0	97.6	108.2	-	100.0	110.3	97.6	-	100.0	109.3	97.1	-	100.0	114.7	106.0	-	100.0	114.2	112.8	-	113.5	109.8	113.5
LU	2	100.0	61.1	64.1	57.9	100.0	115.2	74.1	72.6	100.0	111.4	70.2	73.3	100.0	142.2	126.2	128.4	100.0	137.2	135.9	143.2	133.3	126.9	133.2
CY	3	100.0	80.7	75.2	78.0	100.0	109.0	106.9	96.6	100.0	97.4	94.8	84.2	100.0	157.5	130.5	86.4	100.0	130.5	137.6	143.9	128.2	130.3	129.5
EL	3	100.0	74.4	79.8	77.1	100.0	115.7	106.6	97.9	100.0	109.8	104.3	91.8	100.0	141.3	94.8	38.8	100.0	139.4	141.3	118.5	133.2	128.7	106.4
ES	3	100.0	98.4	92.6	104.5	100.0	109.4	94.2	97.9	100.0	107.8	90.4	92.8	100.0	140.6	129.3	95.8	100.0	130.4	132.5	135.4	126.4	122.8	121.2
IE	3	100.0	71.7	77.9	-	100.0	147.7	146.9	-	100.0	139.1	-	-	100.0	140.0	86.8	-	100.0	146.9	138.9	-	141.9	131.3	133.4
IT	3	100.0	96.5	95.4	91.1	100.0	105.7	87.1	90.2	100.0	105.8	85.1	88.9	100.0	118.9	106.0	92.9	100.0	110.4	106.8	107.4	109.1	101.9	101.6
MT	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	113.8	115.1	121.4
PT	3	100.0	94.7	93.9	95.0	100.0	107.1	97.0	102.7	100.0	103.4	92.1	98.3	100.0	86.7	73.6	52.9	100.0	114.6	116.1	114.6	108.2	105.1	102.1
UK	3	100.0	101.1	106.6	95.4	100.0	97.3	86.1	85.7	100.0	100.3	88.3	92.7	100.0	118.2	99.7	102.4	100.0	130.3	127.3	132.4	123.0	117.0	120.6
BG	4	100.0	70.6	84.6	81.2	100.0	155.3	146.0	158.9	100.0	176.8	172.4	-	100.0	166.2	194.6	150.6	100.0	153.6	157.8	165.6	148.0	148.6	153.1
CZ	4	100.0	87.1	118.1	70.8	100.0	170.6	162.5	182.0	100.0	187.0	175.0	212.3	100.0	117.5	114.7	107.2	100.0	129.6	128.0	131.5	138.3	136.1	140.3
EE	4	100.0	102.1	117.3	112.3	100.0	167.4	118.3	161.6	100.0	174.1	117.0	167.7	100.0	199.8	137.5	179.0	100.0	163.3	141.3	154.0	167.2	137.7	159.0
HU	4	100.0	104.9	138.0	113.1	100.0	138.6	114.3	129.5	100.0	149.2	119.0	140.2	100.0	110.7	97.3	78.4	100.0	125.3	120.5	120.3	127.6	120.0	121.4
LT	4	100.0	108.3	112.5	122.2	100.0	183.1	159.4	189.3	100.0	190.7	163.7	209.1	100.0	335.4	185.8	197.1	100.0	160.2	148.4	162.6	172.2	150.9	168.1
LV	4	100.0	130.9	139.6	135.2	100.0	147.7	119.4	159.1	100.0	149.8	112.6	163.8	100.0	266.1	174.5	154.2	100.0	183.0	155.3	167.8	180.9	143.9	158.8
PL	4	100.0	109.3	117.3	114.1	100.0	150.2	161.2	189.1	100.0	177.5	198.7	237.1	100.0	115.7	136.6	161.2	100.0	127.0	134.2	144.2	132.0	141.1	156.0
RO	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	151.4	151.9	154.4
SI	4	100.0	108.7	98.9	102.0	100.0	142.6	121.7	131.9	100.0	146.4	121.5	133.5	100.0	151.3	135.1	88.0	100.0	134.5	134.3	135.4	135.2	128.9	128.2
SK	4	100.0	164.2	179.6	176.9	100.0	214.8	188.2	251.9	100.0	229.4	210.3	305.7	100.0	150.3	167.0	162.5	100.0	127.8	136.0	141.9	152.1	152.9	168.1
Group	1	100.0	131.1	140.5	122.7	100.0	120.1	99.4	119.5	100.0	123.8	96.5	121.1	100.0	89.8	83.6	87.1	100.0	113.8	114.8	119.8	112.5	108.3	116.0
Group	2	100.0	97.5	106.2	-	100.0	111.7	96.7	-	100.0	112.4	96.0	-	100.0	115.2	106.9	-	100.0	114.8	113.6	-	114.4	110.2	114.1
Group	3	100.0	94.3	92.6	142.0	100.0	105.1	91.0	200.0	100.0	105.9	-	-	100.0	125.4	108.2	-	100.0	124.0	121.9	-	119.6	113.6	113.7
Group	4	100.0	139.0	159.1	-	100.0	179.9	174.0	200.0	100.0	202.0	196.8	201.6	100.0	159.9	167.0	168.1	100.0	147.7	148.9	156.3	138.9	139.3	148.3
EU 27		100.0	105.8	110.7	-	100.0	115.7	99.5	-	100.0	118.2	-	-	100.0	115.8	104.5	-	100.0	119.7	118.9	-	117.3	112.6	116.3

Data Source: AMECO and own calculation

Table A.4: Sectors, Growth contributions

Country	G	Agriculture			Industry			Manufacturing			Construction			Services		
		00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12
AT	1	0.0%	0.0%	0.0%	0.7%	-1.1%	1.1%	0.7%	-1.2%	1.0%	0.1%	-0.3%	0.1%	1.5%	0.2%	0.7%
DE	1	0.0%	0.0%	-0.1%	0.6%	-2.3%	1.5%	0.6%	-2.6%	1.6%	-0.1%	-0.1%	0.1%	1.0%	0.4%	1.0%
NL	1	0.0%	0.1%	0.0%	0.3%	-0.5%	0.4%	0.3%	-0.6%	0.4%	0.0%	-0.1%	-0.2%	1.5%	0.0%	0.6%
SE	1	0.0%	0.0%	0.0%	0.9%	-2.3%	1.5%	0.9%	-2.2%	1.4%	0.1%	-0.3%	0.2%	1.6%	-0.1%	1.8%
BE	2	0.0%	0.0%	0.0%	0.2%	-0.8%	0.2%	0.2%	-1.1%	0.2%	0.1%	0.0%	0.1%	1.5%	0.2%	0.8%
DK	2	0.0%	0.0%	0.0%	-0.1%	-1.3%	0.1%	0.1%	-1.0%	0.3%	0.0%	-0.2%	-0.1%	1.2%	-0.8%	0.7%
FI	2	0.1%	0.1%	0.0%	1.4%	-3.3%	0.5%	1.3%	-3.3%	0.5%	0.2%	-0.3%	0.2%	1.3%	-0.6%	0.8%
FR	2	0.0%	0.1%	-	0.2%	-0.8%	-	0.2%	-0.6%	-	0.1%	-0.2%	-	1.3%	-0.4%	-
LU	2	0.0%	0.0%	0.0%	0.2%	-1.6%	0.0%	0.1%	-1.4%	0.1%	0.3%	-0.3%	0.0%	3.5%	-0.4%	1.4%
CY	3	-0.1%	-0.1%	0.0%	0.1%	-0.1%	-0.3%	0.0%	-0.1%	-0.2%	0.7%	-0.9%	-1.0%	2.7%	1.8%	1.1%
EL	3	-0.2%	0.1%	0.0%	0.3%	-0.4%	-0.3%	0.1%	-0.2%	-0.3%	0.4%	-1.2%	-1.0%	3.3%	0.5%	-3.9%
ES	3	0.0%	-0.1%	0.1%	0.2%	-1.1%	0.2%	0.2%	-1.0%	0.1%	0.6%	-0.5%	-1.0%	2.3%	0.5%	0.5%
IE	3	-0.1%	0.1%	-	1.4%	-0.1%	-	1.2%	-	-	0.5%	-1.6%	-	3.3%	-1.5%	-
IT	3	0.0%	0.0%	0.0%	0.2%	-1.7%	0.2%	0.1%	-1.6%	0.2%	0.1%	-0.3%	-0.2%	0.9%	-1.0%	0.1%
MT	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT	3	0.0%	0.0%	0.0%	0.2%	-0.7%	0.3%	0.1%	-0.7%	0.3%	-0.1%	-0.5%	-0.5%	1.2%	0.4%	-0.3%
UK	3	0.0%	0.0%	0.0%	-0.1%	-0.8%	0.0%	0.0%	-0.6%	0.2%	0.2%	-0.5%	0.1%	2.6%	-0.8%	0.9%
BG	4	-0.4%	0.5%	-0.1%	1.5%	-0.6%	0.6%	1.4%	-0.2%	-	0.5%	0.5%	-0.5%	3.5%	0.7%	0.9%
CZ	4	0.0%	0.3%	-0.3%	2.3%	-0.7%	1.2%	2.2%	-0.8%	1.7%	0.2%	-0.1%	-0.1%	2.2%	-0.3%	0.5%
EE	4	0.0%	0.2%	-0.1%	1.7%	-2.7%	1.9%	1.4%	-2.4%	1.7%	0.9%	-1.2%	0.6%	4.7%	-4.0%	1.8%
HU	4	0.0%	0.4%	-0.2%	1.2%	-2.1%	0.9%	1.2%	-2.1%	1.0%	0.1%	-0.2%	-0.2%	1.9%	-1.1%	0.0%
LT	4	0.1%	0.1%	0.1%	2.2%	-1.4%	1.3%	1.9%	-1.3%	1.6%	1.6%	-2.2%	0.1%	4.5%	-2.1%	1.8%
LV	4	0.2%	0.1%	0.0%	1.0%	-1.2%	1.4%	0.8%	-1.3%	1.4%	1.2%	-1.3%	-0.2%	6.2%	-5.0%	1.8%
PL	4	0.1%	0.1%	0.0%	1.4%	0.8%	1.3%	1.4%	1.1%	1.2%	0.2%	0.5%	0.4%	2.1%	1.6%	1.3%
RO	4	-	0.5%	-0.4%	-	0.0%	0.3%	-	-0.2%	-	-	0.6%	-0.4%	-	-0.5%	0.6%
SI	4	0.0%	-0.1%	0.0%	1.3%	-1.8%	0.6%	1.2%	-1.8%	0.6%	0.4%	-0.4%	-0.8%	2.5%	-0.1%	0.2%
SK	4	0.3%	0.2%	0.0%	3.1%	-1.8%	2.8%	2.5%	-0.9%	2.9%	0.5%	0.4%	-0.1%	2.3%	1.6%	0.8%
Group 1		0.0%	0.0%	0.0%	0.6%	-1.9%	1.3%	0.6%	-2.2%	1.3%	-0.1%	-0.1%	0.1%	1.2%	0.3%	0.9%
Group 2		0.0%	0.1%	-	0.3%	-1.0%	-	0.2%	-0.9%	-	0.1%	-0.2%	-	1.4%	-0.4%	-
Group 3		0.0%	0.0%	-	0.1%	-1.1%	-	0.1%	-	-	0.3%	-0.5%	-	2.0%	-0.5%	-
Group 4		-	0.2%	-0.1%	-	-0.4%	1.2%	-	-0.3%	-	-	0.1%	0.0%	-	0.2%	0.9%
EU 27		-	0.0%	-	-	-1.3%	-	-	-	-	-	-0.3%	-	-	-0.2%	-

Data Source: AMECO and own calculation

Table A.5: Sectors, Share of sectors

Country	G	Agriculture				Industry				Manufacturing				Construction				Services			
		2000	2007	2009	2012	2000	2007	2009	2012	2000	2007	2009	2012	2000	2007	2009	2012	2000	2007	2009	2012
AT	1	1.4%	1.3%	1.4%	1.3%	20.2%	21.6%	20.0%	22.2%	17.1%	18.8%	16.9%	18.8%	6.8%	6.2%	5.6%	5.5%	61.0%	61.4%	63.3%	61.9%
DE	1	0.6%	0.9%	1.0%	0.7%	22.0%	23.8%	20.1%	22.7%	19.1%	21.2%	16.8%	19.9%	4.7%	3.4%	3.3%	3.3%	61.7%	62.7%	66.2%	63.9%
NL	1	1.8%	1.6%	1.8%	1.8%	16.7%	16.3%	15.6%	16.5%	12.2%	12.2%	11.1%	12.1%	5.6%	4.9%	4.9%	4.1%	64.5%	65.9%	67.2%	67.8%
SE	1	1.1%	1.1%	1.2%	1.0%	18.4%	20.5%	17.0%	19.3%	15.0%	17.4%	13.8%	16.2%	4.3%	4.3%	4.0%	4.2%	63.9%	61.6%	65.1%	63.2%
BE	2	0.9%	0.7%	0.8%	0.8%	18.2%	17.1%	15.7%	15.8%	15.5%	14.6%	12.7%	12.9%	4.4%	4.7%	4.8%	4.9%	65.5%	66.6%	68.2%	68.0%
DK	2	1.3%	1.0%	1.0%	0.9%	18.7%	16.3%	14.8%	14.7%	12.7%	11.8%	10.5%	11.3%	5.0%	4.5%	4.4%	3.9%	61.3%	62.8%	65.3%	66.0%
FI	2	2.8%	2.5%	2.9%	2.7%	20.7%	24.6%	19.8%	20.1%	18.3%	22.2%	17.1%	17.7%	6.1%	5.7%	5.6%	5.8%	58.7%	54.6%	58.3%	57.3%
FR	2	1.9%	1.7%	1.9%	-	13.9%	13.5%	12.4%	-	11.6%	11.2%	10.3%	-	5.1%	5.1%	5.6%	-	69.0%	69.4%	70.9%	-
LU	3	0.7%	0.3%	0.3%	0.3%	10.5%	9.1%	6.1%	5.7%	8.9%	7.5%	4.9%	4.9%	5.7%	6.1%	5.6%	5.5%	72.4%	74.5%	77.4%	77.8%
CY	3	3.2%	2.0%	1.8%	1.9%	10.9%	9.3%	9.0%	8.2%	8.9%	6.8%	6.5%	5.8%	8.7%	10.7%	8.7%	5.8%	66.7%	67.9%	70.4%	74.1%
EL	3	5.6%	3.1%	3.4%	4.0%	12.2%	10.6%	10.1%	11.2%	9.2%	7.6%	7.5%	8.0%	6.7%	7.1%	4.9%	2.4%	64.0%	66.9%	70.2%	71.2%
ES	3	3.7%	2.9%	2.8%	3.2%	17.9%	15.5%	13.7%	14.4%	15.2%	13.0%	11.2%	11.7%	10.8%	12.0%	11.4%	8.6%	57.6%	59.3%	62.1%	64.3%
IE	3	2.3%	1.2%	1.4%	-	21.4%	22.3%	24.0%	-	20.9%	20.9%	-	-	8.4%	8.3%	5.6%	-	53.8%	55.6%	56.9%	-
IT	3	2.1%	1.9%	2.0%	1.9%	19.3%	18.7%	16.5%	17.2%	17.1%	16.6%	14.3%	15.0%	5.1%	5.5%	5.3%	4.6%	63.2%	63.9%	66.2%	66.8%
MT	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT	3	2.6%	2.2%	2.3%	2.4%	15.9%	15.8%	14.7%	16.0%	13.2%	12.6%	11.6%	12.7%	7.7%	6.2%	5.4%	4.0%	59.3%	62.8%	65.5%	66.6%
UK	3	0.6%	0.5%	0.5%	0.5%	17.5%	13.8%	12.9%	12.4%	12.5%	10.2%	9.5%	9.6%	6.5%	6.3%	5.6%	5.6%	64.7%	68.5%	70.4%	71.0%
BG	4	9.6%	4.6%	5.5%	5.1%	19.6%	20.5%	19.2%	20.3%	13.3%	15.9%	15.5%	-	5.3%	6.0%	7.0%	5.3%	51.5%	53.4%	54.6%	55.7%
CZ	4	2.4%	1.5%	2.1%	1.2%	24.7%	30.5%	29.5%	32.1%	19.1%	25.9%	24.6%	28.9%	6.9%	5.8%	5.8%	5.2%	56.2%	52.7%	52.9%	52.7%
EE	4	4.9%	3.0%	4.2%	3.5%	18.4%	18.5%	15.8%	18.7%	13.9%	14.4%	11.8%	14.6%	6.5%	7.7%	6.5%	7.3%	59.9%	58.5%	61.4%	58.0%
HU	4	3.3%	2.7%	3.8%	3.1%	22.2%	24.2%	21.2%	23.7%	17.7%	20.8%	17.6%	20.5%	4.7%	4.1%	3.8%	3.1%	55.8%	54.8%	56.0%	55.2%
LT	4	5.8%	3.6%	4.3%	4.2%	20.1%	21.3%	21.2%	22.6%	15.9%	17.6%	17.2%	19.8%	5.0%	9.7%	6.1%	5.8%	59.9%	55.7%	58.9%	58.0%
LV	4	4.1%	2.9%	3.9%	3.5%	15.6%	12.8%	13.0%	15.7%	12.1%	10.0%	9.5%	12.5%	5.2%	7.6%	6.3%	5.0%	63.3%	64.0%	68.3%	66.9%
PL	4	4.0%	3.3%	3.3%	2.9%	20.3%	23.0%	23.1%	24.6%	13.5%	18.1%	19.0%	20.5%	6.9%	6.0%	6.6%	7.1%	57.7%	55.5%	54.9%	53.3%
RO	4	-	6.4%	7.5%	6.1%	-	24.6%	24.5%	24.8%	-	21.0%	20.7%	-	-	9.7%	10.9%	9.6%	-	48.0%	46.8%	47.9%
SI	4	2.7%	2.1%	2.0%	2.1%	22.9%	24.2%	21.7%	23.6%	19.1%	20.7%	18.0%	19.9%	6.2%	6.9%	6.5%	4.2%	55.1%	54.8%	57.4%	58.1%
SK	4	3.1%	3.3%	3.6%	3.2%	20.4%	28.9%	25.2%	30.6%	14.6%	22.0%	20.1%	26.5%	7.0%	7.0%	7.7%	6.8%	60.9%	51.1%	54.1%	51.4%
Group 1		0.9%	1.1%	1.2%	1.0%	20.8%	22.2%	19.1%	21.4%	17.5%	19.3%	15.6%	18.3%	4.9%	3.9%	3.8%	3.7%	62.3%	63.0%	66.0%	64.3%
Group 2		1.8%	1.5%	1.7%	-	15.3%	14.9%	13.4%	-	12.6%	12.4%	11.0%	-	5.0%	5.1%	4.9%	-	67.3%	67.6%	69.4%	-
Group 3		2.0%	1.6%	1.6%	-	18.0%	15.8%	14.4%	-	14.7%	13.0%	-	-	7.0%	7.3%	6.6%	-	62.3%	64.6%	66.8%	-
Group 4		-	3.3%	3.8%	3.2%	-	24.5%	23.7%	25.5%	13.8%	20.1%	19.5%	18.7%	-	6.5%	6.8%	6.4%	50.7%	53.9%	54.2%	53.4%
EU 27		-	1.5%	1.7%	-	-	18.1%	16.2%	-	-	15.2%	-	-	-	5.8%	5.4%	-	-	64.1%	66.3%	-

Data Source: AMECO and own calculation

Table A.6: Sectors, Change of shares

Country	G	Agriculture 00-07	Agriculture 07-09	Agriculture 09-12	Industry 00-07	Industry 07-09	Industry 09-12	Manufacturing 00-07	Manufacturing 07-09	Manufacturing 09-12	Construction 00-07	Construction 07-09	Construction 09-12	Services 00-07	Services 07-09	Services 09-12
AT	1	-0.1%	0.0%	-0.1%	1.4%	-1.6%	2.2%	1.7%	-1.9%	2.0%	-0.6%	-0.5%	-0.1%	0.4%	1.9%	-1.4%
DE	1	0.2%	0.1%	-0.3%	1.8%	-3.8%	2.6%	2.2%	-4.4%	3.1%	-1.3%	-0.1%	0.0%	1.0%	3.5%	-2.2%
NL	1	-0.1%	0.1%	0.0%	-0.4%	-0.7%	0.9%	0.0%	-1.1%	0.9%	-0.6%	0.0%	-0.8%	1.4%	1.3%	0.6%
SE	1	0.1%	0.0%	-0.2%	2.1%	-3.6%	2.4%	2.4%	-3.6%	2.4%	0.0%	-0.3%	0.2%	-2.3%	3.5%	-1.8%
BE	2	-0.2%	0.0%	0.1%	-1.2%	-1.4%	0.1%	-0.9%	-1.9%	0.2%	0.4%	0.0%	0.1%	1.1%	1.6%	-0.3%
DK	2	-0.4%	0.0%	-0.1%	-2.3%	-1.6%	-0.1%	-1.0%	-1.3%	0.8%	-0.4%	-0.1%	-0.5%	1.5%	2.5%	0.7%
FI	2	-0.3%	0.4%	-0.2%	3.8%	-4.8%	0.3%	4.0%	-5.1%	0.6%	-0.3%	-0.2%	0.3%	-4.1%	3.7%	-1.0%
FR	2	-0.3%	0.2%	-	-0.4%	-1.2%	-	-0.4%	-0.9%	-	0.1%	-0.2%	-	0.4%	1.5%	-
LU	2	-0.4%	0.0%	0.0%	-1.4%	-2.9%	-0.4%	-1.5%	-2.5%	0.0%	0.4%	-0.4%	-0.2%	2.1%	3.0%	0.3%
CY	3	-1.2%	-0.2%	0.1%	-1.6%	-0.3%	-0.8%	-2.1%	-0.3%	-0.7%	2.0%	-2.0%	-2.9%	1.2%	2.5%	3.7%
EL	3	-2.5%	0.3%	0.6%	-1.6%	-0.5%	1.1%	-1.6%	-0.1%	0.5%	0.4%	-2.2%	-2.5%	3.0%	3.3%	1.0%
ES	3	-0.8%	-0.1%	0.4%	-2.4%	-1.8%	0.7%	-2.2%	-1.8%	0.5%	1.2%	-0.6%	-2.8%	1.8%	2.8%	2.2%
IE	3	-1.2%	0.2%	-	0.9%	1.7%	-	-0.4%	-	-	-0.1%	-2.7%	-	1.9%	1.2%	-
IT	3	-0.2%	0.1%	-0.1%	-0.6%	-2.2%	0.6%	-0.5%	-2.3%	0.7%	0.5%	-0.3%	-0.6%	0.7%	2.3%	0.6%
MT	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PT	3	-0.3%	0.0%	0.1%	-0.2%	-1.1%	1.3%	-0.6%	-1.0%	1.1%	-1.5%	-0.8%	-1.4%	3.5%	2.8%	1.0%
UK	4	-0.1%	0.0%	0.0%	-3.7%	-1.0%	-0.4%	-2.3%	-0.8%	0.2%	-0.3%	-0.7%	0.0%	3.8%	1.9%	0.6%
BG	4	-5.0%	0.9%	-0.4%	1.0%	-1.3%	1.1%	2.6%	-0.5%	-	0.7%	1.0%	-1.7%	1.9%	1.2%	1.0%
CZ	4	-0.9%	0.6%	-0.9%	5.8%	-1.0%	2.6%	6.7%	-1.3%	4.3%	-1.0%	0.0%	-0.5%	-3.5%	0.2%	-0.2%
EE	4	-1.9%	1.2%	-0.7%	0.0%	-2.6%	2.9%	0.6%	-2.7%	2.8%	1.3%	-1.3%	0.8%	-1.4%	2.9%	-3.5%
HU	4	-0.6%	1.1%	-0.7%	1.9%	-3.0%	2.5%	3.0%	-3.2%	2.9%	-0.6%	-0.3%	-0.8%	-1.0%	1.2%	-0.7%
LT	4	-2.1%	0.7%	-0.1%	1.3%	-0.1%	1.4%	1.7%	-0.4%	2.5%	4.7%	-3.6%	-0.3%	-4.2%	3.2%	-1.0%
LV	4	-1.1%	1.0%	-0.5%	-2.9%	0.2%	2.7%	-2.1%	-0.6%	3.0%	2.4%	-1.3%	-1.3%	0.8%	4.2%	-1.4%
PL	4	-0.7%	0.0%	-0.4%	2.8%	0.1%	1.4%	4.6%	0.9%	1.5%	-0.8%	0.6%	0.4%	-2.2%	-0.6%	-1.6%
RO	4	-	1.1%	-1.4%	-	-0.1%	0.3%	-	-0.4%	-	-	1.2%	-1.4%	-	-1.2%	1.1%
SI	4	-0.5%	-0.1%	0.1%	1.2%	-2.5%	1.9%	1.6%	-2.7%	1.9%	0.7%	-0.4%	-2.2%	-0.3%	2.6%	0.8%
SK	4	0.2%	0.3%	-0.4%	8.4%	-3.7%	5.5%	7.4%	-1.9%	6.5%	-0.1%	0.7%	-0.9%	-9.7%	3.0%	-2.7%
Group 1		0.1%	0.1%	-0.2%	1.4%	-3.1%	2.3%	1.8%	-3.7%	2.7%	-1.0%	-0.1%	-0.1%	0.7%	3.0%	-1.7%
Group 2		-0.3%	0.2%	-	-0.4%	-1.5%	-	-0.2%	-1.4%	-	0.0%	-0.2%	-	0.3%	1.8%	-
Group 3		-0.4%	0.1%	-	-2.2%	-1.4%	-	-1.7%	-	-	0.3%	-0.7%	-	2.3%	2.2%	-
Group 4		-	0.5%	-0.6%	-	-0.9%	1.9%	-	-0.6%	-	-	0.3%	-0.4%	-	0.3%	-0.8%
EU 27		-	0.1%	-	-	-1.9%	-	-	-	-	-	-0.3%	-	-	2.2%	-

Data Source: AMECO and own calculation

Table A.7: Sectors, Employment, 2000 = 100

Country	G	Agriculture				Industry				Manufacturing				Construction				Services				ENTIRE		
		2000	2007	2009	2012	2000	2007	2009	2012	2000	2007	2009	2012	2000	2007	2009	2012	2000	2007	2009	2012	2007	2009	2012
AT	1	100.0	89.6	87.9	84.6	100.0	98.5	96.3	97.4	100.0	98.6	96.0	96.8	100.0	97.0	100.5	104.0	100.0	111.7	114.0	119.5	106.7	108.0	112.0
DE	1	100.0	87.8	88.7	89.0	100.0	92.8	92.2	93.5	100.0	93.2	92.5	94.0	100.0	80.8	80.7	84.2	100.0	106.3	108.4	112.2	101.2	102.5	105.7
NL	1	100.0	90.5	87.0	86.3	100.0	90.4	89.1	85.8	100.0	90.0	88.3	84.7	100.0	99.4	99.4	93.2	100.0	109.8	111.2	112.5	106.1	106.8	107.0
SE	1	100.0	74.9	75.7	78.8	100.0	93.9	86.0	84.8	100.0	92.2	83.5	81.8	100.0	124.8	132.5	144.5	100.0	107.8	107.0	112.0	105.2	103.6	107.8
BE	2	100.0	87.7	82.7	74.1	100.0	91.7	87.6	83.7	100.0	90.2	85.8	81.7	100.0	106.1	109.7	112.6	100.0	110.4	113.4	117.5	106.5	108.2	110.6
DK	2	100.0	81.3	82.4	80.2	100.0	89.5	82.8	76.1	100.0	89.0	81.4	73.8	100.0	115.6	104.8	98.2	100.0	108.8	110.1	107.8	105.2	104.4	101.2
FI	2	100.0	89.8	88.3	84.4	100.0	95.7	91.5	86.7	100.0	95.5	90.3	85.2	100.0	118.6	115.8	121.3	100.0	112.9	114.5	117.9	108.4	108.3	109.7
FR	2	100.0	87.8	82.9	-	100.0	89.7	85.0	-	100.0	88.6	83.3	-	100.0	122.2	126.0	-	100.0	108.4	108.1	-	105.5	104.7	104.9
LU	2	100.0	130.0	107.5	112.5	100.0	103.9	102.8	103.3	100.0	102.8	100.6	101.2	100.0	139.3	144.5	149.6	100.0	128.5	138.9	150.8	126.2	134.0	143.5
CY	3	100.0	92.6	99.3	72.6	100.0	103.7	102.2	90.9	100.0	101.4	99.4	86.4	100.0	147.2	143.5	109.5	100.0	124.9	128.0	129.7	122.3	124.4	119.6
EL	3	100.0	73.6	75.2	69.1	100.0	103.0	103.2	79.1	100.0	103.3	104.0	78.4	100.0	129.7	122.9	69.0	100.0	123.7	125.1	109.3	113.0	113.7	95.8
ES	3	100.0	86.3	78.9	76.2	100.0	94.5	81.3	73.2	100.0	92.6	78.7	69.7	100.0	149.1	102.8	61.7	100.0	135.2	134.8	129.9	126.2	117.8	108.3
IE	3	100.0	87.5	76.0	67.6	100.0	94.9	82.5	74.3	100.0	89.8	78.1	71.4	100.0	166.5	97.6	62.6	100.0	134.0	132.7	130.0	126.4	115.7	108.4
IT	3	100.0	91.9	87.7	84.7	100.0	101.5	96.2	91.1	100.0	101.3	95.7	90.2	100.0	125.1	123.9	112.1	100.0	112.4	112.3	114.4	109.8	108.3	107.6
MT	3	100.0	123.1	130.1	128.5	100.0	74.7	65.5	66.7	100.0	74.5	64.9	66.6	100.0	120.3	116.7	113.9	100.0	117.4	124.3	135.0	107.3	109.8	117.1
PT	3	100.0	93.7	91.4	84.1	100.0	87.3	80.0	72.4	100.0	86.8	78.8	71.0	100.0	91.0	81.6	61.3	100.0	111.5	112.9	108.8	101.9	99.7	92.6
UK	3	100.0	96.0	98.3	-	100.0	75.4	68.9	-	100.0	74.0	66.0	-	100.0	120.7	115.7	-	100.0	111.2	111.3	-	106.4	105.4	107.4
BG	4	100.0	92.8	93.6	81.7	100.0	109.3	101.2	87.8	100.0	111.1	103.0	-	100.0	186.8	201.5	128.7	100.0	122.9	125.0	115.4	115.1	115.0	101.3
CZ	4	100.0	74.0	73.1	69.4	100.0	102.4	95.0	95.4	100.0	104.0	95.9	96.5	100.0	104.4	111.8	105.7	100.0	108.8	112.5	112.9	104.8	105.3	104.9
EE	4	100.0	73.7	56.1	70.2	100.0	97.2	86.0	88.4	100.0	101.5	88.2	90.1	100.0	188.1	124.6	116.7	100.0	114.4	110.4	115.6	112.3	101.2	105.4
HU	4	100.0	59.7	52.7	57.2	100.0	90.6	84.4	86.3	100.0	91.6	85.1	86.6	100.0	125.8	116.5	104.4	100.0	110.0	107.9	109.2	99.6	95.4	96.5
LT	4	100.0	59.5	50.0	-	100.0	103.8	91.2	-	100.0	106.2	93.4	-	100.0	205.5	145.8	-	100.0	117.6	117.2	-	109.3	101.1	99.6
LV	4	100.0	78.6	63.4	55.1	100.0	99.8	82.2	76.6	100.0	101.0	79.5	75.1	100.0	225.9	140.8	110.3	100.0	123.7	117.1	106.1	118.7	104.0	93.3
PL	4	100.0	51.5	48.8	-	100.0	110.1	109.3	-	100.0	112.4	111.5	-	100.0	118.6	145.2	-	100.0	114.0	121.7	-	104.4	108.9	110.7
RO	4	100.0	56.9	56.0	56.9	100.0	99.1	87.3	85.3	100.0	101.9	89.8	86.5	100.0	171.2	187.1	180.2	100.0	115.4	117.8	120.2	86.9	85.2	85.7
SI	4	100.0	79.9	76.9	72.2	100.0	93.4	85.0	79.0	100.0	93.0	83.7	77.1	100.0	122.6	136.3	100.3	100.0	118.4	123.4	122.7	106.8	107.6	102.3
SK	4	100.0	65.8	61.6	54.7	100.0	100.4	93.0	92.0	100.0	104.2	96.8	96.4	100.0	135.8	153.8	142.7	100.0	112.4	116.7	119.5	107.5	108.8	109.1
Group	1	100.0	87.5	87.1	86.8	100.0	93.0	91.7	92.4	100.0	93.1	91.7	92.4	100.0	86.8	87.4	90.2	100.0	107.4	109.1	112.7	102.6	103.6	106.5
Group	2	100.0	87.7	83.5	19.9	100.0	90.5	85.8	24.5	100.0	89.5	84.2	24.1	100.0	119.7	121.8	32.2	100.0	109.1	109.5	30.5	106.0	105.5	105.9
Group	3	100.0	87.7	84.6	70.8	100.0	91.4	84.0	59.4	100.0	90.5	82.4	58.4	100.0	129.0	110.7	57.0	100.0	117.4	117.5	71.8	112.1	109.2	106.1
Group	4	100.0	58.5	56.2	36.3	100.0	103.0	96.3	57.6	100.0	105.0	98.0	52.6	100.0	136.3	145.8	79.0	100.0	114.2	117.8	69.9	101.2	101.3	100.7
EU 27		100.0	69.2	66.7	46.6	100.0	94.6	89.4	63.0	100.0	94.5	88.8	61.4	100.0	117.7	111.9	65.9	100.0	112.5	113.7	75.3	106.4	105.5	105.1

Data Source: AMECO and own calculation

Table A.8: Sectors, Contribution to Employment Growth

Country	G	Agriculture			Industry			Manufacturing			Construction			Services			ENTIRE		
		00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12	00-07	07-09	09-12
AT	1	-0.1%	0.0%	-0.1%	0.0%	-0.2%	0.1%	0.0%	-0.2%	0.0%	0.0%	0.1%	0.1%	1.1%	0.7%	1.1%	0.9%	0.6%	1.2%
DE	1	0.0%	0.0%	0.0%	-0.2%	-0.1%	0.1%	-0.2%	-0.1%	0.1%	-0.2%	0.0%	0.1%	0.6%	0.7%	0.8%	0.2%	0.6%	1.0%
NL	1	0.0%	-0.1%	0.0%	-0.2%	-0.1%	-0.1%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	-0.1%	1.1%	0.5%	0.3%	0.8%	0.4%	0.1%
SE	1	-0.1%	0.0%	0.0%	-0.2%	-0.7%	-0.1%	-0.2%	-0.7%	-0.1%	0.2%	0.2%	0.2%	0.8%	-0.3%	1.2%	0.7%	-0.8%	1.3%
BE	2	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.2%	-0.2%	-0.3%	-0.2%	0.1%	0.1%	0.1%	1.1%	1.1%	0.9%	0.9%	0.8%	0.7%
DK	2	-0.1%	0.0%	0.0%	-0.2%	-0.5%	-0.3%	-0.2%	-0.6%	-0.4%	0.1%	-0.3%	-0.1%	0.9%	0.5%	-0.5%	0.7%	-0.4%	-1.0%
FI	2	-0.1%	0.0%	-0.1%	-0.1%	-0.4%	-0.3%	-0.1%	-0.5%	-0.3%	0.2%	-0.1%	0.1%	1.2%	0.5%	0.7%	1.2%	0.0%	0.4%
FR	2	-0.1%	-0.1%	-	-0.2%	-0.3%	-	-0.2%	-0.4%	-	0.2%	0.1%	-	0.9%	-0.1%	-	0.8%	-0.4%	0.1%
LU	2	0.1%	-0.1%	0.0%	0.1%	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.6%	0.2%	0.1%	2.8%	3.0%	2.2%	3.4%	3.0%	2.3%
CY	3	-0.1%	0.2%	-0.4%	0.1%	0.0%	-0.4%	0.0%	-0.1%	-0.4%	0.6%	-0.1%	-0.8%	2.4%	0.9%	0.3%	2.9%	0.9%	-1.3%
EL	3	-0.7%	0.1%	-0.3%	0.1%	0.0%	-0.9%	0.1%	0.0%	-0.8%	0.3%	-0.2%	-1.1%	2.0%	0.4%	-3.0%	1.8%	0.3%	-5.5%
ES	3	-0.1%	-0.2%	0.0%	-0.1%	-1.0%	-0.4%	-0.2%	-0.8%	-0.5%	0.8%	-2.1%	-1.3%	2.9%	-0.1%	-0.9%	3.4%	-3.4%	-2.8%
IE	3	-0.1%	-0.3%	-0.2%	0.0%	-0.9%	-0.4%	-0.3%	-0.5%	-0.3%	0.9%	-2.7%	-1.0%	2.9%	-0.3%	-0.5%	3.4%	-4.3%	-2.1%
IT	3	-0.1%	-0.1%	0.0%	0.0%	-0.5%	-0.4%	0.0%	-0.5%	-0.4%	0.2%	0.0%	-0.3%	1.1%	0.0%	0.4%	1.4%	-0.7%	-0.2%
MT	3	0.1%	0.1%	0.0%	-0.9%	-1.0%	0.1%	-0.8%	-0.9%	0.1%	0.2%	-0.1%	0.0%	1.6%	2.1%	2.1%	1.0%	1.1%	2.2%
PT	3	-0.1%	-0.1%	-0.3%	-0.4%	-0.7%	-0.5%	-0.4%	-0.8%	-0.5%	-0.2%	-0.6%	-0.8%	0.9%	0.4%	-0.8%	0.3%	-1.1%	-2.4%
UK	3	0.0%	0.0%	-	-0.5%	-0.4%	-	-0.5%	-0.5%	-	0.2%	-0.2%	-	1.2%	0.0%	-	0.9%	-0.5%	0.6%
BG	4	-0.3%	0.1%	-0.8%	0.3%	-0.8%	-0.9%	0.3%	-0.7%	-	0.5%	0.3%	-0.9%	1.5%	0.4%	-1.4%	2.0%	0.0%	-4.1%
CZ	4	-0.2%	0.0%	-0.1%	0.1%	-1.1%	0.0%	0.2%	-1.0%	0.0%	0.1%	0.3%	-0.2%	0.7%	1.0%	0.1%	0.7%	0.2%	-0.1%
EE	4	-0.3%	-0.5%	0.3%	-0.1%	-1.3%	0.2%	0.0%	-1.3%	0.1%	0.9%	-2.0%	-0.2%	1.2%	-1.1%	1.0%	1.7%	-5.1%	1.4%
HU	4	-0.7%	-0.4%	0.2%	-0.4%	-0.8%	0.2%	-0.3%	-0.8%	0.1%	0.2%	-0.3%	-0.3%	0.8%	-0.6%	0.3%	-0.1%	-2.1%	0.4%
LT	4	-1.1%	-0.8%	-	0.1%	-1.2%	-	0.2%	-1.0%	-	0.9%	-1.7%	-	1.3%	-0.1%	-	1.3%	-3.8%	-0.5%
LV	4	-0.4%	-0.9%	-0.4%	0.0%	-1.5%	-0.4%	0.0%	-1.6%	-0.2%	1.0%	-2.2%	-0.6%	1.9%	-1.7%	-2.2%	2.5%	-6.4%	-3.6%
PL	4	-2.2%	-0.4%	-	0.3%	-0.1%	-	0.3%	-0.1%	-	0.2%	0.8%	-	1.0%	1.8%	-	0.6%	2.1%	0.6%
RO	4	-3.1%	-0.2%	0.2%	0.0%	-1.5%	-0.2%	0.0%	-1.2%	-0.2%	0.4%	0.3%	-0.1%	0.6%	0.4%	0.3%	-2.0%	-1.0%	0.2%
SI	4	-0.3%	-0.2%	-0.2%	-0.3%	-1.2%	-0.5%	-0.3%	-1.2%	-0.6%	0.2%	0.5%	-0.8%	1.3%	1.2%	-0.1%	0.9%	0.4%	-1.7%
SK	4	-0.3%	-0.1%	-0.1%	0.0%	-1.0%	-0.1%	0.1%	-0.8%	0.0%	0.3%	0.5%	-0.2%	1.0%	1.2%	0.5%	1.0%	0.6%	0.1%
Group 1	1	0.0%	0.0%	0.0%	-0.2%	-0.1%	0.0%	-0.2%	-0.1%	0.0%	-0.1%	0.0%	0.1%	0.7%	0.6%	0.8%	0.4%	0.5%	0.9%
Group 2	2	-0.1%	-0.1%	-	-0.2%	-0.4%	-	-0.2%	-0.4%	-	0.2%	0.1%	-	0.9%	0.2%	-	0.8%	-0.2%	0.1%
Group 3	3	-0.1%	-0.1%	-	-0.2%	-0.6%	-	-0.2%	-0.6%	-	0.3%	-0.7%	-	1.6%	0.0%	-	1.6%	-1.3%	-1.0%
Group 4	4	-1.6%	-0.3%	-	0.1%	-0.8%	-	0.1%	-0.7%	-	0.3%	0.3%	-	0.9%	0.8%	-	0.2%	0.0%	-0.2%
EU 27		-0.4%	-0.1%	-	-0.1%	-0.5%	-	-0.1%	-0.5%	-	0.2%	-0.2%	-	1.1%	0.3%	-	0.9%	-0.4%	-0.1%

Data Source: AMECO and own calculation

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Table A.9: Unit labour costs, productivity, wage compensation, in national currency

Country	G	Unit Labour Cost				Changes			Productivity				Changes		
		2000	2007	2009	2012	00-07	07-09	09-12	2000	2007	2009	2012	00-07	07-09	09-12
AT	1	100	106	115	120	0.79%	4.36%	1.40%	100	109	106	108	1.30%	-1.81%	0.62%
DE	1	100	98	106	109	-0.32%	3.93%	1.04%	100	109	103	108	1.24%	-2.70%	1.57%
NL	1	100	115	125	128	2.04%	4.14%	0.80%	100	108	105	107	1.13%	-1.33%	0.48%
SE	1	100	109	117	117	1.24%	3.75%	-0.09%	100	117	112	120	2.26%	-2.09%	2.32%
BE	2	100	113	123	130	1.78%	4.12%	1.98%	100	107	104	106	1.01%	-1.70%	0.59%
DK	2	100	121	136	136	2.79%	6.00%	0.01%	100	106	100	106	0.87%	-2.90%	1.79%
FI	2	100	108	126	131	1.16%	7.84%	1.22%	100	116	106	111	2.08%	-4.18%	1.51%
FR	2	100	115	123	127	1.96%	3.45%	1.31%	100	108	105	108	1.04%	-1.22%	1.03%
LU	2	100	117	138	149	2.32%	8.33%	2.69%	100	106	95	93	0.78%	-5.28%	-0.68%
CY	3	100	124	131	137	3.11%	2.92%	1.38%	100	105	105	108	0.68%	-0.05%	1.10%
EL	3	100	119	133	122	2.56%	5.65%	-2.76%	100	118	113	111	2.38%	-1.99%	-0.64%
ES	3	100	124	133	124	3.15%	3.46%	-2.28%	100	100	104	112	0.03%	1.99%	2.39%
IE	3	100	131	134	122	3.95%	1.15%	-3.23%	100	112	114	123	1.67%	0.53%	2.74%
IT	3	100	120	130	134	2.61%	4.26%	1.00%	100	99	94	94	-0.09%	-2.67%	0.14%
MT	3	100	123	134	141	2.97%	4.67%	1.67%	100	106	105	104	0.83%	-0.54%	-0.37%
PT	3	100	119	127	119	2.49%	3.32%	-1.98%	100	106	105	110	0.87%	-0.40%	1.53%
UK	3	100	116	127	134	2.20%	4.27%	1.91%	100	116	111	112	2.10%	-2.02%	0.37%
BG	4	100	135	172	187	4.41%	12.60%	2.90%	100	129	129	151	3.67%	0.21%	5.36%
CZ	4	100	121	128	134	2.75%	2.80%	1.55%	100	132	129	134	4.04%	-1.02%	1.15%
EE	4	100	159	185	181	6.85%	7.80%	-0.76%	100	149	136	151	5.86%	-4.41%	3.51%
HU	4	100	148	159	170	5.74%	3.61%	2.41%	100	128	126	126	3.59%	-0.89%	0.02%
LT	4	100	128	139	130	3.54%	4.28%	-2.22%	100	158	149	169	6.72%	-2.70%	4.18%
LV	4	100	186	207	191	9.29%	5.47%	-2.62%	100	152	138	170	6.21%	-4.71%	7.14%
PL	4	100	100	110	114	0.05%	4.84%	1.08%	100	126	130	141	3.41%	1.22%	2.85%
RO	4	100	267	337	353	15.03%	12.48%	1.55%	100	174	178	180	8.25%	1.14%	0.38%
SI	4	100	131	152	152	3.98%	7.43%	0.15%	100	127	120	125	3.43%	-2.74%	1.52%
SK	4	100	121	134	132	2.79%	5.07%	-0.39%	100	141	141	154	5.08%	-0.33%	3.11%

Country	G	Compensation				Changes			Exchange Rate				Changes		
		2000	2007	2009	2012	00-07	07-09	09-12	2000	2007	2009	2012	00-07	07-09	09-12
AT	1	100	116	121	129	2.11%	2.47%	2.03%	100	100	100	100	0.00%	0.00%	0.00%
DE	1	100	107	109	118	0.92%	1.13%	2.63%	100	100	100	100	0.00%	0.00%	0.00%
NL	1	100	125	132	137	3.19%	2.76%	1.29%	100	100	100	100	0.00%	0.00%	0.00%
SE	1	100	127	132	141	3.53%	1.58%	2.23%	100	91	80	97	-1.29%	-6.67%	6.85%
BE	2	100	121	127	137	2.81%	2.36%	2.59%	100	100	100	100	0.00%	0.00%	0.00%
DK	2	100	129	136	144	3.68%	2.92%	1.81%	100	100	100	100	0.01%	0.03%	0.01%
FI	2	100	125	134	145	3.27%	3.33%	2.75%	100	100	100	100	0.00%	0.00%	0.00%
FR	2	100	123	129	138	3.03%	2.19%	2.35%	100	100	100	100	0.00%	0.00%	0.00%
LU	2	100	124	131	138	3.12%	2.61%	1.98%	100	100	100	100	0.00%	0.00%	0.00%
CY	3	100	130	137	148	3.81%	2.87%	2.50%	100	99	98	98	-0.21%	-0.23%	0.00%
EL	3	100	141	151	136	5.00%	3.56%	-3.39%	100	99	99	99	-0.17%	0.00%	0.00%
ES	3	100	124	139	139	3.18%	5.52%	0.05%	100	100	100	100	0.00%	0.00%	0.00%
IE	3	100	147	152	150	5.69%	1.69%	-0.58%	100	100	100	100	0.00%	0.00%	0.00%
IT	3	100	119	123	127	2.51%	1.48%	1.14%	100	100	100	100	0.00%	0.00%	0.00%
MT	3	100	130	141	146	3.83%	4.10%	1.29%	100	94	94	94	-0.86%	0.00%	0.00%
PT	3	100	126	134	132	3.38%	2.91%	-0.48%	100	100	100	100	0.00%	0.00%	0.00%
UK	3	100	135	141	150	4.35%	2.16%	2.28%	100	89	68	75	-1.64%	-12.36%	3.19%
BG	4	100	174	222	282	8.24%	12.84%	8.41%	100	100	100	100	-0.03%	0.00%	0.00%
CZ	4	100	159	165	179	6.89%	1.75%	2.71%	100	128	135	142	3.61%	2.49%	1.68%
EE	4	100	237	251	273	13.11%	3.05%	2.72%	100	100	100	100	0.00%	0.00%	0.00%
HU	4	100	189	200	214	9.54%	2.69%	2.43%	100	103	93	90	0.49%	-5.31%	-1.04%
LT	4	100	201	207	219	10.49%	1.47%	1.87%	100	107	107	107	0.97%	0.00%	0.40%
LV	4	100	284	287	326	16.07%	0.50%	4.34%	100	80	79	80	-3.16%	-0.40%	0.40%
PL	4	100	127	143	161	3.46%	6.12%	3.96%	100	106	93	96	0.83%	-6.50%	1.13%
RO	4	100	464	601	637	24.52%	13.76%	1.94%	100	60	47	45	-7.10%	-11.31%	-1.67%
SI	4	100	166	182	191	7.55%	4.49%	1.68%	100	86	86	86	-2.10%	0.00%	0.00%
SK	4	100	172	188	204	8.01%	4.72%	2.71%	100	126	141	141	3.37%	5.88%	0.00%

Data Source: AMECO and own calculation

Table A.10: Relative unit labour costs, 2000 = 100

Country	G	2000=100 Value 2000	2007	2009	2012	2000=100 Changes 00-07	07-09	09-12	EU 27=100 Value 2000	2007	2009	2012	EU 27=100 Changes 00-07	07-09	09-12	without own county, EU 27=100 Value 2000	2007	2009	2012	without own county Changes 00-07	07-09	09-12
AT	1	100%	97%	103%	103%	-2.7%	5.7%	-0.3%	99%	96%	102%	101%	-2.7%	5.6%	-0.3%	99%	96%	102%	101%	-2.7%	5.7%	-0.3%
DE	1	100%	90%	95%	93%	-10.0%	4.5%	-1.3%	104%	94%	98%	97%	-10.3%	4.6%	-1.3%	106%	92%	98%	96%	-13.4%	5.7%	-1.7%
NL	1	100%	106%	112%	109%	6.0%	5.7%	-2.3%	93%	98%	103%	101%	5.6%	5.3%	-2.1%	92%	98%	104%	101%	5.8%	5.6%	-2.3%
SE	1	100%	92%	83%	97%	-8.4%	-8.1%	13.6%	109%	100%	91%	106%	-9.1%	-8.9%	14.8%	109%	100%	91%	106%	-9.4%	-9.1%	15.3%
BE	2	100%	104%	110%	111%	4.2%	5.6%	1.6%	100%	104%	110%	111%	4.2%	5.6%	1.6%	100%	104%	110%	112%	4.3%	5.7%	1.6%
DK	2	100%	112%	122%	117%	11.6%	10.3%	-5.3%	91%	101%	111%	106%	10.6%	9.4%	-4.8%	91%	110%	111%	104%	10.8%	12.2%	-4.9%
FI	2	100%	100%	113%	112%	-0.2%	13.0%	-0.9%	93%	93%	105%	104%	-0.2%	12.1%	-0.9%	93%	105%	105%	104%	-0.2%	9.6%	-0.9%
FR	2	100%	105%	110%	109%	5.5%	4.2%	-0.6%	94%	99%	103%	102%	5.1%	4.0%	-0.6%	93%	99%	104%	103%	6.0%	4.8%	-0.7%
LU	2	100%	108%	123%	128%	8.1%	15.2%	4.4%	78%	84%	96%	100%	6.3%	11.8%	3.4%	78%	84%	96%	100%	6.3%	11.9%	3.4%
CY	3	100%	112%	115%	115%	12.4%	2.8%	-0.4%	87%	98%	100%	100%	10.8%	2.4%	-0.4%	87%	98%	100%	100%	10.8%	2.4%	-0.4%
EL	3	100%	109%	118%	104%	8.6%	9.2%	-14.2%	87%	94%	102%	90%	7.4%	8.0%	-12.4%	87%	94%	102%	90%	7.5%	8.1%	-12.5%
ES	3	100%	114%	119%	106%	14.4%	4.6%	-12.8%	87%	99%	103%	92%	12.5%	4.0%	-11.1%	86%	99%	103%	91%	13.3%	4.4%	-12.1%
IE	3	100%	121%	120%	104%	20.8%	-0.7%	-16.0%	72%	87%	87%	75%	15.0%	-0.5%	-11.6%	72%	87%	87%	75%	15.1%	-0.5%	-11.7%
IT	3	100%	110%	116%	115%	10.3%	6.2%	-1.7%	84%	93%	98%	97%	8.7%	5.2%	-1.5%	82%	92%	98%	96%	9.8%	5.9%	-1.6%
MT	3	100%	106%	113%	114%	6.4%	6.9%	0.5%	84%	90%	95%	96%	5.4%	5.8%	0.5%	84%	90%	95%	96%	5.4%	5.8%	0.5%
PT	3	100%	109%	113%	102%	9.4%	4.1%	-11.3%	92%	101%	105%	94%	8.6%	3.8%	-10.4%	90%	101%	105%	94%	8.7%	3.8%	-10.5%
UK	3	100%	95%	77%	86%	-4.5%	-18.0%	8.7%	113%	108%	88%	98%	-5.1%	-20.4%	9.8%	110%	110%	86%	97%	-6.5%	-24.5%	11.4%
BG	4	100%	124%	153%	160%	24.3%	28.9%	6.4%	72%	90%	110%	115%	17.5%	20.8%	4.6%	72%	90%	111%	115%	17.6%	20.9%	4.6%
CZ	4	100%	143%	154%	162%	42.7%	11.2%	8.1%	64%	92%	99%	104%	27.5%	7.2%	5.2%	64%	92%	99%	104%	27.7%	7.3%	5.3%
EE	4	100%	146%	165%	154%	46.4%	18.9%	-10.8%	70%	102%	116%	108%	32.5%	13.2%	-7.6%	70%	102%	116%	108%	32.5%	13.2%	-7.6%
HU	4	100%	141%	132%	131%	40.8%	-9.1%	-0.6%	67%	95%	89%	88%	27.5%	-6.1%	-0.4%	67%	95%	89%	88%	27.6%	-6.2%	-0.4%
LT	4	100%	126%	133%	119%	25.7%	7.1%	-14.1%	76%	96%	101%	91%	19.6%	5.4%	-10.7%	76%	96%	101%	91%	19.6%	5.4%	-10.8%
LV	4	100%	137%	147%	131%	37.0%	9.9%	-15.6%	86%	118%	126%	113%	31.8%	8.5%	-13.4%	86%	118%	126%	113%	31.8%	8.5%	-13.4%
PL	4	100%	98%	91%	93%	-2.1%	-6.5%	1.9%	89%	87%	81%	83%	-1.9%	-5.7%	1.7%	89%	87%	81%	83%	-2.1%	-5.9%	1.7%
RO	4	100%	147%	142%	135%	46.6%	-4.8%	-6.8%	88%	129%	124%	118%	40.8%	-4.2%	-5.9%	89%	130%	125%	119%	40.6%	-4.3%	-6.0%
SI	4	100%	104%	117%	112%	4.3%	12.7%	-4.6%	102%	106%	119%	114%	4.4%	12.9%	-4.7%	102%	106%	119%	114%	4.4%	12.9%	-4.7%
SK	4	100%	141%	169%	160%	40.8%	28.5%	-9.3%	60%	84%	101%	95%	24.3%	17.0%	-5.5%	59%	84%	101%	95%	24.4%	17.1%	-5.6%
Group	1	100%	93%	96%	97%	-7.0%	3.4%	0.2%	102%	95%	99%	99%	-7.2%	3.5%	0.2%	104%	93%	98%	99%	-10.8%	5.0%	0.3%
Group	2	100%	105%	111%	110%	5.5%	5.6%	-0.7%	94%	99%	105%	104%	5.1%	5.3%	-0.6%	93%	100%	107%	106%	6.5%	6.9%	-0.9%
Group	3	100%	104%	98%	98%	4.0%	-5.8%	0.2%	97%	101%	95%	95%	3.9%	-5.6%	0.2%	95%	101%	92%	92%	6.5%	-9.2%	0.5%
Group	4	100%	118%	118%	117%	18.1%	0.1%	-0.9%	83%	98%	98%	97%	14.9%	0.1%	-0.8%	84%	99%	99%	98%	14.7%	0.1%	-0.8%
EU 27		100%	100%	100%	100%	0.0%	0.0%	0.0%	100%	100%	100%	100%	0.0%	0.0%	0.0%	-	-	-	-	-	-	-

Data Source: AMECO and own calculation

Project Information

Welfare, Wealth and Work for Europe

A European research consortium is working on the analytical foundations for a socio-ecological transition

Abstract

Europe needs change. The financial crisis has exposed long-neglected deficiencies in the present growth path, most visibly in the areas of unemployment and public debt. At the same time, Europe has to cope with new challenges, ranging from globalisation and demographic shifts to new technologies and ecological challenges. Under the title of Welfare, Wealth and Work for Europe – WWWforEurope – a European research consortium is laying the analytical foundation for a new development strategy that will enable a socio-ecological transition to high levels of employment, social inclusion, gender equity and environmental sustainability. The four-year research project within the 7th Framework Programme funded by the European Commission was launched in April 2012. The consortium brings together researchers from 33 scientific institutions in 12 European countries and is coordinated by the Austrian Institute of Economic Research (WIFO). The project coordinator is Karl Aiginger, director of WIFO.

For details on WWWforEurope see: www.foreurope.eu

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