Macroeconomic Imbalances and Structural Change in the EMU

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Authors: Stefan Ederer, Peter Reschenhofer (WIFO)

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Authors: Stefan Ederer, Peter Reschenhofer (WIFO)

Reviewed by: Kurt Bayer (WIFO)

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Contribution to the Project

This paper is part of WP401 which analyses the macroeconomic imbalances in the EMU. This analysis is a prerequisite for designing the institutions of the EMU.

Macroeconomic Imbalances
and Structural Change in the EMU

Stefan Ederer

Austrian Institute of Economic Research (WIFO)

Arsenal, Objekt 20, 1030 Vienna, Austria

stefan.ederer@wifo.ac.at

Peter Reschenhofer

Austrian Institute of Economic Research (WIFO)

Arsenal, Objekt 20, 1030 Vienna, Austria

peter.reschenhofer@wifo.ac.at

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Abstract

Macroeconomic imbalances in the EMU are at the heart of the current crisis. A widely popular explanation for the high current account deficits in the Southern European countries is that they lack a large, competitive and export-oriented industrial sector. The paper tests the hypothesis that parts of the structural change which happened in the EU before 2008 were supported by the divergent unit labour cost developments in the EMU. We look into patterns of structural change and sectoral competitiveness in all EU member countries and assess their linkages by means of a descripitve analysis as well as through econometric estimations. Our results broadly support the hypothesis. Structural policies alone to foster new competitive export-oriented industries in Southern Europe in order to reduce macroeconomic imbalances in the EMU would not be efficient without accompanying adjustments in relative labour costs.

1 Introduction

Macroeconomic imbalances are at the heart of the crisis in the European Monetary Union (EMU). Before 2007/08, EMU member states embarked on different growth paths: Germany and other countries in the 'North' featured strong exports and weak domestic demand, and consequently accumulated large current account surpluses. Some economies in the 'South' on the contrary were characterised by a weaker export performance and a boom in domestic demand, and built up high external deficits. These developments were not sustainable and made the latter countries highly vulnerable during the financial and economic crisis. They are also a major cause for the subsequent sluggish and uneven recovery in the EMU, as well as for the crisis of public finances and the financial sector in many Southern European economies.

At the root of these developments were large inflation differentials across member states, which accumulated to substantial shifts in relative competitiveness.[1] In Northern Europe, and particularly in Germany, inflation was constantly below the ECB's target, whereas in the South it continuously exceeded it. The large price divergences did not only lead to shifts in relative competitiveness between the member states, but also relative to countries outside the EMU. For the low-inflation countries in the North, the Euro exchange rate was weaker than it would have been in the case of country-specific currencies, and vice versa for the South. This stimulated exports in the North and held them back in the South. Since the ECB sets interest rates in accordance with the overall inflation rate in the Euro area, its monetary policy further reinforced these differentials. In Northern Europe, real interest rates were too high and weakened domestic demand. In Southern Europe (and in Ireland) real interest rates were low and led to a debt-driven consumption and investment boom. Whereas the single monetary policy supported the emergence of macroeconomic imbalances, no European institution was in the position to bring countries' inflation rates back to the common target.[2]

There has emerged a broad and intensive debate about the causes and

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[1] Throughout the paper, we use the term 'competitiveness' for 'price competitiveness'. For a broader definition of competitiveness see Aiginger et al. (2013).

[2] See Ederer and Reschenhofer (2013) for a more elaborate discussion of these developments.

cures of macroeconomic imbalances. A widely popular explanation for the high current account deficits in the Southern European countries is that they lack a large, competitive and export-oriented industrial sector. According to this view, the reduction of the imbalances would only be possible if these countries started to develop such industries.[3] Nevertheless, the lack of an industrial sector is possibly the consequence of the aforementioned price divergences in the EMU. The continuous loss in competitiveness in Southern Europe discouraged investment in innovative technologies and the establishment of new firms. Furthermore, existing firms could not keep up with their competitors in other EMU countries and outside the monetary union, and closed down. The aim of this paper is to assess this hypothesis by looking into patterns of structural change and sectoral competitiveness in the EU and their linkages.

For this purpose, we firstly identify different patterns of structural change in current-account surplus and deficit countries. Our results support the hypothesis that in Northern Europe, the export-oriented manufacturing industries increased in relative size and importance, whereas in Western and Southern Europe their share in total value added decreased. Secondly, we investigate differences in unit labour cost developments among country groups. In particular, we look into productivity and wage developments, and assess whether the differences in competitiveness are due to differences in productivity growth or in wage growth. Finally, we establish a link between changes in relative competitiveness and the patterns of structural change. This is done by means of a descriptive analysis as well as by an econometric analysis. Our results strongly confirm that the divergence of price competitiveness in the EMU, which emerged prior to the crisis of 2008/09, contributed substantially to the observed patterns of structural change.

The rest of the paper is structured as follows: In the next section, we describe the database and the methodologies which are used. We explain the motivation and the criteria for classifying all EU countries into four groups, as well as splitting the manufacturing sector into export-oriented and domestic-oriented industries. Section 3 looks into the patterns of structural change

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[3]Ederer and Reschenhofer (2014) find that in Greece and Portugal, current account deficits have persisted for a long time and can therefore (at least partly) be considered as 'structural' in the sense that they would not have been corrected if domestic demand in the EMU had been more balanced across the member countries.

which emerge in these groups. In section 4 we investigate the competitiveness developments in the sectors and industries and country groups and its provenance from differences in productivity and wage growth. After that, we bring the analysis from the two previous sections together by establishing a link between competitiveness and structural change, both by means of a descriptive (Section 5) and an econometric analysis (Section 6). In the final section we summarise the results and derive some policy conclusions.

2 Data and Methodology

2.1 Database

The data we used for both the descriptive and the econometric analysis were taken from the Socio-Economic Accounts (SEA) of the World Input-Output Database (WIOD).[4] The basis for the SEA are data from the EU Klems project[5]. It contains annual data (1995 - 2009) for value added, employment, labour compensation etc. for 35 industries and all EU member countries.

2.2 Definition of country groups

Most of the following analysis is based on a classification of EU member states into different country groups. This subsection briefly explains the motivation and the criteria for this classification. Basically, we apply three different criteria:

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

2. **dCA:** Changes in the current account (difference between 2000 and 2007 in percent of GDP)

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

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[4]http://www.wiod.org. For further information about the WIOD see Timmer (2012).
[5]http://www.euklems.net

The first criterion can be interpreted as a variable which reflects the state of the current account. 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 a negative one. The second criterion reflects macroeconomic developments over the period from 2000 to 2007. This allows us to separate countries with an amelioration and a deterioration in their external balance. 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 so 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 it turns out that only four country groups emerge:[6]

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

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

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

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[6]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, dCA > 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, dCA < 2%, GDPpC < 80%
  Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Romania, Slovakia, Slovenia

The first group correspond to what is usually named 'Northern Europe'. This group includes Germany and its immediate neighbours Austria and Netherlands, as well as Sweden. In group two, which we name 'Western Europe', 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'. Applying our criteria, the United Kingdom becomes a member of this group, although it is clearly not in the South of Europe. Nevertheless, some of its macroeconomic indicators developed quite similarly, so that we decided to keep it in group three. The fourth group broadly reflects 'Eastern Europe'. Malta (see Footnote 6) 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 A.1 in the appendix shows the first two criteria for all EU countries and the four country groups.

2.3 Definition of categories for manufacturing industries

The WIOD provides data for 35 different sectors. In order to get a better overview of the developments relevant for this paper, we classified the industries of the manufacturing sector along two different classification schemes. The first distinguished between domestic-oriented and export-oriented industries. We calculated the export shares of each industry in the year 2000.[7] Those industries that have a higher export share than the total export share (of all industries together) were classified as export-oriented. The other industries were classified as domestic-oriented.

The second classification distinguishes between high-innovation and low-innovation industries. This distinction follows the classification of the in-

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[7]The shares of the EU as a whole were calculated including intra-EU exports.

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Table 1: Manufacturing Classification

Nace 1.1		Classifications		WIOD SEA
Subsection	Nace Code	EXPO	INNO	Description
DA	15-16	**0**	**0**	Food, beverages and tabacco
DB	17-18	**1**	**0**	Textiles and textile
DC	19	**1**	**0**	Leather, leather and footwear
DD	20	**0**	**0**	Wood and of wood and cork
DE	21-22	**0**	**0**	Pulp, paper, printing and publishing
DF	23	**0**	**0**	Coke, refined petroleum and nuclear fuel
DG	24	**1**	**1**	Chemicals and chemical
DH	25	**0**	**0**	Rubber and plastics
DI	26	**0**	**0**	Other non-metallic mineral
DJ	27-28	**0**	**0**	Basic metals and fabricated metal
DK	29	**1**	**1**	Machinery, NEC
DL	30-33	**1**	**1**	Electrical and optical equipment
DM	34-35	**1**	**1**	Transport equipment
DN	36-37	**0**	**0**	Manufacturing NEC; recycling

dustries according to their technological intensity in the Eurostat database. Eurostat distinguishes four different technology types for each industry: high technology, medium-high technology, medium-low technology and low technology. As we use only two different categories (high, low) we combined high technology and medium-high technology into our high-innovation group and put the remaining two into the low-innovation group. Note that the two classifications mostly coincide (see Table 1).

2.4 Decomposition Technique

In section 4, we decompose the changes in productivity and unit labour costs of the total econonmy into two effects: First, the contribution of changes in the respective variable within each sector, aggregated over all sectors. Second, the effect which is the result of shifts from sectors with low productivity (or low unit labour cost) growth to sectors with higher rates ('structural change'). The productivity decomposition technique follows McMillan and Rodrik (2011) and can be summarised as:

$$\Delta Y = Y_1 - Y_0 = \sum_{i=1}^{n} \theta_{i,1} y_{i,1} - \sum_{i=1}^{n} \theta_{i,0} y_{i,0}$$
$$= \left(\sum_{i=1}^{n} \theta_{i,0} y_{i,1} - \sum_{i=1}^{n} \theta_{i,0} y_{i,0} \right) + \left(\sum_{i=1}^{n} \theta_{i,1} y_{i,1} - \sum_{i=1}^{n} \theta_{i,0} y_{i,1} \right)$$
$$= \underbrace{\sum_{i=1}^{n} \theta_{i,0} \Delta y_i}_{\text{within}} + \underbrace{\sum_{i=1}^{n} y_{i,1} \Delta \theta_i}_{\text{between}}$$

The variable $\theta_{i,t}$ expresses the employment share of sector i at time t. So the 'within'-term is the sum over the productivity changes of each sector weighted by the employment share at time 0. This term can be considered as the contribution of the productivity changes in each sector to the total productivity change. The 'between' term holds the productivity fixed and focuses on the change of the sector size (employment share). Note that weighting the 'within'-factor with the shares at time 0 and the 'between'-factor with the productivity at time 1 is arbitrary, it could be also done in the opposite way. The same formula can be applied to labour costs per labour input.[8] The two decomposition results are then combined to obtain the decomposition of the unit labour costs.

3   Patterns of structural change

This section aims at identifying different patterns of structural change between current-account surplus and deficit countries. We look at developments both at the sectoral level (NACE 2-digit level) and the industry level (manufacturing sector, NACE 3-digit level) between 2000 and 2007. The focus of our analysis is on the manufacturing sector, whose industries will be aggregated along two different classification schemes: export-oriented vs. domestic-oriented ('EXPO') and high-innovative vs. low-innovative industries ('INNO').[9] The results are nevertheless highly similar for both classifications, so that we will usually not distinguish between them throughout

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[8]Note that for this decomposition the shares of employees (instead of employment) have to be used.

[9]See Section 2.

our analysis, but concentrate on the 'EXPO' scheme. Furthermore, as this paper primarily deals with a certain aspect of the macroeconomic imbalances in the EMU, we usually do not discuss the results for Eastern Europe. These countries exhibit the typical patterns of catching-up countries, and do not match the developments in the rest of the EU.

Figure 1: Relative Value Added Shares 2000 and 2007, Sectors
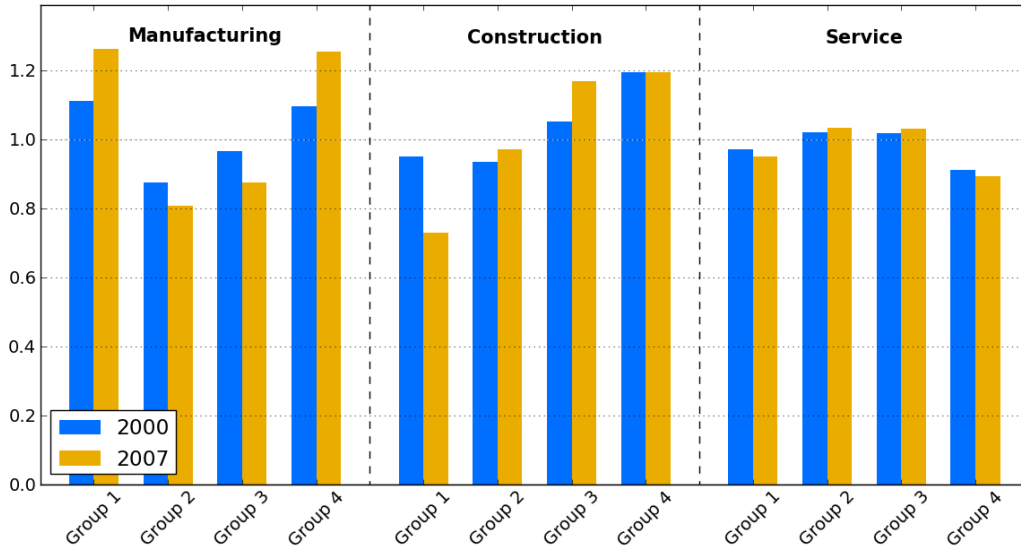
Relative value added shares are defined as: $\text{RVAS}_{i,j,t} = \text{VAS}_{i,j,t}/\text{VAS}_{\text{EU},j,t}$,
where j denotes the sector, i denotes the country and t the year
Data Source: WIOD and own calculations.

The share of manufacturing in total value added is highest in the North, and remained broadly constant in the period under consideration (Table B.1). By contrast, it decreased further in the West and South. The share of services and construction on the other hand both increased in the latter two regions. Within manufacturing, Northern Europe is by far the country group with the highest share of export-oriented industries (Table B.2), which increased slightly in the period under consideration. Remarkably, the share of these industries in total value added decreased in Western and Southern Europe, and reached an even lower level in 2007 than in the East (where it of course had increased). These differences in the patterns of structural change are distorted by common developments, such as the increase of the share of the services sector in total value added, a trend which can be observed in all country groups. To eliminate these common trends of structural

change and elaborate the specific patterns more clearly, we calculated the shares of all sectors and industries in value added, relative to the EU average (Tables B.3 and B.4). The results resemble the ones from Tables B.1 and B.2, albeit in an even more pronounced way. The relative manufacturing share increased in the North, and decreased in the other two regions (Figure 1). The relative size of the construction sector however increased only in the latter. Interestingly, the relative size of both domestic- and export-oriented industries increased in the North (Figure 2), albeit more strongly in the latter. To summarise, we can clearly distinguish different patterns of structural change between our country groups. In Northern Europe, manufacturing and in particular export-oriented industries within this sector increased their importance, whereas in Western and Southern Europe they lost out at the benefit of the construction and services sector.

Figure 2: Relative Value Added Shares 2000 and 2007, Industries
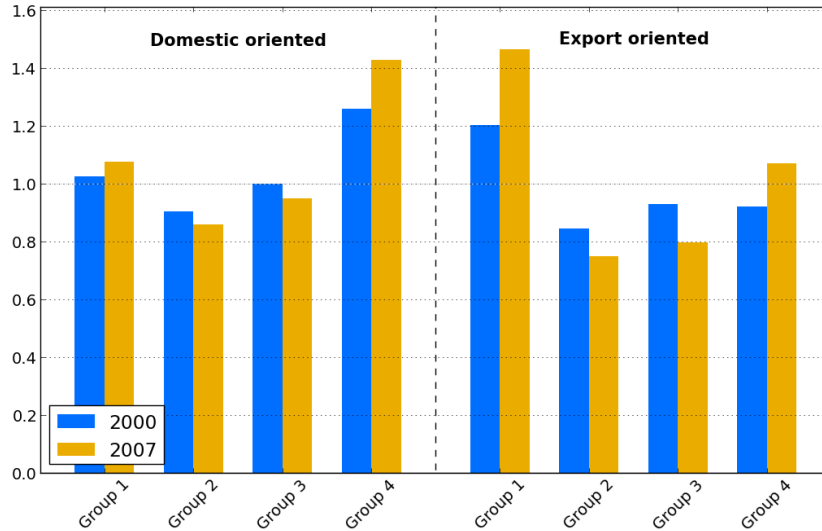
Relative value added shares are defined as: $\text{RVAS}_{i,j,t} = \text{VAS}_{i,j,t}/\text{VAS}_{\text{EU},j,t}$,
where j denotes the sector, i denotes the country and t the year
Data Source: WIOD and own calculations.

Tables B.5 and B.6 point out that these patterns are the result of different growth rates in the manufacturing sector in comparison to the construction and service sectors. Manufacturing growth was higher in the North than in the other two regions, whereas construction grew strongly only in the South and East. In Northern Europe, the construction sector even shrunk. Services

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on the other hand increased in the West and South. Likewise, export-oriented industries grew in particular more strongly in the North than in the West and South, whereas the domestic sectors developed similarly everywhere.

4 Productivity and labour cost developments

In this section, we look at productivity, wage and unit labour cost (ULC)[10] developments. Our aim is to see how sectoral developments contributed to aggregate developments of these variables, and if we can detect different patterns in these variables between current account surplus and deficit countries.

In a first step, we assess whether there are different patterns in productivity growth in the various country groups (Tables B.7 and B.8). We see that productivity growth in manufacturing is higher in the North than in the West and South, whereas it is quite similar in the other sectors. Likewise, productivity growth of the export-oriented industries is higher in the North than in the West and South, whereas it is similar in the domestic-oriented sectors. In a second step, we ask whether divergent aggregate productivity growth is explained by different productivity growth in sectors (industries) or by shifts of the share between sectors (industries) by decomposing changes in total productivity into these two effects (Figure 3).[11] The results of the decomposition imply that productivity growth within the sectors and industries contributed almost all to aggregate developments (in the first three country groups). Structural change made no substantial contribution (with the exception of Eastern Europe).

In a third step, we analyse whether wage growth deviated from productivity growth at the aggregate level and in all sectors and industries, and consequently led to variations in unit labour costs.[12] A number of interesting developments arise from Tables B.9 and B.10. First, within a country group, wages developed similarly across all sectors. Wage growth was in

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[10]Throughout this paper the term 'ULC' refers to nominal unit labour costs, which are defined as $\text{ULC} = \frac{\text{Wages}}{\text{Employee}} / \frac{\text{Value Added}}{\text{Employment}}$.

[11]We explain the method for the decomposition in Section 2.

[12]By doing so, we implicitly test the Balassa-Samuelson hypothesis, which asserts that due to differences in productivity growth, unit labour costs should grow faster in domestic-oriented sectors than in export-oriented ones.

Figure 3: Productivity Change Decomposition, 2000 to 2007
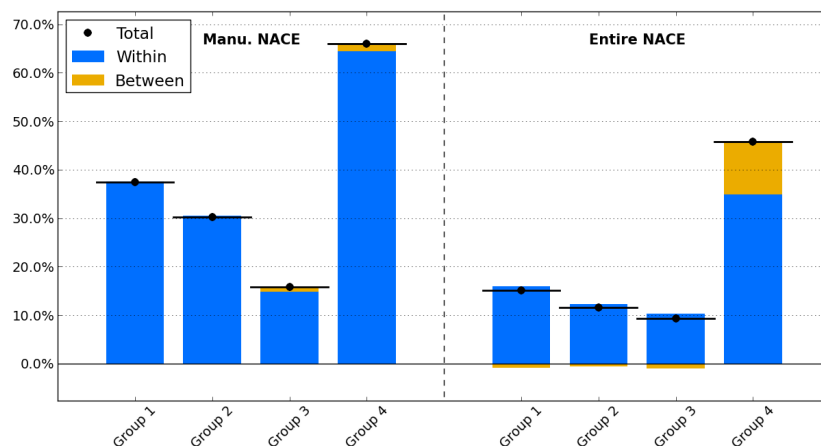
See section 2.4 for the decomposition method, on the left side of the figure only the
manufacturing sectors are decomposed.
Data Source: WIOD and own calculations.

general lowest in the North and highest in the South. Second, the manufacturing sector stands out in that productivity growth was higher than in the construction and services sectors, a pattern which is generally valid for all country groups. Unit labour costs therefore generally increased more strongly in the latter two sectors. Thirdly however, we can observe variations in the differences between wages and productivity in the manufacturing sector across country groups. In the North, wages increased substantially less than productivity than in the other groups, resulting in a strong decline in unit labour costs. In the South on the contrary, productivity growth in the manufacturing sector was weak, so that unit labour costs increased (almost) as much as in the other sectors. All in all, we observe great differences in unit labour cost increases between Northern, Western and Southern Europe, which are caused by differences both in productivity and in wage growth.

Within the manufacturing sector, these observations are repeated to a certain extent (Table B.10). Wage growth was in general slightly higher in the export-oriented industries than in the domestic-oriented ones. Productivity differences however were by far more pronounced, so that these two industry groups exhibit large differences in unit labour cost growth. This gap was most pronounced in the North, were unit labour costs in export-oriented industries decreased substantially. In the West and South on the other hand,

they increased, albeit moderately. Similarly to our analysis of productivity changes, we decomposed unit labour cost growth at the aggregate level into the effects from changes within sectors and industries on the one side, and the effects from structural change on the other (Figure 4). The changes of unit labour costs within the sectors and industries contributed almost all to the total change (again with the exception of Eastern Europe).

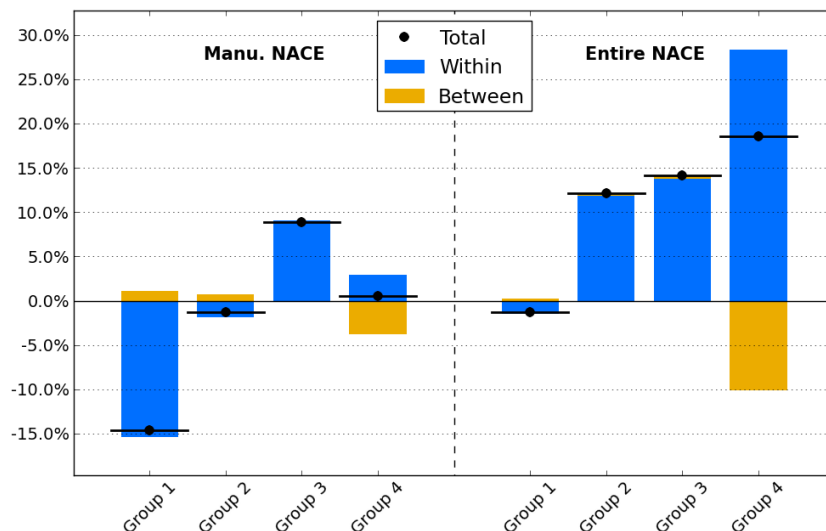Figure 4: Unit Labour Costs Change Decomposition, 2000 to 2007

See section 2.4 for the decomposition method, on the left side of the figure only the manufacturing sectors are decomposed.
Data Source: WIOD and own calculations.

5 Linkages between structural change and unit labour costs

In this section we investigate the link between structural change and competitiveness. The main research question here is whether unit labour cost developments have contributed to shifts in the production structure. The implications of this analysis are highly relevant in terms of policy conclusions. If competitiveness divergences in the EMU are at the root of the weak performance of export-oriented manufacturing industries in Western and Southern Europe, structural policies to foster these on their own would most likely not

Figure 5: Relative Unit Labour Costs 2000 and 2007, Sectors
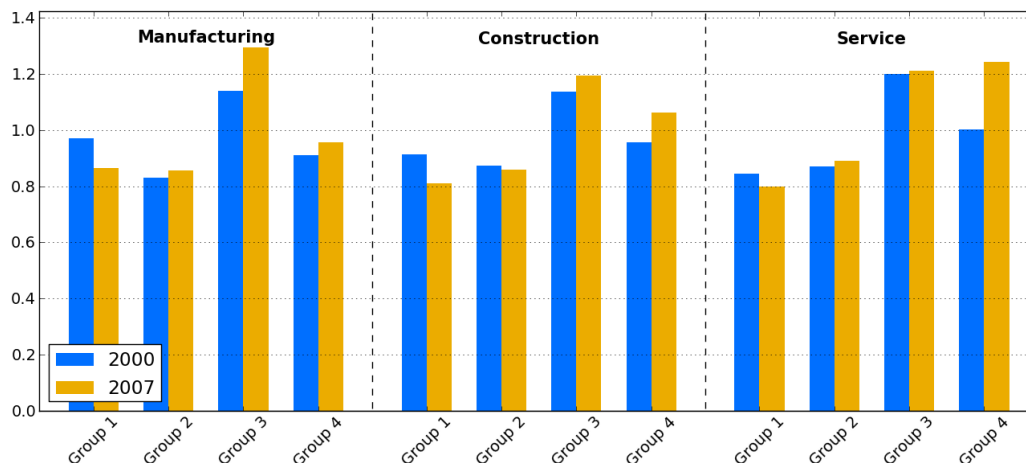
See footnote 10 for the definition of ULC. Relative unit labor costs are defined as:
$$\mathrm{RULC}_{i,j,t} = \mathrm{ULC}_{i,j,t} / \mathrm{ULC}_{\mathrm{EU},j,t},$$
where j denotes sector, i country and t year
Data Source: WIOD and own calculations.

solve the problem. Unit labour cost adjustments would be necessary to support the development of new industries. If on the other hand we cannot find any correspondence of shifts in the production structure and unit labour cost developments, the hypothesis of diverging competitiveness in the EMU as a cause for the weakness of export-oriented manufacturing industries would collapse. We will see that the results of our analysis in general support the hypothesis of unit labour cost divergences being at the root of the crisis of the export-oriented manufacturing sector in Southern Europe.

Firstly we look into competitiveness developments at the sectoral and industry level by calculating unit labour costs relative to the EU average (Tables B.11 and B.12). Competitiveness in the manufacturing sector improved substantially in the North whereas it declined in all other regions. The sharpest loss in relative price competitiveness is exhibited by the South (Figure 5). At the industry level, competitiveness improved both in export-oriented and in domestic-oriented industries in the North, and deteriorated in all other groups (Figure 6). The differences between these regions however are more pronounced in export-oriented industries than in domestic-oriented industries.

Figure 6: Relative Unit Labour Costs 2000 and 2007, Industries
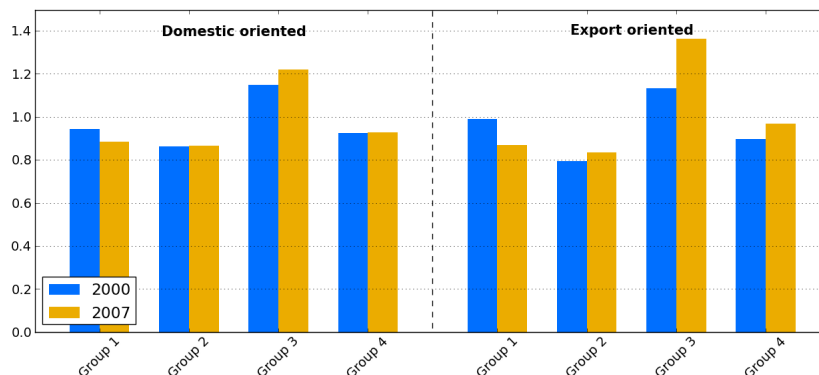
See footnote 10 for the definition of ULC. Relative unit labor costs are defined as:
$$\mathrm{RULC}_{i,j,t} = \mathrm{ULC}_{i,j,t}/\mathrm{ULC}_{\mathrm{EU},j,t},$$
where j denotes sector, i country and t year
Data Source: WIOD and own calculations.

Secondly, we compare the developments in the relative value added and in relative unit labour costs (Tables B.13 and B.14). It is evident that the increase in the relative value added share of the manufacturing sector in the North corresponds to a decrease in relative unit labour costs, and vice versa in the West and South. A similar pattern can be found at the industry level. An increase in the relative value added share of export-oriented industries correlates with a decrease in relative unit labour costs in the North.[13] In the West and South the opposite patterns can be observed. Figure 7 shows that the correlation persists when we repeat the exercise for the individual countries. In the domestic-oriented sectors and industries, we do not find such a clear pattern.

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[13]Nevertheless, the causality can run in both directions: It is also possible that a high value added share in a sector implies high productivity, which 'permits' the employer to pay relatively lower wages.

Figure 7: Change in RVAS and RULC, 2000 to 2007, Export-oriented Industries
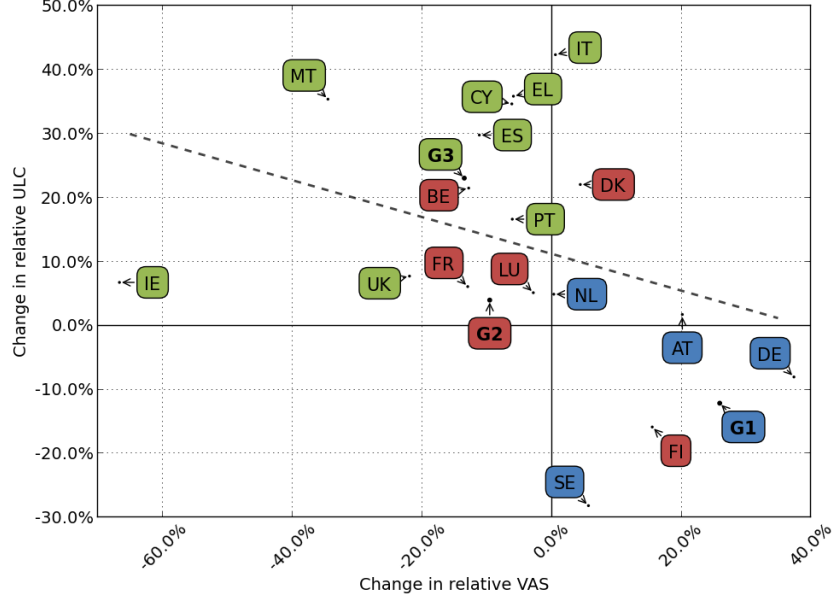
$\text{RULC}_{i,j,t} = \text{ULC}_{i,j,t}/\text{ULC}_{\text{EU},j,t},\ \text{RVAS}_{i,j,t} = \text{VAS}_{i,j,t}/\text{VAS}_{\text{EU},j,t},$
where j denotes sector, i country and t year
Data Source: WIOD and own calculations. — *Notes:* The dashed line indicates the correlation between the RULC and RVAS of the countries.

6 Regression

6.1 Econometric Modeling

In order to give further support to the hypothesis that the structural change which happened before the financial and economic crisis of 2008/09 was at least partly caused by divergences in unit labour cost developments, we conducted an econometric analysis. We estimated a panel regression with fixed effects and year dummies of the following form:

$$G.VAS_{i,j,t}^{EU} = \alpha + \beta G.RULC_{i,j,t} + \sum_{t'=95}^{06} \gamma_{t'} d_{t'} + \mu_{i,j} + \nu_{i,j,t}$$

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where the dependent variable is the the growth rate (the first difference of the logarithm) of the share of a sector in a certain country in the total value added of that sector in the EU (VAS). As independent variable we included the growth rate (the first difference of the logarithm) of relative unit labour costs ($RULC$). Index i denotes the countries, j the sectors and t the year.

We estimated the regression for the time period from 1995 to 2007, and ran it separately for the domestic- and export-oriented industries. The coefficient β denotes the effect of relative unit labour costs on the share of value added in the EU. We estimated the equation for all country groups separately, as well as for the first three groups together (see below). Luxemburg was excluded from the regression, as well as one sector[14] due to difficulties[15] with the data.

The separation between domestic- and export-oriented industries is motivated by the fact that the latter are more exposed to (international) price competition. These industries should therefore be more sensitive to changes in relative unit labour costs. Nevertheless, because export-oriented industries are typically also high-technology industries, a potential contrary effect arises: High unit labour costs could be positively correlated with high value added shares. The reason is that unit labour costs could to a certain extent also reflect product quality, which improves export opportunities and consequently raises the value added share. This effect is is widely known as 'Kaldors Paradox' (Kaldor (1978)). In order to avoid this 'reverse causality' problem we additionally applied a dynamic panel regression (see below).

6.2 Results

Table 2 presents the results of our estimations. They are broadly consistent with the findings of the previous section. In the first three groups, we find that the effect of relative unit labour costs on the value added shares for the domestic-oriented industries is only statistically significant and negative in Western Europe. This is hardly surprising, since domestic-oriented industries are usually less exposed to international competition. By contrast, the

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[14]'Coke, refined petroleum and nuclear fuel', NACE code 'F'.

[15]The Socio Economic Accounts of the WIOD have many missing values for Luxemburg, as well as for the sector 'F'.

Depended Variable: $G.VAS^{EU}$						
Country G.		1,2,3	1	2	3	4
Domestic	Obs.	1344	336	336	672	840
	Groups	112	28	28	56	70
	α	-.0002	.0059	-.0214	.0140	.1366
		(.0093)	(.0084)	(.0095)**	(.0172)	(.0166)***
	β	-.2232	-.1430	-.3851	-.2639	-.2605
		(.0412)***	(.0486)***	(.0602)***	(.0646)***	(.0334)*
Export	Obs.	1584	288	288	576	720
	Groups	132	24	24	48	60
	α	.0446	-.0026	.0029	.0199	.0865
		(.0113)***	(.0124)	(.0132)	(.0159)	(.0195)***
	β	-.3772	-.5529	-.6484	-.6335	-.2539
		(.0250)***	(.0500)***	(.0508)***	(.0384)***	(.0378)***

Notes: Robust Standard Errors, reported in parentheses; ***, **, and * indicate significance at 1%, 5% and 10% levels;

Table 2: Regression Estimates, Panel Fixed Effects

coefficient is significant and negative for the export-oriented industries in all three country groups (both when estimated separately and together). This supports our hypothesis: The structural change which we observed before the crisis seems partly being caused by differing in unit labour costs. Eastern Europe (G4) is a special case. As it consists mainly of catching-up countries, both unit labour costs and the share of value added in the EU increased strongly, so that we cannot find any negative relationship between those two variables.[16]

Additionally, we ran a dynamic panel regression applying a system GMM estimation (Blundell and Bond (1998)). Both our variables of interest, the value addded share and relative unit labour costs, contain the value added as part of them. Running a dynamic regression to a certain extent remedies

[16]See Section 2.

Depended Variable: $G.VAS^{EU}$		
Orientation	**Domestic**	**Export**
Country G.	1,2,3	1,2,3
Obs.	1232	1056
Groups	112	96
$L.G.VAS^{EU}$	-0.0898	0.0780
	(.0730)	(.0797)
Constant (α)	-0.0054	-0.0165
	(.0045)	(.0076)**
$G.RULC$ (β)	-0.1660	-0.4930
	(.0045)	(.1014)***
Instruments	99	85
	Lags 2-5	Lags 2-4
AB-AR(1)	-1.71	-3.99
	(0.087)***	(0.000)***
AB-AR(2)	-0.84	1.70
	(0.402)***	(0.089)
Hansen J	91.81	76.36
	(0.314)	(0.340)

Notes: Standard errors, reported in parentheses, are robust to heteroskedasticity and serial correlation; ***, **, and * indicate significance at 1%, 5% and 10% levels; AB-AR(1) and AB-AR(2) are Arellano and Bond's tests of first- and second-order residual serial correlation, p-values in parentheses; Hansen J is the Hansen test of overidentifying restrictions, p-value in parentheses.

Table 3: Regression Estimates, System GMM

this problem.[17] The results are presented in 3.

The results of the dynamic regressions are similar to the fixed effects estimations.[18] For domestic-oriented industries, we do not find a significant effect of relative unit labour costs on the shares of value added. For export-oriented industries however, the effect is statistically significant and clearly negative. The impact is even higher than when estimated by OLS, indicating that an increase of relative unit labour costs by 1 percent in a sector of a certain country would induce a decrease of the share of value added in the total value added of that sector in the EU by 0.5 percent. Our results thus support the hypothesis that parts of the structural changes which we observed before the crisis were due to competitiveness divergences.

7   Conclusion

The intention of this paper was to assess the hypothesis that the structural change which we observed in the years before the financial and economic crisis of 2008/09 was (at least partly) induced by the diverging labour costs in the EMU. In a first step, we identified the patterns of structural change which emerged in current-account surplus and deficit countries. We classified the EU member countries into four groups: Northern, Western, Southern and Eastern Europe, and looked both at the sectoral (NACE-2 digit) and industry (NACE-3 digit) level. The manufacturing industries were furthermore classified into export-oriented and domestic-oriented sectors. We find that in the North, the share of manufacturing in general, and of the export-oriented industries in particular increased (relative to the EU average), whereas in Western and Southern Europe it decreased.

In a second step, we looked into the developments of unit labour costs and their underlying variables, again both at the sectoral and at the industry level. We find that productivity growth in manufacturing and its export-

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[17]For applications of this estimator with only few right-hand side variables and few time observations but many cross observations see Bond (2002).

[18]We did not report the results for the three country groups separately, because the high number of instruments prevented the Hansen test of being meaningful. The estimated coefficients were nevertheless statistically significant and negative, similarly to the fixed effects regression.

oriented industries was higher in the North than everywhere else. Wages on the other hand grew slowest in the North and fastest in the South. Unit labour costs therefore decreased in the former and increased in the latter. Changes in aggregate productivity and in the unit labour costs of the total economy were almost entirely determined by their respective changes within sectors and industries. The structral change which we observed - the shifts of the value added share between sectors and industries - contributed only marginally to these developments.

Finally, we established a link between changes in relative competitiveness (unit labour costs) and the observed patterns of structural change. We investigated this link by means of both a descriptive and an econometric analysis. We find that the increase in the relative value added share of the manufacturing sector corresponds to a decrease in relative unit labour costs in the North, and vice versa in the West and South. A similar pattern can be found at the industry level. An increase in the relative value added share of export-oriented industries correlates with a decrease in relative unit labour costs in the North. In the West and South the opposite patterns can be observed.

The results of the econometric analysis confirm these findings. We find a statistically significant negative impact of changes in relative unit labour costs on the changes in the value added share of a certain industry in a country relative to the EU average. The effect is found in all country groups except Eastern Europe, albeit of slightly differing magnitudes. Furthermore, there is a clear difference between the effects for domestic-oriented and export-oriented industries. The latter are much more exposed to international competition, so that price competitiveness is more important than in the former. Our results thus strongly support the hypothesis that structural change was to some extent determined by the divergence of labour costs in the EMU.

The implications of this analysis are highly relevant in terms of policy conclusions. The lack of a competitive export-oriented industrial sector seems to be (at least partly) the result of the diverging unit labour costs.[19] The continuous deterioration of relative (cost) competitiveness in Southern Europe most likely discouraged investment in innovative technologies and the

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[19]Another important determinant is for instance whether the countries conduct an industrial policy aiming at the development of an export-oriented industrial sector. See Aiginger (2014).

establishment of new firms. If diverging competitiveness in the EMU is at the root of the weak performance of export-oriented manufacturing industries in Western and Southern Europe, structural policies alone to foster these would most likely not solve the problem. Unit labour cost adjustments would be necessary to support the establishment of such new industries.

References

Aiginger, K. (2014). Industrial Policy for a Sustainable Growth Path. WIFO Working Papers 469, WIFO.

Aiginger, K., Bärenthaler-Sieber, S., and Vogel, J. (2013). Competitiveness under New Perspectives. WWWforEurope Working Papers series 44, WWWforEurope.

Blundell, R. and Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, 87(1):115–143.

Bond, S. (2002). Dynamic panel data models: a guide to microdata methods and practice. CeMMAP working papers CWP09/02, Centre for Microdata Methods and Practice, Institute for Fiscal Studies.

Ederer, S. and Reschenhofer, P. (2013). Macroeconomic imbalances in the eu. WWWforEurope Working Paper, 42, WIFO.

Ederer, S. and Reschenhofer, P. (2014). A global value chain analysis of macroeconomic imbalances in europe. WWWforEurope Working Paper, forthcoming, WIFO.

Kaldor, N. (1978). *Further Essays on Applied Economics*, chapter The effect of devaluations on trade.

McMillan, M. S. and Rodrik, D. (2011). Globalization, Structural Change and Productivity Growth. NBER Working Papers 17143, National Bureau of Economic Research.

Timmer, M. P. (2012). The World Input-Output Database (WIOD): Contents, Sources and Methods. WIOD Working Paper 10, Royal University of Groningen.

A   Appendix: Country groups

Figure A.1: Current Account 2000 and 2007, as % of GDP
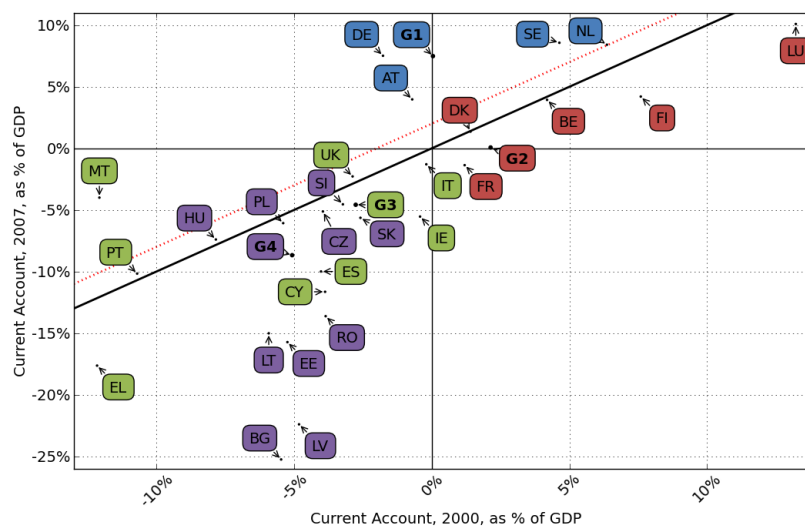
B   Appendix: Data Tables

Table B.1: Value Added Shares, Sectors

	G	Agriculture & Fishing			Mining & Energy			Manufacturing			Construction			Service		
		2000	2007	2009	2000	2007	2009	2000	2007	2009	2000	2007	2009	2000	2007	2009
AT	1	2.0%	1.8%	1.5%	2.7%	2.7%	3.2%	20.6%	20.4%	18.6%	7.5%	7.0%	7.3%	46.1%	47.7%	47.2%
DE	1	1.3%	1.0%	0.8%	2.1%	2.6%	3.1%	22.9%	23.8%	19.1%	5.2%	4.0%	4.3%	45.7%	46.6%	48.6%
NL	1	2.6%	2.1%	1.7%	3.8%	5.0%	5.3%	15.6%	14.1%	12.6%	5.6%	5.6%	6.0%	50.3%	49.9%	48.5%
SE	1	2.1%	1.7%	1.8%	2.6%	3.3%	3.9%	22.0%	19.6%	15.5%	4.3%	5.3%	5.2%	45.0%	45.3%	46.7%
BE	2	1.4%	0.9%	0.7%	2.8%	2.2%	2.3%	19.3%	16.3%	14.0%	5.0%	5.2%	5.4%	49.1%	52.2%	52.2%
DK	2	2.6%	1.2%	0.9%	5.1%	5.9%	4.4%	16.2%	14.1%	13.2%	5.5%	5.7%	4.9%	44.2%	46.9%	46.8%
FI	2	3.5%	3.0%	2.7%	1.9%	2.6%	3.0%	26.5%	24.2%	18.2%	6.2%	6.9%	7.0%	41.2%	41.8%	44.4%
FR	2	2.8%	2.2%	1.7%	1.7%	1.8%	1.8%	16.0%	12.5%	10.6%	5.2%	6.3%	6.4%	49.5%	52.0%	52.7%
LU	2	0.7%	0.4%	0.3%	1.3%	1.5%	1.3%	11.3%	9.1%	6.5%	5.7%	5.6%	5.3%	65.5%	68.1%	69.9%
CY	3	3.6%	2.2%	2.3%	2.4%	2.4%	2.3%	9.9%	7.4%	6.8%	6.8%	9.0%	8.2%	55.0%	55.4%	54.7%
EL	3	6.6%	3.4%	3.1%	2.8%	3.1%	3.0%	11.1%	9.2%	10.3%	7.0%	6.5%	4.5%	50.7%	54.0%	52.8%
ES	3	4.4%	2.9%	2.6%	2.3%	2.4%	2.7%	18.6%	15.0%	12.7%	8.3%	11.9%	10.8%	45.6%	47.1%	48.2%
IE	3	3.2%	1.4%	1.0%	1.6%	2.1%	2.1%	32.7%	21.8%	24.2%	7.5%	9.7%	5.6%	39.2%	46.1%	44.4%
IT	3	2.8%	2.1%	1.8%	2.5%	2.4%	2.6%	21.0%	19.0%	16.1%	5.0%	6.1%	6.3%	48.7%	49.8%	51.0%
MT	3	2.3%	2.4%	2.0%	2.0%	2.0%	2.5%	22.4%	15.8%	13.3%	4.1%	4.0%	3.9%	48.7%	48.4%	47.5%
PT	3	3.8%	2.5%	2.5%	2.9%	3.5%	3.3%	17.1%	14.6%	13.4%	7.6%	6.8%	6.1%	44.7%	48.4%	48.5%
UK	3	1.0%	0.9%	1.0%	4.6%	4.7%	4.3%	17.2%	12.1%	10.9%	5.3%	6.0%	5.8%	50.3%	54.3%	55.4%
BG	4	13.7%	6.3%	5.2%	7.7%	7.0%	6.4%	17.8%	19.7%	17.6%	4.6%	8.2%	9.1%	40.9%	43.9%	46.1%
CZ	4	3.9%	2.5%	2.3%	4.8%	5.5%	6.8%	26.8%	26.5%	23.6%	6.5%	6.4%	7.4%	42.1%	42.4%	42.5%
EE	4	4.8%	3.2%	2.6%	4.3%	4.0%	5.2%	17.7%	16.7%	14.3%	5.6%	9.5%	7.0%	50.7%	50.5%	50.2%
HU	4	5.4%	4.0%	3.3%	3.7%	3.0%	3.6%	23.0%	22.2%	21.3%	5.0%	4.6%	4.4%	41.0%	43.8%	44.5%
LT	4	6.3%	3.9%	3.4%	4.4%	3.8%	4.2%	19.3%	18.6%	16.4%	6.0%	10.2%	6.4%	42.7%	47.1%	48.6%
LV	4	4.6%	3.6%	3.3%	3.7%	2.9%	4.1%	13.7%	11.4%	9.9%	6.2%	9.0%	6.6%	50.9%	54.1%	54.1%
PL	4	5.0%	4.3%	3.6%	5.5%	5.6%	5.9%	18.5%	18.9%	18.6%	7.7%	7.1%	7.3%	45.3%	45.5%	45.2%
RO	4	12.1%	6.5%	7.1%	5.6%	3.9%	3.6%	23.4%	23.6%	23.6%	5.4%	10.3%	11.0%	40.2%	41.1%	39.3%
SI	4	3.3%	2.5%	2.4%	3.3%	3.3%	3.6%	25.8%	23.4%	19.6%	6.7%	7.9%	7.9%	40.8%	44.3%	45.3%
SK	4	4.5%	4.1%	3.9%	4.5%	6.4%	6.1%	24.7%	23.8%	19.6%	7.0%	8.2%	9.5%	42.3%	41.7%	43.5%
GROUP	1	1.6%	1.3%	1.1%	2.4%	3.1%	3.5%	21.7%	21.6%	17.7%	5.3%	4.6%	4.9%	46.3%	47.1%	48.3%
GROUP	2	2.7%	2.0%	1.6%	2.1%	2.2%	2.1%	17.1%	13.8%	11.6%	5.2%	6.1%	6.2%	48.7%	51.2%	51.9%
GROUP	3	2.5%	1.8%	1.8%	3.4%	3.3%	3.2%	18.8%	15.0%	13.4%	5.9%	7.4%	7.0%	48.5%	51.1%	51.6%
GROUP	4	5.8%	4.2%	3.9%	5.0%	4.9%	5.3%	21.3%	21.5%	20.1%	6.7%	7.5%	7.8%	43.4%	44.2%	44.1%
EU 27	-	2.4%	1.9%	1.7%	2.9%	3.1%	3.2%	19.5%	17.1%	14.8%	5.6%	6.3%	6.3%	47.6%	49.5%	50.2%

Table B.2: Value Added Shares, Industries

	G	DOMESTIC					EXPORT				
		2000	2007	2009	00-07	07-09	2000	2007	2009	00-07	07-09
AT	1	12.0%	11.2%	10.3%	-0.7%	-0.9%	8.6%	9.2%	8.3%	0.6%	-0.9%
DE	1	10.2%	9.5%	7.7%	-0.7%	-1.8%	12.7%	14.2%	11.4%	1.5%	-2.8%
NL	1	9.2%	8.5%	8.2%	-0.7%	-0.4%	6.3%	5.6%	4.4%	-0.8%	-1.1%
SE	1	10.9%	9.4%	7.5%	-1.4%	-1.9%	11.1%	10.2%	8.0%	-0.9%	-2.2%
BE	2	9.9%	9.2%	7.8%	-0.7%	-1.4%	9.4%	7.1%	6.2%	-2.2%	-0.9%
DK	2	9.1%	7.5%	6.6%	-1.6%	-1.0%	7.1%	6.6%	6.6%	-0.5%	0.1%
FI	2	14.4%	12.4%	9.7%	-2.0%	-2.7%	12.1%	11.8%	8.5%	-0.2%	-3.4%
FR	2	8.4%	6.9%	5.7%	-1.5%	-1.2%	7.6%	5.6%	4.9%	-2.0%	-0.7%
LU	2	8.6%	7.0%	4.9%	-1.6%	-2.1%	2.7%	2.1%	1.5%	-0.6%	-0.6%
CY	3	8.0%	6.3%	5.8%	-1.7%	-0.5%	1.9%	1.1%	1.1%	-0.7%	-0.1%
EL	3	7.6%	6.6%	7.7%	-1.0%	1.2%	3.5%	2.6%	2.6%	-0.9%	0.0%
ES	3	11.0%	9.2%	7.9%	-1.8%	-1.3%	7.6%	5.7%	4.8%	-1.9%	-0.9%
IE	3	12.0%	9.3%	9.2%	-2.7%	-0.1%	20.7%	12.6%	15.0%	-8.1%	2.4%
IT	3	10.7%	10.0%	8.2%	-0.7%	-1.7%	10.2%	9.0%	7.9%	-1.2%	-1.1%
MT	3	9.6%	7.5%	6.6%	-2.1%	-0.9%	12.8%	8.3%	6.7%	-4.5%	-1.6%
PT	3	9.5%	8.4%	7.8%	-1.1%	-0.7%	7.6%	6.1%	5.6%	-1.5%	-0.5%
UK	3	9.2%	6.9%	6.2%	-2.3%	-0.7%	8.0%	5.2%	4.7%	-2.8%	-0.5%
BG	4	10.4%	12.0%	10.7%	1.5%	-1.3%	7.4%	7.7%	6.9%	0.3%	-0.8%
CZ	4	14.9%	14.3%	12.4%	-0.7%	-1.8%	11.9%	12.3%	11.1%	0.4%	-1.2%
EE	4	11.3%	11.4%	9.4%	0.1%	-2.0%	6.3%	5.3%	5.0%	-1.0%	-0.4%
HU	4	10.8%	10.0%	9.5%	-0.8%	-0.4%	12.2%	12.2%	11.8%	0.0%	-0.4%
LT	4	11.9%	12.6%	11.2%	0.7%	-1.3%	7.5%	6.0%	5.1%	-1.4%	-0.9%
LV	4	10.3%	8.5%	7.5%	-1.7%	-1.1%	3.5%	2.8%	2.5%	-0.6%	-0.4%
PL	4	11.6%	12.0%	11.8%	0.4%	-0.2%	6.9%	6.9%	6.8%	0.0%	-0.1%
RO	4	15.3%	14.8%	15.0%	-0.6%	0.2%	8.1%	8.8%	8.6%	0.8%	-0.2%
SI	4	14.1%	12.2%	10.0%	-1.9%	-2.2%	11.7%	11.2%	9.6%	-0.5%	-1.6%
SK	4	14.4%	14.3%	11.5%	-0.2%	-2.7%	10.2%	9.6%	8.0%	-0.6%	-1.6%
GROUP	1	10.3%	9.5%	8.0%	-0.7%	-1.5%	11.4%	12.1%	9.8%	0.7%	-2.4%
GROUP	2	9.1%	7.6%	6.3%	-1.5%	-1.3%	8.0%	6.2%	5.4%	-1.8%	-0.8%
GROUP	3	10.0%	8.4%	7.5%	-1.6%	-0.9%	8.8%	6.6%	6.0%	-2.2%	-0.6%
GROUP	4	12.6%	12.6%	11.8%	0.0%	-0.8%	8.7%	8.9%	8.3%	0.1%	-0.5%
EU 27	-	10.0%	8.8%	7.7%	-1.2%	-1.2%	9.5%	8.3%	7.1%	-1.2%	-1.1%

Table B.3: Relative Value Added Shares, Sectors

	G	Agriculture & Fishing			Mining & Energy			Manufacturing			Construction			Service		
		2000	2007	2009	2000	2007	2009	2000	2007	2009	2000	2007	2009	2000	2007	2009
AT	1	0.86	0.95	0.91	0.95	0.87	1.00	1.06	1.19	1.26	1.34	1.10	1.17	0.97	0.97	0.94
DE	1	0.53	0.52	0.48	0.74	0.85	0.96	1.18	1.39	1.29	0.92	0.64	0.69	0.96	0.94	0.97
NL	1	1.11	1.12	1.03	1.32	1.61	1.65	0.80	0.82	0.85	1.00	0.88	0.96	1.06	1.01	0.97
SE	1	0.87	0.92	1.05	0.89	1.04	1.22	1.13	1.15	1.05	0.76	0.84	0.84	0.95	0.92	0.93
BE	2	0.58	0.48	0.40	0.97	0.70	0.72	0.99	0.95	0.95	0.89	0.83	0.86	1.03	1.05	1.04
DK	2	1.10	0.63	0.55	1.79	1.88	1.38	0.83	0.82	0.89	0.98	0.90	0.79	0.93	0.95	0.93
FI	2	1.47	1.62	1.58	0.68	0.84	0.95	1.36	1.42	1.23	1.11	1.10	1.12	0.86	0.85	0.89
FR	2	1.19	1.19	1.04	0.60	0.57	0.56	0.82	0.73	0.72	0.92	1.00	1.03	1.04	1.05	1.05
LU	2	0.29	0.21	0.18	0.46	0.47	0.41	0.58	0.53	0.44	1.02	0.88	0.85	1.38	1.38	1.39
CY	3	1.51	1.17	1.35	0.82	0.78	0.73	0.51	0.43	0.46	1.22	1.43	1.31	1.15	1.12	1.09
EL	3	2.77	1.85	1.87	0.97	0.98	0.94	0.57	0.54	0.70	1.26	1.03	0.71	1.07	1.09	1.05
ES	3	1.84	1.55	1.58	0.80	0.76	0.83	0.96	0.87	0.86	1.49	1.88	1.72	0.96	0.95	0.96
IE	3	1.35	0.77	0.58	0.54	0.68	0.65	1.68	1.28	1.64	1.33	1.54	0.89	0.82	0.93	0.88
IT	3	1.17	1.11	1.09	0.86	0.78	0.83	1.08	1.11	1.09	0.89	0.97	1.00	1.02	1.01	1.02
MT	3	0.99	1.28	1.22	0.71	0.63	0.77	1.15	0.92	0.90	0.73	0.63	0.62	1.02	0.98	0.95
PT	3	1.59	1.32	1.46	1.00	1.12	1.02	0.88	0.85	0.91	1.36	1.08	0.97	0.94	0.98	0.97
UK	3	0.42	0.49	0.57	1.62	1.49	1.33	0.89	0.71	0.74	0.94	0.95	0.92	1.06	1.10	1.10
BG	4	5.77	3.41	3.07	2.68	2.24	1.99	0.92	1.15	1.19	0.83	1.30	1.45	0.86	0.89	0.92
CZ	4	1.63	1.33	1.35	1.67	1.75	2.12	1.38	1.55	1.59	1.15	1.02	1.18	0.88	0.86	0.85
EE	4	2.02	1.71	1.54	1.51	1.27	1.62	0.91	0.98	0.97	0.99	1.50	1.11	1.06	1.02	1.00
HU	4	2.27	2.14	1.97	1.28	0.95	1.14	1.18	1.30	1.44	0.89	0.73	0.71	0.86	0.89	0.89
LT	4	2.67	2.12	2.00	1.54	1.21	1.30	0.99	1.09	1.11	1.07	1.62	1.02	0.90	0.95	0.97
LV	4	1.93	1.93	1.96	1.28	0.91	1.28	0.71	0.67	0.67	1.10	1.43	1.06	1.07	1.09	1.08
PL	4	2.08	2.33	2.17	1.90	1.78	1.83	0.95	1.11	1.26	1.38	1.13	1.17	0.95	0.92	0.90
RO	4	5.06	3.51	4.22	1.95	1.23	1.12	1.20	1.38	1.60	0.96	1.63	1.76	0.84	0.83	0.78
SI	4	1.39	1.35	1.46	1.14	1.04	1.14	1.33	1.37	1.32	1.20	1.25	1.26	0.86	0.90	0.90
SK	4	1.88	2.18	2.34	1.56	2.04	1.91	1.27	1.39	1.32	1.26	1.30	1.52	0.89	0.84	0.87
GROUP	1	0.66	0.68	0.65	0.85	0.99	1.09	1.11	1.26	1.20	0.95	0.73	0.78	0.97	0.95	0.96
GROUP	2	1.11	1.07	0.94	0.75	0.71	0.67	0.88	0.81	0.79	0.93	0.97	0.99	1.02	1.03	1.03
GROUP	3	1.04	0.98	1.06	1.17	1.07	1.00	0.97	0.88	0.91	1.05	1.17	1.12	1.02	1.03	1.03
GROUP	4	2.41	2.28	2.30	1.74	1.55	1.66	1.10	1.26	1.36	1.19	1.19	1.24	0.91	0.89	0.88
EU 27	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Table B.4: Relative Value Added Shares, Industries

	G	DOMESTIC					EXPORT				
		2000	2007	2009	00-07	07-09	2000	2007	2009	00-07	07-09
AT	1	1.20	1.27	1.35	7.6%	7.5%	0.91	1.11	1.16	20.2%	5.2%
DE	1	1.02	1.08	1.01	6.0%	-7.4%	1.35	1.72	1.60	37.5%	-12.2%
NL	1	0.92	0.97	1.07	4.4%	9.9%	0.67	0.67	0.62	0.4%	-5.3%
SE	1	1.09	1.07	0.98	-1.8%	-8.9%	1.18	1.23	1.13	5.7%	-10.7%
BE	2	0.99	1.04	1.02	4.7%	-1.9%	0.99	0.86	0.87	-12.7%	0.6%
DK	2	0.91	0.85	0.86	-5.8%	0.3%	0.75	0.79	0.93	4.5%	13.6%
FI	2	1.44	1.40	1.26	-3.7%	-13.8%	1.28	1.43	1.19	15.6%	-24.3%
FR	2	0.84	0.78	0.75	-6.2%	-3.5%	0.80	0.67	0.68	-12.9%	1.3%
LU	2	0.86	0.79	0.64	-6.8%	-15.1%	0.28	0.26	0.21	-2.8%	-4.1%
CY	3	0.80	0.71	0.76	-8.9%	4.4%	0.20	0.14	0.15	-6.1%	1.0%
EL	3	0.76	0.75	1.01	-1.3%	26.5%	0.37	0.32	0.36	-5.8%	4.6%
ES	3	1.10	1.05	1.03	-5.5%	-1.5%	0.80	0.69	0.67	-11.1%	-2.1%
IE	3	1.20	1.05	1.20	-15.2%	15.1%	2.18	1.52	2.10	-66.6%	58.3%
IT	3	1.07	1.13	1.08	6.0%	-5.5%	1.08	1.09	1.11	0.7%	1.8%
MT	3	0.96	0.85	0.86	-11.5%	1.5%	1.35	1.01	0.94	-34.4%	-6.8%
PT	3	0.95	0.96	1.02	0.4%	5.9%	0.80	0.74	0.79	-6.0%	5.0%
UK	3	0.92	0.78	0.81	-14.0%	2.8%	0.85	0.63	0.66	-21.9%	2.7%
BG	4	1.04	1.36	1.40	31.2%	4.1%	0.78	0.93	0.97	15.3%	3.4%
CZ	4	1.49	1.62	1.62	12.3%	0.9%	1.26	1.49	1.56	22.8%	7.4%
EE	4	1.13	1.29	1.22	15.7%	-6.9%	0.67	0.64	0.70	-2.3%	5.2%
HU	4	1.08	1.13	1.25	5.4%	11.5%	1.29	1.48	1.66	18.8%	18.0%
LT	4	1.19	1.42	1.47	23.7%	4.3%	0.79	0.73	0.72	-6.1%	-0.7%
LV	4	1.03	0.97	0.98	-5.8%	0.9%	0.37	0.34	0.35	-2.4%	0.2%
PL	4	1.16	1.36	1.54	19.6%	18.0%	0.73	0.84	0.95	11.0%	11.7%
RO	4	1.53	1.67	1.96	14.0%	28.6%	0.85	1.07	1.21	21.4%	14.0%
SI	4	1.41	1.39	1.31	-2.6%	-7.5%	1.24	1.35	1.34	11.5%	-1.4%
SK	4	1.44	1.61	1.51	17.0%	-10.8%	1.08	1.16	1.13	7.8%	-3.3%
GROUP	1	1.03	1.08	1.04	5.1%	-3.6%	1.20	1.46	1.37	26.0%	-9.7%
GROUP	2	0.91	0.86	0.82	-4.5%	-4.0%	0.84	0.75	0.75	-9.5%	0.2%
GROUP	3	1.00	0.95	0.97	-5.1%	2.5%	0.93	0.80	0.84	-13.4%	4.3%
GROUP	4	1.26	1.43	1.54	16.9%	11.7%	0.92	1.07	1.17	14.7%	9.6%
EU 27	-	1.00	1.00	1.00	0.0%	0.0%	1.00	1.00	1.00	0.0%	0.0%

Table B.5: Value Added Growth, Sectors

	G	Manufacturing					Construction					Service				
		2000	2007	2009	00-07	07-09	2000	2007	2009	00-07	07-09	2000	2007	2009	00-07	07-09
SE	1	56.76	102.68	88.06	8.8%	-7.4%	8.14	9.98	8.88	3.0%	-5.7%	88.38	112.04	108.58	3.4%	-1.6%
AT	1	38.64	49.49	46.39	3.6%	-3.2%	13.43	14.20	13.50	0.8%	-2.5%	88.55	107.35	107.82	2.8%	0.2%
DE	1	435.54	521.72	412.24	2.6%	-11.1%	101.82	80.10	77.90	-3.4%	-1.4%	899.34	1036.46	1043.90	2.0%	0.4%
NL	1	59.57	68.79	63.34	2.1%	-4.0%	17.90	18.26	18.35	0.3%	0.3%	179.00	217.67	210.79	2.8%	-1.6%
FI	2	33.51	54.18	42.11	7.1%	-11.8%	5.30	6.23	5.74	2.3%	-4.0%	43.30	54.67	50.91	3.4%	-3.5%
LU	2	2.48	2.72	2.16	1.3%	-10.8%	1.11	1.53	1.39	4.7%	-4.6%	11.94	17.04	17.43	5.2%	1.1%
FR	2	217.44	237.11	207.34	1.2%	-6.5%	60.25	67.95	64.97	1.7%	-2.2%	614.30	759.82	760.95	3.1%	0.1%
DK	2	22.38	23.84	21.74	0.9%	-4.5%	6.76	6.88	5.65	0.3%	-9.4%	65.50	82.63	75.24	3.4%	-4.6%
BE	2	46.84	48.84	43.99	0.6%	-5.1%	11.06	13.24	12.78	2.6%	-1.8%	106.98	129.08	127.80	2.7%	-0.5%
IE	3	23.86	32.18	33.16	4.4%	1.5%	4.24	5.94	3.68	4.9%	-21.3%	26.87	42.81	39.73	6.9%	-3.7%
EL	3	12.24	13.34	14.72	1.2%	5.1%	6.78	9.95	7.45	5.6%	-13.5%	54.05	81.19	79.60	6.0%	-1.0%
ES	3	100.46	108.94	91.60	1.2%	-8.3%	40.13	57.34	52.94	5.2%	-3.9%	223.89	296.76	293.20	4.1%	-0.6%
PT	3	16.98	17.59	15.94	0.5%	-4.8%	5.99	5.40	4.62	-1.5%	-7.5%	42.05	50.70	50.87	2.7%	0.2%
UK	3	179.31	183.02	158.75	0.3%	-6.9%	42.89	48.67	43.14	1.8%	-5.8%	485.86	656.37	629.00	4.4%	-2.1%
IT	3	183.02	186.06	149.31	0.2%	-10.4%	43.40	50.86	46.33	2.3%	-4.6%	408.09	454.34	433.66	1.5%	-2.3%
CY	3	0.76	0.77	0.75	0.2%	-1.4%	0.50	0.74	0.70	5.7%	-2.2%	4.57	6.64	6.60	5.5%	-0.3%
MT	3	0.68	0.55	0.48	-3.0%	-7.0%	0.12	0.14	0.14	1.4%	0.0%	1.46	1.66	1.68	1.9%	0.4%
SK	4	4.09	10.27	9.07	14.1%	-6.1%	0.85	1.25	1.41	5.7%	5.9%	6.31	8.93	9.28	5.1%	1.9%
LT	4	1.20	2.38	1.99	10.3%	-8.5%	0.30	0.78	0.45	14.4%	-24.4%	2.27	4.18	3.65	9.1%	-6.5%
EE	4	0.78	1.53	1.11	10.1%	-15.0%	0.25	0.53	0.34	11.1%	-19.5%	1.66	3.24	2.52	10.0%	-11.8%
BG	4	1.45	2.54	2.81	8.3%	5.2%	0.38	0.47	0.45	2.8%	-1.5%	3.86	6.24	7.10	7.1%	6.7%
PL	4	29.20	49.89	55.17	8.0%	5.2%	8.10	8.99	10.33	1.5%	7.2%	49.22	66.50	69.06	4.4%	1.9%
CZ	4	12.06	20.46	19.09	7.8%	-3.4%	2.01	2.25	2.32	1.6%	1.7%	17.56	26.21	25.61	5.9%	-1.1%
HU	4	10.67	17.89	15.09	7.7%	-8.2%	1.72	1.99	1.67	2.1%	-8.3%	13.20	17.48	16.43	4.1%	-3.1%
LV	4	0.87	1.33	0.97	6.2%	-14.6%	0.23	0.60	0.38	14.3%	-20.5%	1.88	3.84	3.11	10.7%	-10.0%
RO	4	6.93	10.55	10.55	6.2%	0.0%	1.46	3.79	4.14	14.6%	4.6%	9.86	17.20	17.08	8.3%	-0.4%
SI	4	4.60	6.79	5.66	5.7%	-8.7%	1.06	1.60	1.43	6.0%	-5.6%	6.79	9.87	9.87	5.5%	0.0%
GROUP	1	590.51	742.68	610.03	3.3%	-9.4%	141.29	122.54	118.63	-2.0%	-1.6%	1255.27	1473.52	1471.08	2.3%	-0.1%
GROUP	2	322.66	366.69	317.33	1.8%	-7.0%	84.48	95.83	90.53	1.8%	-2.8%	842.01	1043.24	1032.32	3.1%	-0.5%
GROUP	3	517.31	542.44	464.70	0.7%	-7.4%	144.06	179.04	159.00	3.2%	-5.8%	1246.85	1590.48	1534.34	3.5%	-1.8%
GROUP	4	71.85	123.63	121.51	8.1%	-0.9%	16.37	22.24	22.92	4.5%	1.5%	112.61	163.68	163.71	5.5%	0.0%
EU 27	-	1502.33	1775.45	1513.57	2.4%	-7.7%	386.19	419.65	391.08	1.2%	-3.5%	3456.74	4270.91	4201.46	3.1%	-0.8%

Table B.6: Value Added Growth, Industries

	G	DOMESTIC					EXPORT				
		2000	2007	2009	00-07	07-09	2000	2007	2009	00-07	07-09
AT	1	22.48	26.72	26.41	2.5%	-0.6%	16.17	22.77	19.98	5.0%	-6.3%
DE	1	190.87	191.80	151.17	0.1%	-11.2%	244.67	329.91	261.07	4.4%	-11.0%
NL	1	33.34	36.68	35.51	1.4%	-1.6%	26.23	32.11	27.83	2.9%	-6.9%
SE	1	22.76	26.16	22.79	2.0%	-6.7%	34.00	76.52	65.27	12.3%	-7.6%
BE	2	21.89	24.99	22.90	1.9%	-4.3%	24.95	23.85	21.08	-0.6%	-6.0%
DK	2	12.25	11.88	9.25	-0.4%	-11.7%	10.13	11.96	12.48	2.4%	2.2%
FI	2	17.37	21.97	17.08	3.4%	-11.8%	16.14	32.21	25.03	10.4%	-11.9%
FR	2	111.66	117.74	103.48	0.8%	-6.3%	105.78	119.37	103.86	1.7%	-6.7%
LU	2	1.87	1.79	1.44	-0.6%	-10.4%	0.61	0.92	0.72	6.0%	-11.7%
CY	3	0.56	0.61	0.59	1.0%	-1.6%	0.19	0.16	0.16	-2.6%	-0.7%
EL	3	7.89	8.58	9.00	1.2%	2.4%	4.36	4.76	5.72	1.3%	9.7%
ES	3	59.07	65.54	55.39	1.5%	-8.1%	41.39	43.40	36.21	0.7%	-8.7%
IE	3	8.78	13.68	12.63	6.5%	-3.9%	15.08	18.50	20.54	3.0%	5.3%
IT	3	95.24	97.81	78.23	0.4%	-10.6%	87.78	88.25	71.07	0.1%	-10.3%
MT	3	0.29	0.26	0.24	-1.7%	-4.7%	0.39	0.29	0.24	-4.1%	-9.1%
PT	3	8.82	9.63	8.72	1.3%	-4.8%	8.16	7.97	7.22	-0.3%	-4.8%
UK	3	88.93	92.81	80.51	0.6%	-6.9%	90.37	90.20	78.24	0.0%	-6.9%
BG	4	0.73	1.12	1.24	6.3%	5.3%	0.72	1.43	1.58	10.2%	5.0%
CZ	4	6.83	9.21	8.68	4.3%	-2.9%	5.22	11.25	10.41	11.6%	-3.8%
EE	4	0.51	1.00	0.72	10.1%	-15.5%	0.27	0.53	0.39	10.2%	-14.1%
HU	4	3.84	4.97	4.04	3.7%	-9.8%	6.83	12.93	11.05	9.5%	-7.5%
LT	4	0.73	1.57	1.35	11.4%	-7.1%	0.47	0.81	0.64	8.3%	-11.3%
LV	4	0.65	1.00	0.73	6.3%	-14.5%	0.22	0.33	0.24	6.0%	-14.9%
PL	4	18.35	31.65	35.00	8.1%	5.2%	10.85	18.24	20.18	7.7%	5.2%
RO	4	4.39	7.02	7.12	6.9%	0.8%	2.54	3.53	3.43	4.8%	-1.5%
SI	4	2.37	3.32	2.67	5.0%	-10.3%	2.24	3.47	2.99	6.5%	-7.2%
SK	4	2.36	5.49	4.78	12.8%	-6.7%	1.73	4.78	4.28	15.6%	-5.4%
GROUP	1	269.44	281.36	235.88	0.6%	-8.4%	321.07	461.32	374.15	5.3%	-9.9%
GROUP	2	165.04	178.38	154.16	1.1%	-7.0%	157.62	188.31	163.18	2.6%	-6.9%
GROUP	3	269.58	288.92	245.30	1.0%	-7.9%	247.72	253.52	219.40	0.3%	-7.0%
GROUP	4	40.76	66.33	66.33	7.2%	0.0%	31.09	57.30	55.18	9.1%	-1.9%
EU 27	-	744.83	814.98	701.66	1.3%	-7.2%	757.50	960.46	811.90	3.4%	-8.1%

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Table B.7: Productivity Growth, Sectors

	G	Manufacturing					Construction					Service				
		2000	2007	2009	00-07	07-09	2000	2007	2009	00-07	07-09	2000	2007	2009	00-07	07-09
AT	1	34.38	44.17	44.64	3.6%	0.5%	27.27	29.40	27.76	1.1%	-2.8%	34.04	37.25	37.82	1.3%	0.8%
DE	1	36.18	47.52	41.40	4.0%	-6.7%	22.35	21.77	21.33	-0.4%	-1.0%	39.08	43.36	43.85	1.5%	0.6%
NL	1	36.44	47.50	45.66	3.9%	-2.0%	21.69	22.38	22.46	0.4%	0.2%	32.23	37.60	37.21	2.2%	-0.5%
SE	1	40.91	81.54	79.04	10.4%	-1.5%	19.30	19.92	17.66	0.5%	-5.8%	34.78	41.51	39.86	2.6%	-2.0%
BE	2	44.80	52.76	52.53	2.4%	-0.2%	29.67	35.12	33.80	2.4%	-1.9%	41.80	45.57	45.29	1.2%	-0.3%
DK	2	30.66	38.64	39.09	3.4%	0.6%	23.26	21.04	19.52	-1.4%	-3.7%	39.36	44.68	41.07	1.8%	-4.1%
FI	2	44.63	75.86	68.17	7.9%	-5.2%	15.65	16.00	16.12	0.3%	0.4%	30.96	35.11	33.12	1.8%	-2.9%
FR	2	37.49	47.48	42.54	3.4%	-5.3%	23.40	22.57	21.16	-0.5%	-3.2%	40.89	46.61	46.81	1.9%	0.2%
LU	2	43.69	44.88	36.03	0.4%	-10.4%	24.90	24.17	21.24	-0.4%	-6.3%	51.61	57.99	55.35	1.7%	-2.3%
CY	3	10.54	10.92	10.84	0.5%	-0.4%	10.28	10.35	10.32	0.1%	-0.2%	16.65	20.33	20.72	2.9%	1.0%
EL	3	11.42	11.24	13.75	-0.2%	10.6%	10.60	11.86	9.58	1.6%	-10.1%	14.02	17.58	18.43	3.3%	2.4%
ES	3	19.45	22.03	21.52	1.8%	-1.2%	12.46	11.96	15.71	-0.6%	14.6%	19.97	21.37	21.48	1.0%	0.3%
IE	3	39.57	58.75	72.73	5.8%	11.3%	11.58	10.34	11.66	-1.6%	6.2%	21.13	27.44	27.73	3.8%	0.5%
IT	3	20.54	20.97	19.05	0.3%	-4.7%	15.37	14.12	13.46	-1.2%	-2.3%	23.18	23.17	22.66	0.0%	-1.1%
MT	3	11.71	11.84	11.90	0.2%	0.3%	6.04	6.27	6.63	0.5%	2.8%	12.56	12.47	12.20	-0.1%	-1.1%
PT	3	9.02	11.10	10.58	3.0%	-2.4%	5.32	5.25	5.01	-0.2%	-2.3%	13.24	13.46	13.47	0.2%	0.0%
UK	3	26.93	37.29	36.48	4.8%	-1.1%	14.44	14.08	13.58	-0.4%	-1.8%	21.69	27.24	26.90	3.3%	-0.6%
BG	4	1.31	2.07	2.47	6.7%	9.3%	1.70	1.07	0.94	-6.4%	-6.3%	2.57	3.17	3.40	3.0%	3.6%
CZ	4	4.42	7.50	7.33	7.9%	-1.1%	2.09	2.23	2.17	0.9%	-1.5%	4.66	6.69	6.34	5.3%	-2.6%
EE	4	3.20	5.85	5.50	9.0%	-3.0%	3.14	3.14	3.34	0.0%	3.2%	4.05	7.24	6.47	8.7%	-5.4%
HU	4	5.26	9.65	9.01	9.0%	-3.4%	3.05	2.85	2.77	-1.0%	-1.3%	4.77	5.96	5.82	3.2%	-1.2%
LT	4	2.48	4.55	4.56	9.1%	0.1%	1.87	2.42	1.91	3.8%	-11.1%	3.07	4.31	3.78	5.0%	-6.4%
LV	4	3.27	4.65	4.55	5.2%	-1.0%	2.99	3.45	4.06	2.0%	8.5%	3.08	5.02	4.51	7.2%	-5.2%
PL	4	5.74	8.76	10.57	6.2%	9.9%	4.83	4.64	4.59	-0.5%	-0.6%	5.98	7.45	7.46	3.2%	0.1%
RO	4	1.86	2.80	2.88	6.0%	1.5%	1.88	2.88	2.75	6.3%	-2.3%	2.78	4.10	3.77	5.7%	-4.1%
SI	4	10.15	15.84	14.63	6.6%	-3.9%	8.36	10.18	8.28	2.9%	-9.8%	13.19	16.03	15.23	2.8%	-2.5%
SK	4	4.53	11.16	11.22	13.7%	0.3%	3.57	3.87	4.11	1.2%	3.0%	4.99	5.70	6.12	1.9%	3.6%
GROUP	1	36.49	50.15	45.19	4.6%	-5.1%	22.44	22.36	21.73	-0.1%	-1.4%	37.24	41.78	41.97	1.7%	0.2%
GROUP	2	38.49	50.16	45.69	3.9%	-4.6%	23.33	23.00	21.76	-0.2%	-2.7%	40.33	45.68	45.36	1.8%	-0.4%
GROUP	3	21.18	24.47	23.72	2.1%	-1.5%	12.84	12.44	13.15	-0.5%	2.8%	20.81	23.39	23.19	1.7%	-0.4%
GROUP	4	4.22	6.99	7.44	7.5%	3.2%	3.35	3.40	3.34	0.2%	-0.9%	4.82	6.22	6.08	3.7%	-1.2%
EU 27	-	22.76	28.65	26.85	3.3%	-3.2%	14.84	13.72	13.69	-1.1%	-0.1%	25.08	28.02	27.84	1.6%	-0.3%

Table B.8: Productivity Growth, Industries

	G	DOMESTIC					EXPORT				
		2000	2007	2009	00-07	07-09	2000	2007	2009	00-07	07-09
AT	1	33.21	39.97	42.86	2.7%	3.5%	36.14	50.38	47.24	4.9%	-3.2%
DE	1	30.63	34.22	30.22	1.6%	-6.0%	42.13	61.38	52.68	5.5%	-7.4%
NL	1	31.51	39.01	39.52	3.1%	0.6%	45.47	63.20	56.95	4.8%	-5.1%
SE	1	30.27	38.52	37.61	3.5%	-1.2%	53.49	131.88	128.45	13.8%	-1.3%
BE	2	37.99	46.64	46.48	3.0%	-0.2%	53.15	61.19	61.18	2.0%	0.0%
DK	2	27.72	32.78	29.27	2.4%	-5.5%	35.18	46.97	52.01	4.2%	5.2%
FI	2	40.43	54.26	49.51	4.3%	-4.5%	50.26	104.12	91.77	11.0%	-6.1%
FR	2	32.93	38.82	34.86	2.4%	-5.2%	43.93	60.89	54.51	4.8%	-5.4%
LU	2	41.54	39.48	31.83	-0.7%	-10.2%	51.86	61.18	49.00	2.4%	-10.5%
CY	3	10.38	10.43	10.24	0.1%	-0.9%	11.06	13.28	13.85	2.6%	2.1%
EL	3	11.72	11.00	12.45	-0.9%	6.4%	10.92	11.72	16.46	1.0%	18.5%
ES	3	19.30	21.10	20.76	1.3%	-0.8%	19.67	23.60	22.81	2.6%	-1.7%
IE	3	27.73	45.65	50.24	7.4%	4.9%	52.64	74.57	100.36	5.1%	16.0%
IT	3	20.25	20.38	18.41	0.1%	-4.9%	20.86	21.66	19.79	0.5%	-4.4%
MT	3	11.73	11.83	11.91	0.1%	0.3%	11.69	11.84	11.90	0.2%	0.3%
PT	3	9.33	10.98	10.46	2.4%	-2.4%	8.72	11.26	10.72	3.7%	-2.4%
UK	3	25.38	34.09	33.34	4.3%	-1.1%	28.66	41.28	40.38	5.4%	-1.1%
BG	4	1.37	1.79	2.09	3.9%	8.0%	1.26	2.35	2.88	9.3%	10.7%
CZ	4	4.56	6.13	6.04	4.3%	-0.8%	4.23	9.17	8.92	11.7%	-1.4%
EE	4	3.39	6.04	5.67	8.6%	-3.1%	2.90	5.52	5.22	9.6%	-2.8%
HU	4	3.85	5.41	4.87	5.0%	-5.1%	6.63	13.80	13.05	11.0%	-2.8%
LT	4	2.70	4.61	4.74	7.9%	1.4%	2.19	4.45	4.23	10.6%	-2.5%
LV	4	3.56	4.90	4.79	4.7%	-1.2%	2.64	4.02	3.96	6.2%	-0.8%
PL	4	6.00	8.82	10.44	5.7%	8.8%	5.34	8.66	10.81	7.2%	11.8%
RO	4	2.55	4.05	4.12	6.8%	0.8%	1.28	1.73	1.78	4.5%	1.3%
SI	4	9.77	13.94	12.29	5.2%	-6.1%	10.57	18.22	17.61	8.1%	-1.7%
SK	4	4.85	11.24	10.96	12.8%	-1.3%	4.16	11.06	11.52	15.0%	2.1%
GROUP	1	30.91	35.65	33.12	2.1%	-3.6%	43.00	66.71	58.68	6.5%	-6.2%
GROUP	2	33.79	40.71	36.99	2.7%	-4.7%	45.05	64.28	58.75	5.2%	-4.4%
GROUP	3	20.29	22.81	21.87	1.7%	-2.1%	22.24	26.70	26.20	2.6%	-0.9%
GROUP	4	4.46	6.77	7.24	6.1%	3.4%	3.95	7.25	7.68	9.1%	2.9%
EU 27	-	20.67	23.46	22.16	1.8%	-2.8%	25.27	35.26	32.86	4.9%	-3.5%

Table B.9: Productivity-, Wage-, ULC-Growth, Sectors

	G	Manufacturing				Construction				Service			
		Wage 00-07	PROD 00-07	ER 00-07	ULC 00-07	Wage 00-07	PROD 00-07	ER 00-07	ULC 00-07	Wage 00-07	PROD 00-07	ER 00-07	ULC 00-07
AT	1	23%	28%	0%	-4%	15%	8%	0%	7%	18%	9%	0%	8%
DE	1	16%	31%	0%	-12%	8%	-3%	0%	11%	9%	11%	0%	-1%
NL	1	28%	30%	0%	-2%	33%	3%	0%	28%	29%	17%	0%	10%
SE	1	32%	99%	-9%	-40%	33%	3%	-9%	17%	29%	19%	-9%	-2%
BE	2	26%	18%	0%	7%	22%	18%	0%	3%	21%	9%	0%	11%
DK	2	40%	26%	0%	11%	26%	-10%	0%	39%	32%	14%	0%	16%
FI	2	29%	70%	0%	-24%	27%	2%	0%	24%	26%	13%	0%	11%
FR	2	28%	27%	0%	1%	29%	-4%	0%	33%	24%	14%	0%	9%
LU	2	16%	3%	0%	13%	21%	-3%	0%	24%	25%	12%	0%	11%
CY	3	33%	4%	-2%	27%	22%	1%	-2%	19%	42%	22%	-2%	14%
EL	3	40%	-2%	-1%	40%	46%	12%	-1%	29%	36%	25%	-1%	7%
ES	3	36%	13%	0%	20%	42%	-4%	0%	48%	26%	7%	0%	18%
IE	3	41%	48%	0%	-5%	53%	-11%	0%	72%	51%	30%	0%	16%
IT	3	24%	2%	0%	21%	18%	-8%	0%	28%	19%	0%	0%	19%
MT	3	32%	1%	-5%	24%	35%	4%	-5%	23%	30%	-1%	-5%	24%
PT	3	32%	23%	0%	7%	23%	-1%	0%	25%	20%	2%	0%	18%
UK	3	51%	38%	-11%	-3%	58%	-2%	-11%	44%	39%	26%	-11%	-2%
BG	4	63%	58%	0%	3%	41%	-37%	0%	124%	104%	23%	0%	65%
CZ	4	63%	70%	28%	23%	53%	7%	28%	84%	67%	44%	28%	49%
EE	4	126%	83%	0%	23%	176%	0%	0%	176%	149%	79%	0%	39%
HU	4	72%	83%	3%	-3%	47%	-7%	3%	62%	89%	25%	3%	57%
LT	4	88%	84%	7%	10%	132%	29%	7%	92%	115%	40%	7%	64%
LV	4	116%	42%	-20%	21%	341%	15%	-20%	205%	188%	63%	-20%	40%
PL	4	7%	53%	6%	-25%	-5%	-4%	6%	4%	21%	25%	6%	3%
RO	4	394%	50%	-41%	95%	325%	53%	-41%	65%	293%	47%	-41%	58%
SI	4	70%	56%	-15%	-7%	71%	22%	-15%	20%	71%	21%	-15%	20%
SK	4	81%	146%	25%	-7%	68%	8%	25%	94%	59%	14%	25%	74%
GROUP	1	18%	37%	-1%	-15%	16%	0%	-1%	16%	15%	12%	-1%	2%
GROUP	2	29%	30%	0%	-1%	27%	-1%	0%	29%	25%	13%	0%	10%
GROUP	3	33%	16%	-6%	9%	40%	-3%	-5%	37%	30%	12%	-6%	9%
GROUP	4	151%	65%	-34%	1%	139%	2%	-38%	45%	138%	29%	-28%	33%
EU 27	-	37%	26%	-12%	-4%	34%	-8%	-10%	31%	30%	12%	-8%	8%

Table B.10: Productivity-, Wage-, ULC-Growth, Industries

		DOMESTIC				EXPORT			
	G	Wage 00-07	PROD 00-07	ER 00-07	ULC 00-07	Wage 00-07	PROD 00-07	ER 00-07	ULC 00-07
AT	1	32%	29%	0%	2%	39%	31%	0%	7%
DE	1	18%	-1%	0%	20%	28%	25%	0%	2%
NL	1	35%	25%	0%	7%	43%	25%	0%	14%
SE	1	37%	24%	-21%	-13%	41%	140%	-21%	-53%
BE	2	33%	22%	0%	9%	41%	15%	0%	23%
DK	2	42%	6%	0%	34%	53%	48%	0%	4%
FI	2	36%	22%	0%	11%	46%	83%	0%	-20%
FR	2	27%	6%	0%	20%	34%	24%	0%	8%
LU	2	18%	-23%	0%	55%	7%	-6%	0%	14%
CY	3	27%	-1%	-2%	26%	74%	25%	-2%	36%
EL	3	80%	6%	-1%	68%	59%	51%	-1%	4%
ES	3	45%	8%	0%	35%	50%	16%	0%	29%
IE	3	47%	81%	0%	-19%	55%	91%	0%	-19%
IT	3	34%	-9%	0%	47%	36%	-5%	0%	44%
MT	3	58%	2%	-6%	47%	43%	2%	-6%	32%
PT	3	42%	12%	0%	27%	46%	23%	0%	19%
UK	3	70%	31%	-32%	-12%	70%	41%	-32%	-18%
BG	4	66%	53%	0%	8%	102%	129%	0%	-12%
CZ	4	55%	32%	34%	58%	74%	111%	34%	11%
EE	4	161%	67%	0%	55%	134%	80%	0%	30%
HU	4	81%	27%	-7%	32%	80%	97%	-7%	-15%
LT	4	82%	75%	7%	11%	88%	93%	7%	4%
LV	4	139%	35%	-20%	41%	155%	50%	-20%	35%
PL	4	18%	74%	-7%	-37%	38%	103%	-7%	-37%
RO	4	525%	62%	-53%	80%	439%	39%	-53%	81%
SI	4	71%	26%	-15%	16%	93%	67%	-15%	-1%
SK	4	100%	126%	41%	24%	92%	177%	41%	-2%
GROUP	1	23%	7%	-2%	13%	30%	36%	-1%	-6%
GROUP	2	30%	9%	0%	18%	37%	30%	0%	5%
GROUP	3	46%	8%	-14%	16%	48%	18%	-14%	8%
GROUP	4	193%	62%	-45%	-1%	203%	95%	-41%	-8%
EU 27	-	50%	7%	-19%	13%	52%	30%	-16%	-1%

Table B.11: Productivity-, Wage-, ULC-Growth, Sectors

	G	Manufacturing					Construction					Service				
		2000	2007	2009	00-07	07-09	2000	2007	2009	00-07	07-09	2000	2007	2009	00-07	07-09
AT	1	0.85	0.85	0.84	0%	-1%	0.76	0.62	0.69	-14%	6%	0.84	0.85	0.89	1%	5%
DE	1	1.03	0.94	1.06	-8%	12%	0.88	0.74	0.76	-13%	2%	0.80	0.73	0.76	-7%	3%
NL	1	0.83	0.86	0.87	2%	1%	1.09	1.07	1.14	-2%	7%	0.99	1.01	1.08	2%	7%
SE	1	0.77	0.48	0.41	-28%	-7%	1.21	1.08	1.09	-12%	1%	1.04	0.95	0.89	-9%	-6%
BE	2	0.83	0.92	0.91	10%	-1%	0.83	0.66	0.72	-17%	6%	0.93	0.96	1.05	3%	9%
DK	2	1.01	1.17	1.11	16%	-7%	1.14	1.21	1.33	8%	12%	0.89	0.90	1.08	7%	12%
FI	2	0.66	0.53	0.58	-14%	5%	1.29	1.23	1.32	-6%	9%	0.87	0.90	1.06	3%	16%
FR	2	0.84	0.88	0.91	5%	2%	0.82	0.83	0.88	2%	5%	0.86	0.87	0.90	1%	3%
LU	2	0.76	0.89	1.01	13%	12%	0.76	0.72	0.85	-4%	13%	0.77	0.79	0.87	2%	7%
CY	3	0.99	1.30	1.22	32%	-9%	1.03	0.94	0.96	-9%	1%	0.84	0.89	0.92	5%	3%
EL	3	0.88	1.29	1.18	41%	-10%	0.60	0.59	0.61	-1%	2%	0.91	0.91	1.00	0%	9%
ES	3	0.93	1.16	1.17	23%	0%	0.97	1.11	1.00	13%	-11%	1.02	1.12	1.20	10%	7%
IE	3	0.52	0.52	0.41	0%	-11%	1.66	2.19	2.24	52%	5%	1.08	1.17	1.20	9%	3%
IT	3	1.12	1.41	1.54	29%	13%	0.99	0.97	1.10	-2%	12%	1.10	1.22	1.30	12%	8%
MT	3	0.93	1.20	1.23	27%	3%	0.72	0.68	0.67	-4%	-1%	0.82	0.95	1.05	13%	10%
PT	3	0.95	1.06	1.11	11%	5%	1.21	1.16	1.34	-5%	18%	0.92	1.00	1.07	9%	6%
UK	3	1.38	1.40	1.12	2%	-28%	1.57	1.73	1.51	16%	-22%	1.38	1.26	1.05	-12%	-22%
BG	4	1.17	1.26	1.08	9%	-18%	0.75	1.29	1.85	54%	56%	0.64	0.98	1.12	34%	13%
CZ	4	0.94	1.20	1.18	26%	-2%	1.46	2.05	2.29	59%	24%	1.07	1.48	1.78	41%	29%
EE	4	1.06	1.37	1.47	30%	10%	0.71	1.50	1.60	79%	10%	1.13	1.46	1.82	33%	36%
HU	4	0.79	0.79	0.73	0%	-7%	0.86	1.07	1.06	21%	-1%	1.17	1.71	1.71	54%	0%
LT	4	1.27	1.45	1.29	18%	-16%	1.20	1.75	1.73	56%	-3%	1.14	1.74	1.96	60%	22%
LV	4	1.11	1.40	1.47	29%	7%	0.88	2.04	1.76	116%	-28%	1.24	1.61	1.90	38%	29%
PL	4	0.98	0.76	0.58	-22%	-17%	1.00	0.80	0.79	-20%	-1%	1.07	1.02	1.01	-4%	-1%
RO	4	0.87	1.78	1.46	90%	-31%	0.75	0.95	0.86	19%	-9%	0.85	1.25	1.20	40%	-5%
SI	4	0.99	0.96	1.01	-3%	4%	0.85	0.78	0.96	-7%	18%	1.02	1.14	1.28	12%	13%
SK	4	0.64	0.62	0.68	-2%	6%	0.65	0.96	1.15	31%	19%	0.75	1.22	1.48	47%	26%
GROUP	1	0.97	0.86	0.93	-11%	7%	0.91	0.81	0.84	-10%	3%	0.85	0.80	0.83	-5%	3%
GROUP	2	0.83	0.86	0.88	3%	2%	0.87	0.86	0.91	-1%	5%	0.87	0.89	0.94	2%	5%
GROUP	3	1.14	1.30	1.21	16%	-8%	1.14	1.19	1.16	6%	-4%	1.20	1.21	1.15	1%	-7%
GROUP	4	0.91	0.96	0.83	4%	-13%	0.96	1.06	1.05	11%	-2%	1.00	1.24	1.30	24%	6%
EU 27	-	1.00	1.00	1.00	0%	0%	1.00	1.00	1.00	0%	0%	1.00	1.00	1.00	0%	0%

Table B.12: Productivity-, Wage-, ULC-Growth, Industries

	G	DOMESTIC					EXPORT				
		2000	2007	2009	00-07	07-09	2000	2007	2009	00-07	07-09
AT	1	0.82	0.78	0.74	-3.5%	-4.4%	0.89	0.90	0.96	1.6%	5.3%
DE	1	0.96	0.90	1.02	-5.9%	11.9%	1.07	0.99	1.11	-8.1%	11.7%
NL	1	0.90	0.88	0.86	-1.9%	-2.6%	0.75	0.79	0.86	4.8%	7.0%
SE	1	0.95	0.84	0.74	-10.7%	-10.8%	0.64	0.36	0.30	-28.3%	-5.6%
BE	2	0.90	0.87	0.87	-3.7%	0.3%	0.76	0.98	0.95	21.4%	-2.9%
DK	2	1.08	1.18	1.28	10.1%	10.0%	0.93	1.15	0.97	21.9%	-17.5%
FI	2	0.72	0.64	0.70	-8.1%	6.8%	0.61	0.45	0.49	-16.0%	4.5%
FR	2	0.86	0.88	0.91	2.1%	3.1%	0.82	0.88	0.90	6.0%	1.7%
LU	2	0.78	0.92	1.07	13.7%	15.0%	0.67	0.72	0.78	5.0%	5.1%
CY	3	1.07	1.26	1.20	18.9%	-6.2%	0.72	1.07	1.00	34.5%	-7.2%
EL	3	0.84	1.22	1.25	37.6%	3.1%	0.94	1.30	1.00	35.7%	-30.6%
ES	3	0.90	1.06	1.07	16.3%	1.1%	0.97	1.27	1.27	29.7%	0.3%
IE	3	0.71	0.57	0.51	-14.4%	-5.7%	0.41	0.48	0.34	6.6%	-13.8%
IT	3	1.08	1.25	1.40	17.6%	14.6%	1.16	1.58	1.68	42.2%	10.3%
MT	3	0.95	1.14	1.23	19.0%	9.5%	0.92	1.27	1.23	35.3%	-4.4%
PT	3	0.94	0.99	1.06	4.9%	6.5%	0.97	1.14	1.17	16.5%	3.3%
UK	3	1.45	1.39	1.13	-6.1%	-25.5%	1.32	1.39	1.10	7.6%	-29.6%
BG	4	1.22	1.35	1.17	13.0%	-17.9%	1.12	1.19	1.00	6.5%	-18.3%
CZ	4	0.90	1.27	1.25	37.4%	-1.8%	0.99	1.13	1.11	14.2%	-2.2%
EE	4	0.99	1.23	1.37	23.5%	13.7%	1.19	1.52	1.56	33.7%	3.7%
HU	4	1.06	1.24	1.24	18.4%	-0.3%	0.64	0.63	0.54	-0.7%	-8.4%
LT	4	1.18	1.34	1.16	16.1%	-18.2%	1.41	1.54	1.49	13.1%	-5.0%
LV	4	1.03	1.22	1.29	19.5%	6.5%	1.34	1.72	1.83	38.1%	11.2%
PL	4	0.98	0.70	0.55	-28.5%	-14.9%	0.96	0.82	0.62	-14.8%	-20.0%
RO	4	0.72	1.33	1.15	61.3%	-18.4%	1.14	2.64	2.09	149.9%	-55.1%
SI	4	1.02	0.96	1.05	-6.6%	9.6%	0.96	0.96	0.96	0.3%	-0.1%
SK	4	0.62	0.60	0.68	-1.2%	7.5%	0.68	0.63	0.67	-4.8%	4.1%
GROUP	1	0.94	0.88	0.94	-5.8%	5.4%	0.99	0.87	0.94	-12.3%	7.3%
GROUP	2	0.86	0.87	0.90	0.3%	3.7%	0.80	0.83	0.85	3.9%	1.2%
GROUP	3	1.15	1.22	1.18	7.0%	-4.4%	1.13	1.36	1.24	22.9%	-11.8%
GROUP	4	0.92	0.93	0.81	0.5%	-11.6%	0.90	0.97	0.84	6.9%	-13.2%
EU 27	-	1.00	1.00	1.00	0.0%	0.0%	1.00	1.00	1.00	0.0%	0.0%

Table B.13: Productivity-, Wage-, ULC-Growth, Sectors

| | | Manufacturing | | | | Construction | | | | Service | | | |
| | | Change 00-07 | | Change 07-09 | | Change 00-07 | | Change 07-09 | | Change 00-07 | | Change 07-09 | |
	G	RVA SH	RULC	RVA SH	RULC	RVA SH	RULC	RVA SH	RULC	RVA SH	RULC	RVA SH	RULC
AT	1	14%	0%	6%	-1%	-23%	-14%	7%	6%	0%	1%	-2%	5%
DE	1	21%	-8%	-10%	12%	-29%	-13%	5%	2%	-2%	-7%	3%	3%
NL	1	3%	2%	3%	1%	-12%	-2%	8%	7%	-5%	2%	-4%	7%
SE	1	2%	-28%	-10%	-7%	8%	-12%	-1%	1%	-3%	-9%	1%	-6%
BE	2	-4%	10%	-1%	-1%	-6%	-17%	3%	6%	2%	3%	-1%	9%
DK	2	-1%	16%	7%	-7%	-8%	8%	-11%	12%	2%	7%	-2%	12%
FI	2	6%	-14%	-19%	5%	-1%	-6%	2%	9%	-2%	3%	4%	16%
FR	2	-9%	5%	-1%	2%	7%	2%	4%	5%	1%	1%	0%	3%
LU	2	-5%	13%	-10%	12%	-14%	-4%	-3%	13%	0%	2%	2%	7%
CY	3	-7%	32%	3%	-9%	21%	-9%	-12%	1%	-3%	5%	-3%	3%
EL	3	-3%	41%	16%	-10%	-22%	-1%	-32%	2%	3%	0%	-4%	9%
ES	3	-8%	23%	-2%	0%	39%	13%	-16%	-11%	-1%	10%	1%	7%
IE	3	-40%	0%	36%	-11%	21%	52%	-65%	5%	11%	9%	-5%	3%
IT	3	3%	29%	-2%	13%	7%	-2%	4%	12%	-2%	12%	1%	8%
MT	3	-23%	27%	-3%	3%	-10%	-4%	-1%	-1%	-4%	13%	-3%	10%
PT	3	-3%	11%	5%	5%	-28%	-5%	-10%	18%	4%	9%	-1%	6%
UK	3	-18%	2%	3%	-28%	1%	16%	-2%	-22%	4%	-12%	1%	-22%
BG	4	24%	9%	4%	-18%	47%	54%	16%	56%	3%	34%	3%	13%
CZ	4	17%	26%	4%	-2%	-13%	59%	16%	24%	-3%	41%	-1%	29%
EE	4	7%	30%	-1%	10%	51%	79%	-39%	10%	-4%	33%	-2%	36%
HU	4	12%	1%	15%	-7%	-16%	21%	-2%	-1%	3%	54%	0%	0%
LT	4	9%	18%	2%	-16%	55%	56%	-60%	-3%	6%	60%	2%	22%
LV	4	-4%	29%	1%	7%	33%	116%	-37%	-28%	2%	38%	-2%	29%
PL	4	16%	-22%	15%	-17%	-25%	-20%	4%	-1%	-3%	-4%	-2%	-1%
RO	4	18%	90%	22%	-31%	68%	19%	13%	-9%	-1%	40%	-5%	-5%
SI	4	4%	-3%	-5%	4%	6%	-7%	1%	18%	4%	12%	1%	13%
SK	4	13%	-2%	-7%	6%	4%	31%	22%	19%	-5%	47%	2%	26%
GROUP	1	15%	-11%	-7%	7%	-22%	-10%	5%	3%	-2%	-5%	1%	3%
GROUP	2	-7%	3%	-2%	2%	4%	-1%	2%	5%	1%	2%	0%	5%
GROUP	3	-9%	16%	3%	-8%	12%	6%	-5%	-4%	1%	1%	0%	-7%
GROUP	4	16%	4%	11%	-13%	0%	11%	4%	-2%	-2%	24%	-1%	6%
EU 27	-	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

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Table B.14: Productivity-, Wage-, ULC-Growth, Industries

| | | DOMESTIC | | | | EXPORT | | | |
| | | Change 00-07 | | Change 07-09 | | Change 00-07 | | Change 07-09 | |
	G	RVA SH	RULC	RVA SH	RULC	RVA SH	RULC	RVA SH	RULC
AT	1	7.6%	-3.5%	7.5%	-4.4%	20.2%	1.6%	5.2%	5.3%
DE	1	6.0%	-5.9%	-7.4%	11.9%	37.5%	-8.1%	-12.2%	11.7%
NL	1	4.4%	-1.9%	9.9%	-2.6%	0.4%	4.8%	-5.3%	7.0%
SE	1	-1.8%	-10.7%	-8.9%	-10.8%	5.7%	-28.3%	-10.7%	-5.6%
BE	2	4.7%	-3.7%	-1.9%	0.3%	-12.7%	21.4%	0.6%	-2.9%
DK	2	-5.8%	10.1%	0.3%	10.0%	4.5%	21.9%	13.6%	-17.5%
FI	2	-3.7%	-8.1%	-13.8%	6.8%	15.6%	-16.0%	-24.3%	4.5%
FR	2	-6.2%	2.1%	-3.5%	3.1%	-12.9%	6.0%	1.3%	1.7%
LU	2	-6.8%	13.7%	-15.1%	15.0%	-2.8%	5.0%	-4.1%	5.1%
CY	3	-8.9%	18.9%	4.4%	-6.2%	-6.1%	34.5%	1.0%	-7.2%
EL	3	-1.3%	37.6%	26.5%	3.1%	-5.8%	35.7%	4.6%	-30.6%
ES	3	-5.5%	16.3%	-1.5%	1.1%	-11.1%	29.7%	-2.1%	0.3%
IE	3	-15.2%	-14.4%	15.1%	-5.7%	-66.6%	6.6%	58.3%	-13.8%
IT	3	6.0%	17.6%	-5.5%	14.6%	0.7%	42.2%	1.8%	10.3%
MT	3	-11.5%	19.0%	1.5%	9.5%	-34.4%	35.3%	-6.8%	-4.4%
PT	3	0.4%	4.9%	5.9%	6.5%	-6.0%	16.5%	5.0%	3.3%
UK	3	-14.0%	-6.1%	2.8%	-25.5%	-21.9%	7.6%	2.7%	-29.6%
BG	4	31.2%	13.0%	4.1%	-17.9%	15.3%	6.5%	3.4%	-18.3%
CZ	4	12.3%	37.4%	0.9%	-1.8%	22.8%	14.2%	7.4%	-2.2%
EE	4	15.7%	23.5%	-6.9%	13.7%	-2.3%	33.7%	5.2%	3.7%
HU	4	5.4%	18.4%	11.5%	-0.3%	18.8%	-0.7%	18.0%	-8.4%
LT	4	23.7%	16.1%	4.3%	-18.2%	-6.1%	13.1%	-0.7%	-5.0%
LV	4	-5.8%	19.5%	0.9%	6.5%	-2.4%	38.1%	0.2%	11.2%
PL	4	19.6%	-28.5%	18.0%	-14.9%	11.0%	-14.8%	11.7%	-20.0%
RO	4	14.0%	61.3%	28.6%	-18.4%	21.4%	149.9%	14.0%	-55.1%
SI	4	-2.6%	-6.6%	-7.5%	9.6%	11.5%	0.3%	-1.4%	-0.1%
SK	4	17.0%	-1.2%	-10.8%	7.5%	7.8%	-4.8%	-3.3%	4.1%
GROUP	1	5.1%	-5.8%	-3.6%	5.4%	26.0%	-12.3%	-9.7%	7.3%
GROUP	2	-4.5%	0.3%	-4.0%	3.7%	-9.5%	3.9%	0.2%	1.2%
GROUP	3	-5.1%	7.0%	2.5%	-4.4%	-13.4%	22.9%	4.3%	-11.8%
GROUP	4	16.9%	0.5%	11.7%	-11.6%	14.7%	6.9%	9.6%	-13.2%
EU 27	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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C   Appendix: Decomposition

Table C.1: Productivity Decomposition, 2000-2007

	G	All NACE			Manufacturing NACE		
		Entire	Within	Between	Entire	Within	Between
AT	1	13.3%	12.5%	0.8%	28.5%	27.8%	0.7%
DE	1	13.8%	13.9%	-0.1%	31.3%	31.2%	0.2%
NL	1	13.9%	17.8%	-3.9%	30.4%	30.9%	-0.5%
SE	1	32.2%	42.2%	-10.0%	99.3%	116.7%	-17.3%
BE	2	6.6%	9.5%	-2.9%	17.8%	17.3%	0.5%
DK	2	8.5%	8.4%	0.0%	26.0%	22.8%	3.2%
FI	2	24.2%	28.8%	-4.6%	69.9%	71.6%	-1.6%
FR	2	11.7%	11.9%	-0.2%	26.6%	26.8%	-0.1%
LU	2	7.1%	6.5%	0.7%	2.7%	7.3%	-4.6%
CY	3	13.9%	14.6%	-0.6%	3.5%	10.2%	-5.5%
EL	3	18.9%	15.8%	3.1%	-1.6%	-5.5%	3.9%
ES	3	5.8%	6.5%	-0.7%	13.2%	11.0%	2.3%
IE	3	17.8%	22.4%	-4.6%	48.5%	41.8%	6.7%
IT	3	1.1%	1.3%	-0.2%	2.1%	1.5%	0.6%
PT	3	8.7%	7.2%	1.5%	23.1%	20.9%	2.2%
SI	3	33.1%	26.6%	6.5%	56.1%	50.9%	5.2%
UK	3	17.0%	20.6%	-3.6%	38.5%	39.4%	-1.0%
BG	4	13.4%	15.1%	-1.7%	57.7%	80.8%	-23.1%
CZ	4	43.1%	41.2%	1.9%	69.9%	60.4%	9.5%
EE	4	55.0%	60.6%	-5.7%	82.9%	79.4%	3.5%
HU	4	40.5%	33.0%	7.5%	83.3%	56.2%	27.1%
LT	4	54.4%	49.2%	5.2%	83.6%	82.8%	0.8%
LV	4	55.2%	59.2%	-4.0%	42.2%	38.8%	3.4%
MT	4	8.8%	6.8%	2.0%	1.1%	1.2%	-0.1%
PL	4	41.8%	26.5%	15.2%	52.7%	54.9%	-2.2%
RO	4	73.9%	49.5%	24.4%	50.0%	56.2%	-6.2%
SK	4	58.6%	57.6%	1.0%	146.1%	136.7%	9.3%
GROUP	1	15.1%	16.0%	-0.9%	37.5%	37.6%	-0.2%
GROUP	2	11.6%	12.2%	-0.6%	30.3%	30.5%	-0.2%
GROUP	3	9.3%	10.3%	-1.0%	15.9%	14.8%	1.1%
GROUP	4	45.8%	34.9%	10.8%	65.9%	64.5%	1.5%
EU 27	-	13.8%	12.1%	1.8%	25.9%	25.2%	0.7%

Table C.2: Unit Labour Cost Decomposition, 2000-2007

	G	All NACE			Manufacturing NACE		
		Entire	Within	Between	Entire	Within	Between
AT	1	3.6%	4.4%	-0.9%	-4.4%	-4.9%	0.6%
DE	1	-3.7%	-3.1%	-0.6%	-12.0%	-12.8%	1.0%
NL	1	12.7%	9.6%	3.3%	-1.7%	-1.7%	0.1%
SE	1	-10.6%	-16.5%	10.5%	-39.7%	-44.3%	20.2%
BE	2	14.7%	12.5%	2.1%	6.9%	7.0%	0.0%
DK	2	18.6%	19.0%	-0.5%	11.1%	13.0%	-1.9%
FI	2	2.0%	-1.2%	4.2%	-24.1%	-24.6%	1.4%
FR	2	12.0%	12.1%	-0.2%	1.0%	0.6%	0.5%
LU	2	15.4%	16.8%	-1.3%	12.8%	9.1%	3.6%
CY	3	15.8%	17.9%	-2.6%	26.7%	14.9%	11.5%
EL	3	22.0%	26.1%	-3.9%	40.1%	41.1%	0.6%
ES	3	24.4%	23.7%	0.6%	20.0%	20.7%	-0.4%
IE	3	30.0%	23.2%	7.3%	-5.0%	-1.2%	-5.4%
IT	3	21.3%	23.5%	-2.3%	21.2%	21.1%	0.2%
PT	3	14.7%	16.6%	-1.9%	7.0%	6.7%	0.6%
SI	3	7.1%	11.1%	-4.3%	-6.8%	-5.1%	-2.8%
UK	3	5.7%	4.4%	1.3%	-2.8%	-3.5%	1.0%
BG	4	55.9%	58.3%	-3.8%	3.2%	-6.0%	20.6%
CZ	4	49.0%	49.2%	0.7%	22.6%	26.5%	-3.8%
EE	4	45.9%	39.1%	8.8%	23.3%	25.6%	-3.2%
HU	4	40.0%	45.1%	-3.6%	-3.3%	8.0%	-14.6%
LT	4	37.4%	40.5%	-2.6%	9.7%	11.7%	-3.6%
LV	4	54.7%	47.7%	9.5%	21.0%	20.8%	1.0%
MT	4	14.8%	31.5%	-17.2%	24.1%	62.0%	-38.4%
PL	4	-13.2%	-2.8%	-13.2%	-25.5%	-25.3%	0.2%
RO	4	58.6%	95.2%	-32.5%	95.3%	110.3%	-31.4%
SK	4	42.3%	41.8%	1.2%	-7.5%	-3.9%	-8.3%
GROUP	1	-1.3%	-1.5%	0.2%	-14.6%	-15.4%	1.1%
GROUP	2	12.2%	11.9%	0.3%	-1.3%	-1.8%	0.8%
GROUP	3	14.2%	13.8%	0.3%	8.9%	9.1%	-0.1%
GROUP	4	18.6%	28.4%	-10.1%	0.6%	2.9%	-3.8%
EU 27	-	6.7%	8.2%	-1.5%	-4.1%	-4.4%	0.3%

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 34 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

Contact for information

Kristin Smeral

WWWforEurope – Project Management Office

WIFO – Austrian Institute of Economic Research

Arsenal, Objekt 20

1030 Vienna

wwwforeurope-office@wifo.ac.at

T: +43 1 7982601 332

Domenico Rossetti di Valdalbero

DG Research and Innovation

European Commission

Domenico.Rossetti-di-Valdalbero@ec.europa.eu

Partners

	Name	Abbreviation	Country
	Austrian Institute of Economic Research	WIFO	Austria
	Budapest Institute	Budapest Institute	Hungary
	Nice Sophia Antipolis University	UNS	France
	Ecologic Institute	Ecologic	Germany
	University of Applied Sciences Jena	FH Jena	Germany
	Free University of Bozen/Bolzano	FUB	Italy
	Institute for Financial and Regional Analyses	GEFRA	Germany
	Goethe University Frankfurt	GUF	Germany
	ICLEI - Local Governments for Sustainability	ICLEI	Germany
	Institute of Economic Research Slovak Academy of Sciences	IER SAVBA	Slovakia
	Kiel Institute for the World Economy	IfW	Germany
	Institute for World Economics, RCERS, HAS	KRTK MTA	Hungary
	KU Leuven	KUL	Belgium
	Mendel University in Brno	MUAF	Czech Republic
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	Aston University	ASTON	United Kingdom