Austria Holds Intra-EU Export Market Shares almost Constant despite Difficult Economic Environment

Klaus Vondra[1]

Before the global recession, export growth outperformed economic growth across the EU. The economic crisis hit almost all EU countries through a steep fall in exports, especially exports of goods. Yet, as shown in this article, almost all countries in Europe were hit by the slump in exports simultaneously; hence, intra-EU export market shares were left broadly unchanged by the crisis. This article presents a market share analysis for both goods and services and explores some underlying factors for these developments. From a regional perspective, Central, Eastern and Southeastern European (CESEE) countries gained market shares in the period 2004 to 2012 at the expense of major pre-2004 EU countries (the U.K., France and Italy). From a product perspective, service market shares developed broadly in line with goods market shares. At the same time, service-oriented countries were able to compensate losses in goods market shares by expanding service market shares. Austria managed to keep its market share position almost constant, benefiting most from trade links with Germany. At the product level, Austria strengthened its exports of high-technology good products.

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In the decade to 2014, the EU countries experienced a pronounced economic cycle: Following suppressed output growth after the bursting of the dot-com bubble in 2000, GDP growth reaccelerated in most European economies from 2004 until 2008, when the boom was brought to a sudden stop by the global financial and economic crisis of 2008/2009. In many European economies, the ensuing bust period dragged on until recently under the impact of the European sovereign debt crisis.

In the boom period 2004 to 2008, GDP growth was clearly fostered by strongly growing exports in some EU countries, whereas other EU countries built up unsustainable imbalances through negative net exports reflecting catching-up processes[2] (CESEE countries) or a lack of competitiveness (Southern European countries). 2009 saw a sharp decline in export growth, especially in goods, in almost all EU countries, followed by a fast rebound in many economies in 2010. Since then, export growth has developed heterogeneously across the EU, increasing sharply, for instance, in Estonia, Lithuania and Slovakia, broadly stagnating in Cyprus and Finland, and declining further in Greece. In the light of the European debt crisis, the heterogeneous development of exports, and hence of current account surpluses and deficits particularly within the euro area has been discussed intensely by academia (e.g. Danninger and Joutz, 2007; Young and Semmler; 2011, Cardoso et al., 2012) and within economic policy circles (e.g. European Commission, 2013). The paper will shed light on the intra-European development of export shares.[3]

[1] *Oesterreichische Nationalbank, Economic Analysis Division, klaus.vondra@oenb.at.*

[2] *"Catching up" in this connection is defined as both strengthening domestic demand based on the possibility of higher consumption as well as the increase in the need for new infrastructure. At the same time, this catching-up process was triggered by large capital inflows that filled the gap between the need for investments and low saving rates.*

[3] *The narrow focus on only intra-EU market shares is data-driven; but as section 1 shows, it is empirically justified.*

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Konstantins Benkovskis,
Bank of Latvia

The empirical literature on changes in exports, market shares and competitiveness has mainly concentrated on goods exports, given their predominance over service exports in most European countries and the existence of comprehensive databases for goods trade (e.g. UN ComTrade, ComExt, OECD). By contrast, the article at hand explores goods *and* service exports, starting with an analysis of changes in market shares that is meant to highlight how the patterns of the boom phase 2004 to 2008 differed from the patterns observed during the crisis period 2008 to 2012. Based on this analysis, the paper looks into the factors underlying market share developments, decomposing the associated effects into a "demand-driven" structural effect and a "residual" competition effect. The idea is to establish whether market shares and the factors driving associated changes developed independently of the underlying export growth boom/bust cycle or whether the crisis led to a structural break. With a particular focus on Austria, the paper examines the regional and product-specific breakdown of exports made by domestic exporters. This analysis could also deliver some insights on why Austria has lagged behind developments in Germany since 2010.

The paper is structured as follows: First, the paper discusses stylized facts of EU-wide export growth (section 1) and explains the methodology (section 2) as well as the data used (section 3). Second, the paper provides a detailed analysis and evaluation of export market share developments for all EU countries (section 4) and at a higher level of disaggregation for Austria (section 5). The paper concludes with a summary (section 6).

1 Stylized Facts on Export Growth across the EU

Focusing on the time period 2004 to 2012 in line with data availability,[4] this paper provides contrasting analyses for the boom phase 2004 to 2008 and the crisis phase 2008 to 2012. The results are visualized with a corresponding set of charts that highlight the patterns described above and provide a starting point for the analysis (see charts 1 to 3).

Contrasting the growth performance of EU countries in the boom phase 2004 to 2008 with the patterns observed in the bust phase 2008 to 2012, the paper finds the contribution of net exports to GDP growth to provide several insights: First, in the boom phase, most CESEE EU countries (all but the Czech Republic, Hungary and Slovakia) faced negative growth contributions from net exports, which can be explained by their catching-up process, i.e. by strong domestic demand inducing strong import growth. In this period, all CESEE EU countries but Hungary outperformed all other EU countries in terms of output growth. Second, despite the strong international environment, the contribution of net exports to growth was negative also in Belgium, Denmark, France, Greece, Ireland, Portugal, Spain and France. Their weaker performance can essentially be attributed to higher wage and price increases than in other old EU countries, coupled with the inability of the euro area members to resort to a devaluation of the national currency to regain price competitiveness. This combination led to an appreciation of the respective real exchange rates and fostered the loss of international competitiveness as reflected by clearly increasing current account deficits in Portugal, Greece and Spain.

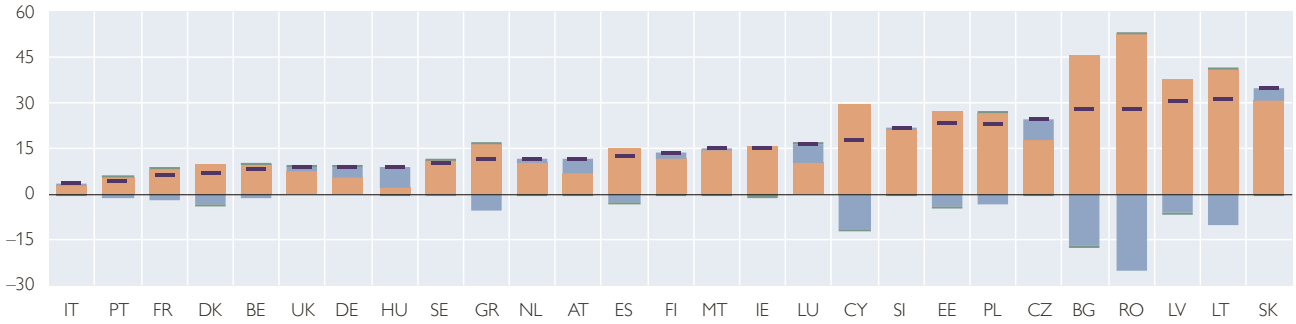
[4] *Disaggregated service exports are only available since 2004 and currently up to 2012.*

Chart 1

Cumulated Real GDP Growth and Contributions of Domestic Demand and Net Exports to Growth

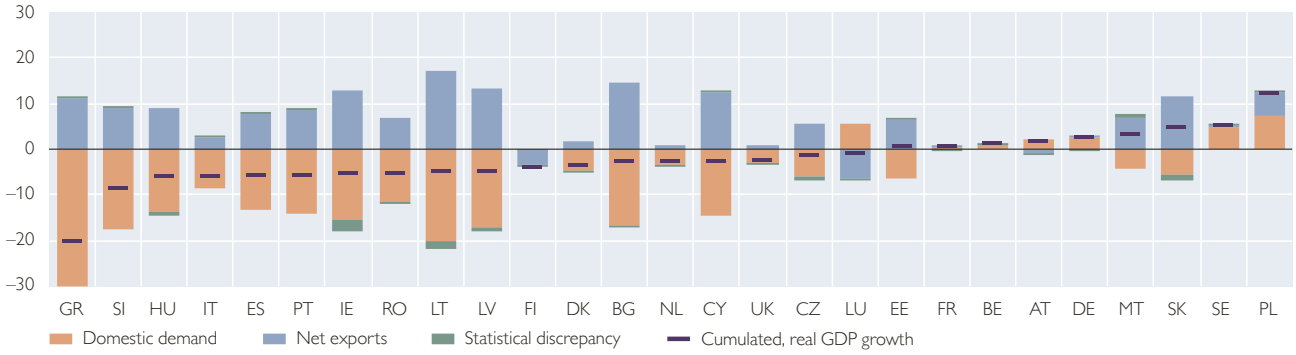
2004–2008

Cumulated, real change of GDP in %; contributions to growth in percentage points



2008–2012

Cumulated, real change of GDP in %; contributions to growth in percentage points



Source: Eurostat.

Note: BE (Belgium), BG (Bulgaria), CZ (Czech Republic), DK (Denmark), DE (Germany), EE (Estonia), IE (Ireland), GR (Greece), ES (Spain), FR (France), IT (Italy), CY (Cyprus), LV (Latvia), LU (Luxembourg), HU (Hungary), MT (Malta), NL (Netherlands), AT (Austria), PL (Poland), PT (Portugal), RO (Romania), SI (Slovenia), SK (Slovakia), FI (Finland), SE (Sweden), UK (United Kingdom).

From 2008/2009 onward, Europe suffered from the economic crisis and in particular from the sovereign debt crisis: At the end of 2012, 18 countries had yet to regain the real GDP levels measured in 2008. While the contribution of net exports to GDP growth was positive in all of these 18 countries with the exception of Finland and Luxembourg (as well as in another six countries) during the crisis period, this positive contribution was mainly based on negative import growth.[5] The latter reflected a sharp drop of investment growth that was due to confidence effects and difficult refinancing conditions, and a deterioration of consumption growth, based on deleveraging effects of the private and the public sector. At the same time, this turnaround corrected the current account imbalances described above: In 2013, Portugal, Greece and Spain recorded small current account surpluses as a percentage of GDP.

Summing up, the EU countries experienced strong GDP growth until 2008, followed by a sharp setback and

[5] *In 15 of these 18 countries (except the Czech Republic, Lithuania and the Netherlands), real imports decreased from 2008 to 2012. Table A1 in the annex shows the cumulative growth of GDP, exports and imports in the periods 2004 to 2008 and 2008 to 2012. Clearly, the positive contribution of net exports in the second period in many countries (e.g. Greece, Cyprus or Portugal) was driven by a slump in import growth.*

diverse recovery patterns. Yet this overall trend masked quite heterogeneous developments across countries. As shown in chart 2, export growth was one main driver of this diverse development in many countries. The remainder of this article will attempt to establish whether the country-specific export growth patterns had implications for market share developments and hence for the underlying structure of the economies.

The data explored for the purpose of this study support the following stylized facts, as evidenced by charts 2 and 3:

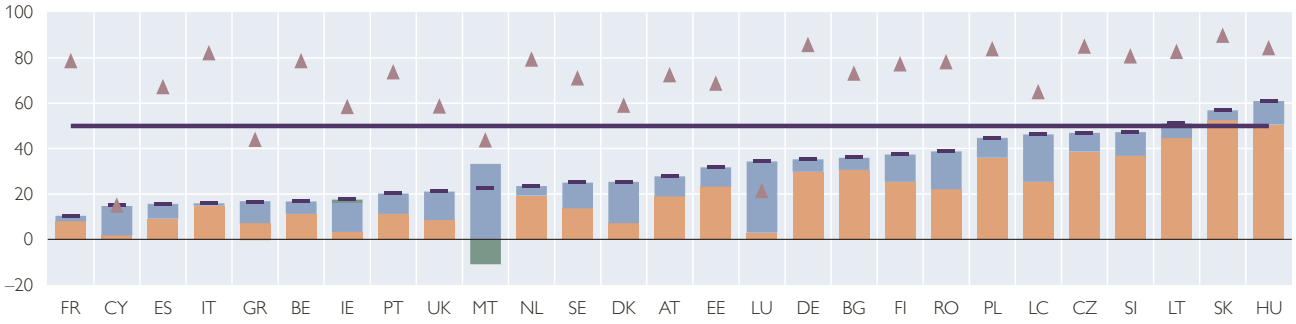
- *Service exports need to be included in the analysis of export issues.* The share of goods exports in total exports is greater than 50% in all EU countries except Cyprus, Greece, Luxembourg and Malta. But the strong role of service exports becomes obvious if the growth contribution of services to export growth is used as an indicator. As plotted in chart 2, the growth contribution of service exports to export growth exceeds the growth contribution of goods exports in seven countries in both time periods.[6]

Chart 2

Cumulated Real Export Growth and Contributions from Goods and Services to Export Growth

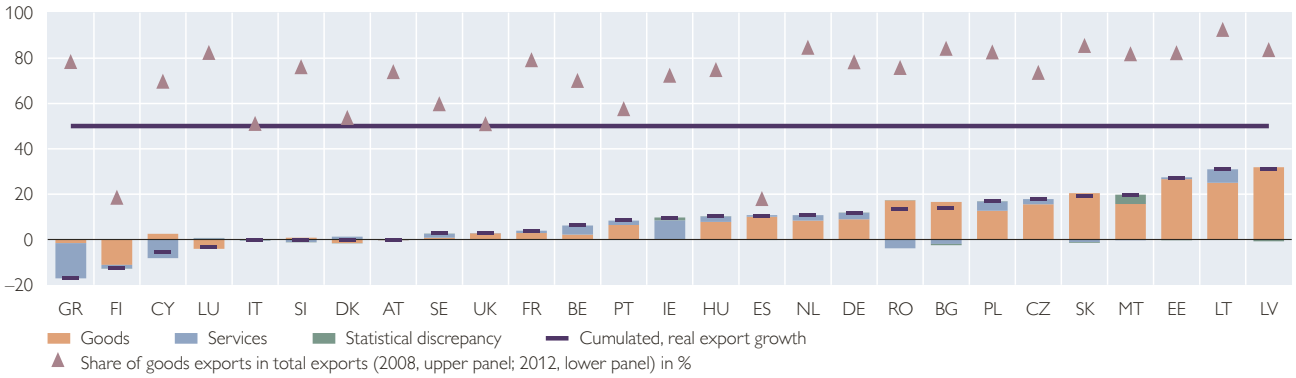
2004–2008

Cumulated, real export growth in %; contributions to growth in percentage points



2008–2012

Cumulated, real export growth in %; contributions to growth in percentage points



Source: Eurostat.

Note: BE (Belgium), BG (Bulgaria), CZ (Czech Republic), DK (Denmark), DE (Germany), EE (Estonia), IE (Ireland), GR (Greece), ES (Spain), FR (France), IT (Italy), CY (Cyprus), LV (Latvia), LU (Luxembourg), HU (Hungary), MT (Malta), NL (Netherlands), AT (Austria), PL (Poland), PT (Portugal), RO (Romania), SI (Slovenia), SK (Slovakia), FI (Finland), SE (Sweden), UK (United Kingdom).

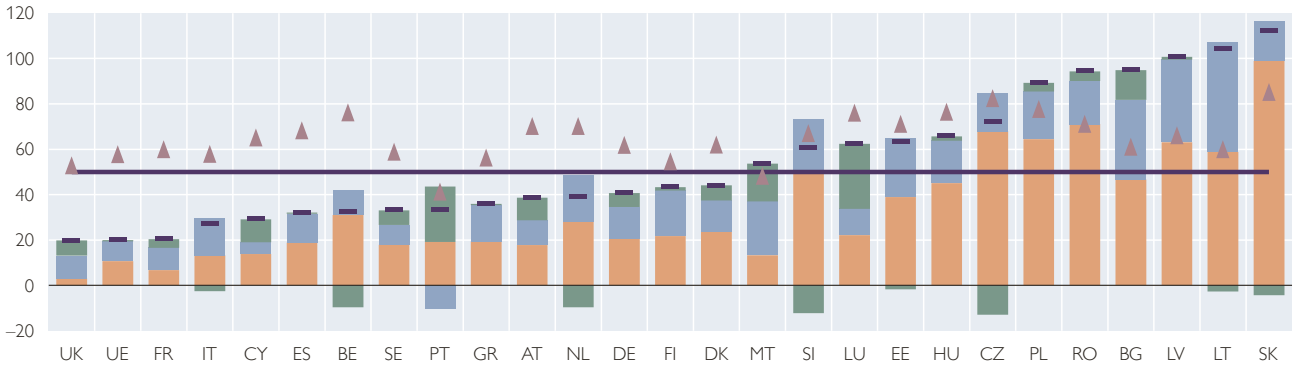
[6] *Moreover, the relative growth contribution of services to goods exceeds the absolute service share (based on 2008 data) in 21 EU countries between 2004 and 2008 and in 13 EU countries between 2008 and 2012.*

Chart 3

Cumulated Nominal Export Growth and Contributions from Intra- and Extra-EU Exports to Export Growth

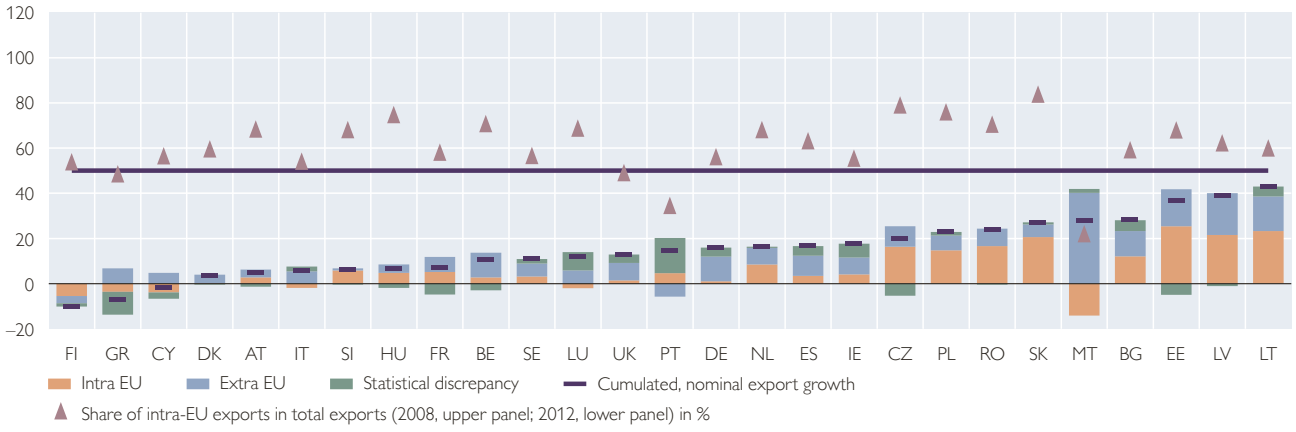
2004–2008

Cumulated, real export growth in %; contributions to growth in percentage points



2008–2012

Cumulated, real export growth in %; contributions to growth in percentage points



Source: Eurostat.

Note: BE (Belgium), BG (Bulgaria), CZ (Czech Republic), DK (Denmark), DE (Germany), EE (Estonia), IE (Ireland), GR (Greece), ES (Spain), FR (France), IT (Italy), CY (Cyprus), LV (Latvia), LU (Luxembourg), HU (Hungary), MT (Malta), NL (Netherlands), AT (Austria), PL (Poland), PT (Portugal), RO (Romania), SI (Slovenia), SK (Slovakia), FI (Finland), SE (Sweden), UK (United Kingdom).

- *Trade within EU countries (intra-EU trade) outpaces trade with the rest of the world (extra-EU trade).* Chart 3 shows the contribution of intra-EU trade to export growth and the share of intra-EU exports in total exports (2008). Apart from Portugal and Malta, all EU countries exported more goods and services to EU countries than to countries outside the EU in 2008. In terms of growth contributions (to total export growth), intra-EU trade outpaced extra-EU trade in 19 countries before and in 15 countries during the crisis. Hence, intra-EU trade dominates in absolute levels, but is less significant in growth terms.
- *Export price developments differ across EU countries.* The figures in charts 1 and 2 on GDP and export growth are based on real growth, which lags behind nominal export growth, especially in the CESEE countries. Put differently, these countries have high export deflators, which need to be considered in the analysis of export performance. However, no deflators

are available for the disaggregated export data used in sections 4 and 5. To see the impact of the export deflators, compare the difference between real (chart 2) and nominal (chart 3) export growth.

2 Methodology

This paper uses the method of constant market share analysis (CMSA) to generate ex post information on the factors underlying national export performance. Changes in market shares are decomposed into a structural and a competition effect. The structural effect can be decomposed further into the growth of export markets and product varieties, while the competition effect covers changes in price and non-price competitiveness.

The analysis of constant market shares goes back to the pioneering work of Tyszynski (1951) and was developed further by Richardson (1971a, 1971b) and Milana (1988). Skriner (2009) provided a comprehensive discussion of the theoretical aspects of CMSA, while Widodo (2010) highlighted the differences between the various approaches and contributed an in-depth analysis of the competition effect. CMSA is now a standard tool for explaining developments in international competitiveness. Examples of recent applications are Ragacs et al. (2011) for Austria, Amador and Cabral (2008) for Portugal, and Deutsche Bundesbank (2006) for Germany.

This paper provides a CMSA of intra-EU trade for goods and services. To enhance understanding, the following equations – while calculated for all countries – are written only from the perspective of Austria (AT). In line with Deutsche Bundesbank (2006), the total change in the share of Austrian exports to EU countries is proxied by the difference between the growth of Austrian exports to EU countries and the total sum of EU countries' imports from EU countries.[7]

$$\frac{d\left(X^{AT}/M^{EU}\right)}{X^{AT}/M^{EU}} = \frac{dX^{AT}}{X^{AT}} - \frac{dM^{EU}}{M^{EU}} = \tag{1}$$

$$= \sum_i \sum_j \frac{X_{ij}^{AT}}{X^{AT}} \frac{dX_{ij}^{AT}}{X_{ij}^{AT}} - \sum_i \sum_j \frac{M_{ij}^{EU}}{M^{EU}} \frac{dM_{ij}^{EU}}{M_{ij}^{EU}}$$

where X_{ij}^{AT} are Austrian exports of product j to EU country i; M_{ij}^{EU} are imports of product j from EU country i; X^{AT} are the sum of Austrian exports to EU countries and M^{EU} the sum of EU imports from EU countries (excluding Austria). The percentage change in Austria's market shares within the EU thus corresponds to the difference between the growth rates of Austrian exports and intra-EU imports. By expanding (1)[8] and rewriting the whole equation, the terms can be rearranged in the following way:

[7] *CMSA analyses usually consider the total sum of exports. In order to capture the true trade inflows into the countries, the paper instead uses import data. Ignoring the statistical discrepancy, total exports should be equivalent to total imports. However, there is a tendency to report a higher amount of exports, and therefore imports are chosen.*

[8] *with* $+\sum_i \sum_j \frac{X_{ij}^{AT}}{X^{AT}} \frac{dM_{ij}^{EU}}{M_{ij}^{EU}} - \sum_i \sum_j \frac{X_{ij}^{AT}}{X^{AT}} \frac{dM_{ij}^{EU}}{M_{ij}^{EU}}$

$$\frac{d\left(X^{AT}/M^{EU}\right)}{X^{AT}/M^{EU}} =$$

$$= \underbrace{\sum_i \sum_j \left(\frac{X_{ij}^{AT}}{X^{AT}} - \frac{M_{ij}^{EU}}{M^{EU}} \right) \frac{dM_{ij}^{EU}}{M_{ij}^{EU}}}_{\text{Structural Effect}} + \tag{2}$$

$$+ \underbrace{\sum_i \sum_j \left(\frac{dX_{ij}^{AT}}{X_{ij}^{AT}} - \frac{dM_{ij}^{EU}}{M_{ij}^{EU}} \right) \frac{M_{ij}^{EU}}{M^{EU}}}_{\text{Competition Effect}}$$

The structural effect quantifies changes in the EU market shares based on product and regional specialization in combination with shifts in the region's market structure. In contrast, the competition effect covers developments that are independent of "market" and "product" growth; hence, this effect can be interpreted as a competition effect that includes both price and non-price competitiveness. Nonetheless, this effect is very often interpreted as a residual effect. By further rewriting (2), the structural effect can be decomposed into

- a market effect,

$$\sum_i \left(\frac{X_i^{AT}}{X^{AT}} - \frac{X_i^{EU}}{X^{EU}} \right) \frac{dX_i^{EU}}{X_i^{EU}}$$

- a product effect,

$$\sum_j \left(\frac{X_j^{AT}}{X^{AT}} - \frac{M_j^{EU}}{M^{EU}} \right) \frac{dM_j^{EU}}{M_j^{EU}}$$

- a mixed effect (structural effect minus market and product effects).

The market effect denotes the regional distribution of exports while the product effect captures the influence of product varieties. The mixed effect represents differences between individual industries regarding the geographical focus of exports and can be considered a residual.

3 Data

The paper uses two kinds of data sources: First, data on goods exports from the European Commission's ComExt database and second, service data derived from balance of payments statistics hosted by Eurostat.

Bilateral *data on goods exports and imports* include all EU countries except Croatia. Data are available from 1999 to 2012 and are assigned to ten different product categories (in line with SITC Rev. 4)[9] as well as, in a more detailed analysis for Austria, to 59 product categories (also SITC Rev. 4).

Data quality differs across countries, product categories and time: The data set is complete with respect to both the considered time period and the bilateral export sums. However, the product-specific bilateral data come with two problems: First, in many countries the bilateral sums of the ten product categories do not sum up with the reported sum of exports/imports. To reflect the difference, this paper introduces an eleventh product category called "Rest." Second, product-specific bilateral trade figures exhibit missing data, either as a result of data holes in the statistics, because a given product is not traded between the considered country pair or for reasons of confidentiality.[10] In case exports in a specific production sector are conducted only by one company or a small group of companies, the publication of these data is forbidden to prevent conclusions on firm-specific data. These aspects need to be considered

[9] *These data provide a total of 4,536 (1,008 for services) possible data points for each country.*

[10] *For Germany, Spain, France, Italy, the Netherlands and the U.K., fewer than ten data points are missing; for Cyprus, Latvia, Luxembourg, Malta and Slovenia, more than 11% (up to 24%) of the observations are missing. This missing data points are replaced by a small positive zero, e.g. 0.00001. In some cases it is necessary to substitute missing observations by an interpolated value.*

when interpreting the country-specific results. For the purpose of this paper, the routines were run with several different settings – regarding the missing aggregation issue and data holes – in order to test the consistency of the presented results.

Data on service exports contain information on all EU-28 countries from 2004 to 2012, separated into three categories: travel, transport and other services. These three categories sum up to total exports and imports, but suffer from many data holes in bilateral category-specific data[11] despite the low level of disaggregation.

4 Changes in Export Market Shares across the EU

Constant market shares analysis of intra-EU trade in goods and services in 2004 to 2008 as well as 2008 to 2012 yields the following main results (table 1):

- *Across the EU, changes in goods export market shares fall in three categories.* First, the CESEE EU countries clearly increased their market shares in both time periods, independently from the

Table 1

Export Market Shares

	Share of goods in total exports (2008)	Goods				Services			
		2004–2008		2008–2012		2004–2008		2008–2012	
	in %	*Average yearly % changes in time horizon*							
Latvia	71.1	↑	5.2	↑	9.3	↑	16.3	→	0.3
Lithuania	85.7	↑	4.9	↑	8.7	↑	10.9	→	1.9
Romania	81.9	↑	3.0	↑	5.6	↑	33.7	↓	–3.4
Slovakia	91.9	↑	6.8	↑	5.0	↑	14.9	↓	–1.3
Malta	48.1	↓	–3.0	↑	5.9	↑	15.6	↑	2.5
Poland	86.0	↑	4.5	↑	3.0	↑	15.6	→	1.1
Bulgaria	78.5	↑	4.2	↑	6.2	↑	5.1	↓	–2.5
Estonia	72.1	→	1.7	↑	8.0	↑	5.8	→	–0.2
Czech Republic	86.5	↑	3.6	↑	2.8	↑	13.3	→	–0.8
Slovenia	81.6	↑	3.7	→	1.1	↑	6.0	↓	–1.2
Luxembourg	23.1	→	–0.1	↓	–5.9	↑	6.7	→	0.5
Hungary	84.5	→	1.9	→	0.5	↑	6.5	→	–0.1
Netherlands	80.8	→	1.4	→	1.9	→	–0.6	→	0.7
Sweden	72.0	→	–0.1	→	0.3	→	1.4	↑	2.7
Portugal	75.3	→	–0.5	→	1.0	↑	2.3	↓	–2.6
Germany	86.1	→	0.0	→	–0.2	→	2.0	→	0.1
Ireland	56.9	↓	–2.5	↓	–2.0	↑	4.0	→	1.0
Belgium	80.0	→	–0.2	↓	–1.1	→	0.7	↑	2.3
Denmark	61.9	→	–0.5	↓	–2.3	↑	6.0	↓	–3.1
Austria	**73.7**	→	**–0.5**	→	**–0.5**	→	**0.9**	↓	**–1.1**
Spain	69.0	→	–1.0	→	0.3	→	0.0	↓	–1.8
France	79.8	↓	–1.8	↓	–1.2	↓	–3.2	↑	7.6
Finland	77.5	→	–0.3	↓	–3.6	↑	3.6	→	–0.5
United Kingdom	58.2	↓	–2.3	→	0.3	↓	–2.0	↓	–1.2
Greece	46.8	↑	2.4	↓	–2.0	→	–0.7	↓	–5.6
Italy	83.3	→	–0.8	↓	–1.5	↓	–4.5	↓	–3.7
Cyprus	16.2	→	–0.9	→	0.0	→	1.9	↓	–7.3

Source: Eurostat, own calculations.

Note: Sequence of countries is based on overall market share development. The green, gray and red arrows indicate whether the change was clearly positive (>2%), relatively stable or clearly negative (<–1%).

[11] *In Bulgaria, the Czech Republic, Denmark, Italy, Lithuania, Luxembourg, Austria, Slovenia and the U.K., fewer than 10 observations are missing, whereas in Germany, Ireland, Greece, Spain, Latvia, Malta, Portugal, Romania and Finland, more than 10% (up to 43%) of the observations are missing.*

underlying export growth pattern – a result one would expect given their catching-up status. A second group of countries (the Netherlands, Sweden, Portugal, Germany, Austria and Spain) kept their goods market shares almost unchanged, while a third group (Luxembourg, Ireland, Belgium, Denmark, France, Finland, the U.K. and Italy) lost market shares and did so at an accelerated pace in five of those eight countries in the crisis period.

- *From 2004 to 2008, the market shares of services developed broadly in line with the market shares of goods.* In other words, the CESEE countries raised their service shares, and the countries in the second group kept their service shares constant. In the third group, the service shares of Ireland, Belgium, Denmark and Finland developed better than the goods shares.
- *From 2008 to 2012, service market shares developed out of sync with goods market shares.* Decomposing the processes within the crisis period is less straightforward, as the country-specific developments appear to be masked by clear gains of France (+7.6%), which are based on strong increases of service exports other than travel or transport to Belgium, Germany and the U.K. In 2012, total service exports to these three countries accounted for more than 50% of all French service exports to EU countries. Nonetheless, the results are almost unchanged even if France is excluded from the analysis. Overall, service export market shares changed only little during the crisis. Only France, Sweden, Malta and Belgium were clearly able to gain market shares (an average annual gain of more than 2%). Conversely, Cyprus, Greece, Italy, Romania and Denmark clearly lost market shares during the crisis (average annual loss of more than 3%).

Table 1 presents an overview of changes in market shares of goods and service exports for the two time periods. To better visualize the results, the average yearly percentage changes for each country in each time period are classified as a clear increase if they exceed 2% (marked with an upward-pointing green arrow) or as a clear decrease if they are below –1% (marked with a downward pointing red arrow). Changes between 2% and –1% are classified as a relative stable development (marked with a gray horizontal arrow).

In a next step, the changes in *goods and service market shares* thus established are *linked to the relative importance of these shares in total exports*. The share of goods exports in total exports (in 2008) lay above 70% in the CESEE and the old Western European EU Member States. In the latter group, market shares of goods and services changed broadly in sync (except for services in the crisis period). In a third group of countries (Denmark, Ireland, Greece, Luxembourg, Malta, Cyprus and the U.K.), service exports accounted for 40% or more of total exports (2008). This country group has a rather weak goods exports performance. However, most of these countries compensate this weakness with steadily rising market shares in service exports. Traditional analysis limited to goods exports would miss this finding.

Table 2 presents *a more detailed breakdown* of the changes in market shares shown in table 1, as explained by a product and a market effect which sum up to the "structural effect" (neglecting the mixed effect). The remaining change of the market share can be interpreted as a competitiveness effect. To visualize the results, table 2 again uses three types of arrows: upward-

pointing (green), horizontal (gray), and downward-pointing (red) to reflect three categories of changes (above 2%; between 2% and –1%; below –1%). The arrows are displayed only if the structural or competition effect for the specific country and time period is in the same category as the change in the market share.[12]

In splitting up the market share the key question whether market share developments depend more on the structural (demand driven) or the competition effect. In a first step, this question is answered by a simple inspection of table 2: Comparing both effects, clearly the competition effect is more closely aligned with the overall market share changes.[13] This first result is broadly confirmed in the detailed country graphs in the annex (charts A1, A2 and A3): While the variation of the

Table 2

Details to the Development of Market Shares

	Goods								Services							
	Structural effect				Competition effect				Structural effect				Competition effect			
	2004–2008		2008–2012		2004–2008		2008–2012		2004–2008		2008–2012		2004–2008		2008–2012	
	Average yearly % changes in time horizon															
Latvia	↑	3.1	↑	3.1	↑	6.4	↑	5.6	↑	2.1	→	0.6	↑	13.3	→	–0.5
Lithuania	↑	5.6	↑	3.3	↑	3.2	↑	4.9	↑	3.9	→	–0.6	↑	6.1		2.7
Romania		–0.4		–0.2	↑	6.4	↑	5.7		–0.0		1.0	↑	33.1	↓	–4.4
Slovakia	↑	2.1		0.1	↑	10.5	↑	4.8	↑	2.2	→	–0.1	↑	11.6	→	–0.8
Malta	↓	–2.3		1.7	↓	–4.1	↑	3.7		–1.3		0.0	↑	17.8	↑	2.4
Poland		1.1		0.3	↑	7.6	↑	2.6		–0.1	→	–0.1	↑	15.7	→	1.2
Bulgaria		0.5		–0.3	↑	7.7	↑	6.6		1.3	↓	–2.1	↑	3.6		–0.6
Estonia		2.6	↑	2.4	→	0.7	↑	5.3	↑	3.7	→	0.9		1.9		–1.1
Czech Republic		1.5		0.4	↑	5.2	↑	2.3		0.9	→	–0.5	↑	12.0	→	–0.4
Slovenia		–0.1	→	0.2	↑	7.6	→	0.8		–1.2	→	–0.8	↑	7.6	→	–0.4
Luxembourg	→	–0.8		–0.6	→	0.5	↓	–5.6		–0.2		2.5	↑	7.1		–2.1
Hungary		2.3	→	0.4	→	1.2	→	0.0		1.9	→	–0.2	↑	4.4	→	0.1
Netherlands	→	1.1		3.1	→	1.4		–1.2	→	0.3	→	0.7	→	–0.9	→	–0.1
Sweden	→	1.7	→	0.9	→	–1.9	→	–0.7	→	1.6		1.7	→	–0.2		0.9
Portugal	→	–0.1	→	–0.5		–1.1	→	1.5		–0.9		–0.8	↑	3.3	↓	–1.8
Germany	→	1.1	→	0.3		–1.2	→	–0.6	→	–0.0	→	0.7		2.0	→	–0.6
Ireland		–0.9	→	1.1	↓	–4.4		–2.7		–0.0	→	1.7	↑	4.0	→	–0.8
Belgium	→	0.3	→	1.0	→	–0.9		–2.1	→	–0.9		1.3	→	1.3		0.8
Denmark		3.6		3.2		–4.2	↓	–5.1		0.9		0.0	↑	4.9	↓	–3.1
Austria		**2.0**	→	**1.2**		**–2.8**		**–1.7**	→	**–0.3**	→	**–0.7**	→	**1.2**	→	**–0.4**
Spain	→	–0.8	→	–0.5		–1.2	→	0.7		–1.8	→	–0.7	→	2.0	↓	–1.1
France	→	–0.8	→	0.2		–3.0	↓	–1.5		–1.1		0.3	↓	–2.2	↑	7.3
Finland		2.5		2.7		–3.0	↓	–5.9		1.3	→	1.3	↑	3.0		–1.7
United Kingdom		0.2	→	1.1	↓	–4.9	→	–0.8	→	0.2	→	1.0		–2.1		–2.2
Greece	↑	2.3		1.7	↑	2.1	↓	–3.6		–1.7		–1.6	→	1.2	↓	–4.4
Italy	→	0.1	→	–0.2	→	–1.8	↓	–1.4		–0.6		0.5	↓	–3.9	↓	–4.2
Cyprus	→	–0.9		–3.2		–1.1		3.1	→	–1.0		–1.8		3.1	↓	–6.0

Source: Eurostat, own calculations.

[12] *For example, Lithuania has an average yearly export market share growth of 4.9% between 2004 and 2008; hence, the change is highlighted with a green arrow. Again for Lithuania between 2004 and 2008, the structural effect shows a change of 5.6% (again: 5.6% > 2%). Therefore, a green arrow is displayed. In contrast, Romania (also goods, 2004 to 2008) recorded market share gains above 2%; however, the structural effect is negative, and therefore no arrow is attached.*

[13] *Clearly, for more countries (in both time periods) the competition effect has the same sign and a similar size as the market share change – as indicated by the colored arrows.*

structural effect is only small, the competition effect develops very closely in line with the overall market share effect. This important result can be interpreted in two ways: An optimistic interpretation would assert that market share changes are for the most part explained by price and non-price competitiveness, whereas the demand effect (structural effect) has less influence on the overall changes. However, a less optimistic interpretation would assert that market share changes cannot be explained by the structural effect, and that the true drivers of market shares are not fully determined, as the "competition effect" is some kind of residual effect.

There are two possible extensions to the present analysis to further explain the competition effect: First, a combination of this calculated effect with standard price competitiveness indicators like unit labor costs or real effective exchange rates to separate price competitiveness effects from the overall effect, thus filtering out price competitiveness, and second, a different breakdown of market shares to further break down the competition effect, allowing for a better understanding of the driving forces of the competition effect (see e.g. Benkovskis and Wörz, 2013).

Besides showing the structural and the competition effect on market shares, table 2 offers further insights into the development of market shares in Europe:

- *The changing pattern of service market share developments can be traced to the competition effect.* For goods, the changes in market shares observed in the period 2004 to 2008 were broadly in line with the pattern observed for 2008 to 2012 for both the structural and the competition effect. The same holds true for the structural effect of service exports.[14] By contrast, there is a clear structural break in the competition effect of service exports. Before the crisis, 22 countries exhibited a positive average yearly percentage change, whereas this change was negative for 20 countries during the crisis. Within the latter group, the competition effect was clearly negative in the crisis year 2009 for 18 countries, but moved back to positive territory for 10 countries in 2010 and for 17 countries in 2011. Despite this quick rebound, the slump in 2009 was severe enough to yield an overall negative effect for the crisis period in 20 countries; hence, it was clearly a persistent shock. As already stated above, however, the data do not reveal whether those countries really lost competitiveness or whether the results were driven by another factor.
- *A positive structural effect drives market share growth more strongly for goods exports than for service exports.* This finding holds in both periods. A positive structural effect raised market shares of goods exports between 2004 and 2008 in 18 (2008 to 2012: 20) countries. However, only 12 countries (2004 to 2008) and 15 countries (2008 to 2012) experienced a positive structural effect on service exports. Interestingly, more countries were able to benefit from stronger market demand (i.e., a positive structural effect) for both goods and services in the crisis years 2008 to 2012. This increasing number of countries implies less centralization of exports with respect to origin, hence a greater geographical diversification of exports.

[14] *The mean effect over all countries changes by less than half a percentage point, confirming the fact that the size (and in most cases the sign) does not clearly change between the two periods.*

- *Only a small number of countries were able to benefit from both product and market effects.*[15] The demand-driven structural effect for goods can be split into a market and the product effect (neglecting the mixed effect), as shown in section 2. Heterogeneity is very high: Seven countries in the boom phase (2004 to 2008) and nine countries in the crisis period (2008 to 2012) recorded both positive market and product effects, but only the Northern European countries Denmark, Sweden, Finland, Latvia and Lithuania did so over the full time horizon. Thus, these countries have a comparative advantage over all other EU countries due to their export market structure and their product specialization. At the other end of the spectrum, France, Italy, Portugal and Spain face a negative product and market effect throughout the full time horizon, i.e. a comparative disadvantage vis-à-vis other EU countries, based on their particular export market and product specification patterns.

5 Details on Austrian Export Market Shares

This section discusses detailed results of the structural effect for Austria. In broad terms, Austrian exporters benefited from two key events: First, export firms derived long-term advantages from the productivity boost required as a result of and triggered by Austria's EU accession in 1995. Second, building on the historically strong ties to Central, Eastern and Southeastern European countries, Austrian firms were among the first to enter these markets after the fall of the Iron Curtain. In 2004, these countries became members of the EU and the single market (Bulgaria and Romania in 2007). At that time, robust export ties had already been established; thus, the Austrian export industry participated strongly in the catching-up process of these economies, as evidenced by chart 4. However, this effect is masked by the importance and development of Austrian export ties to Germany. At least 30% of Austrian goods exports and almost 40% of service exports go to Germany, meaning that Germany is still the single most important export partner of the Austrian economy and as such more important than the whole CESEE region.[16]

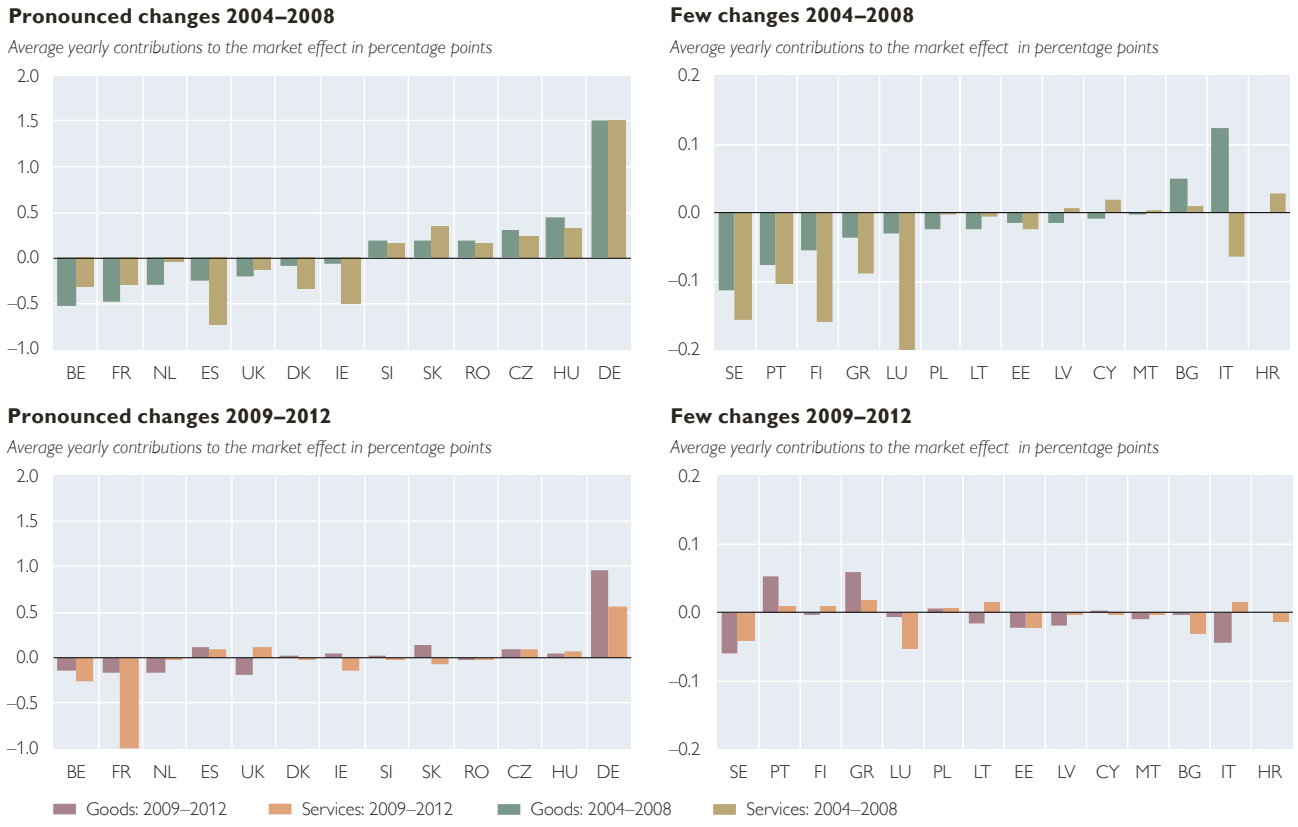
In the boom period 2004 to 2008, Austrian export firms (both for goods and services) benefited most from trade links to Germany but also from links to CESEE. The market effect vis-à-vis the old EU countries Belgium, Spain, France, the Netherlands and the U.K. was in fact negative. Thus the results clearly reveal the changing geographical focus of Austrian firms from Western Europe to Eastern Europe. The countries grouped in the right panel of chart 4 contributed only very little to the overall effect. Interestingly, Italy, Austria's second-largest trading partner, is in this group. The results also imply that Austrian exporters might regain market shares once Eastern Europe (the Czech Republic, Hungary, Romania, Slovenia and Slovakia) regains its precrisis growth momentum. Once again, the surprisingly small changes of the market effect show that during the 2008/09 crisis, almost all European countries were simultaneously hit by a common supply

[15] *The results for the market and the product effect in the decomposition of goods exports are reported in table A2.*

[16] *Indirect effects are not captured by this analysis. Thus, combining this data analysis with a world input/output table (Timmer, 2012) or a database on global value chains (Backer and Miroudot, 2013) would be a potential extension of the present study.*

Chart 4

Breakdown of the Market Effect



Source: Eurostat, own calculations.

Note: BE (Belgium), BG (Bulgaria), CZ (Czech Republic), DK (Denmark), DE (Germany), EE (Estonia), IE (Ireland), GR (Greece), ES (Spain), FR (France), IT (Italy), CY (Cyprus), LV (Latvia), LU (Luxembourg), HU (Hungary), MT (Malta), NL (Netherlands), AT (Austria), PL (Poland), PT (Portugal), RO (Romania), SI (Slovenia), SK (Slovakia), FI (Finland), SE (Sweden), UK (United Kingdom).

shock, implying an almost unchanged structural development overall.

At the product level, Austrian exporters are heavily concentrated on three industries: metal production, manufacturing system engineering and the car component industry – all product classes that were hit especially hard by the crisis in 2009. Unlike in the case of Austria's geographical advantage, it is less clear whether this specific product specialization is an advantage or disadvantage for Austrian export developments.

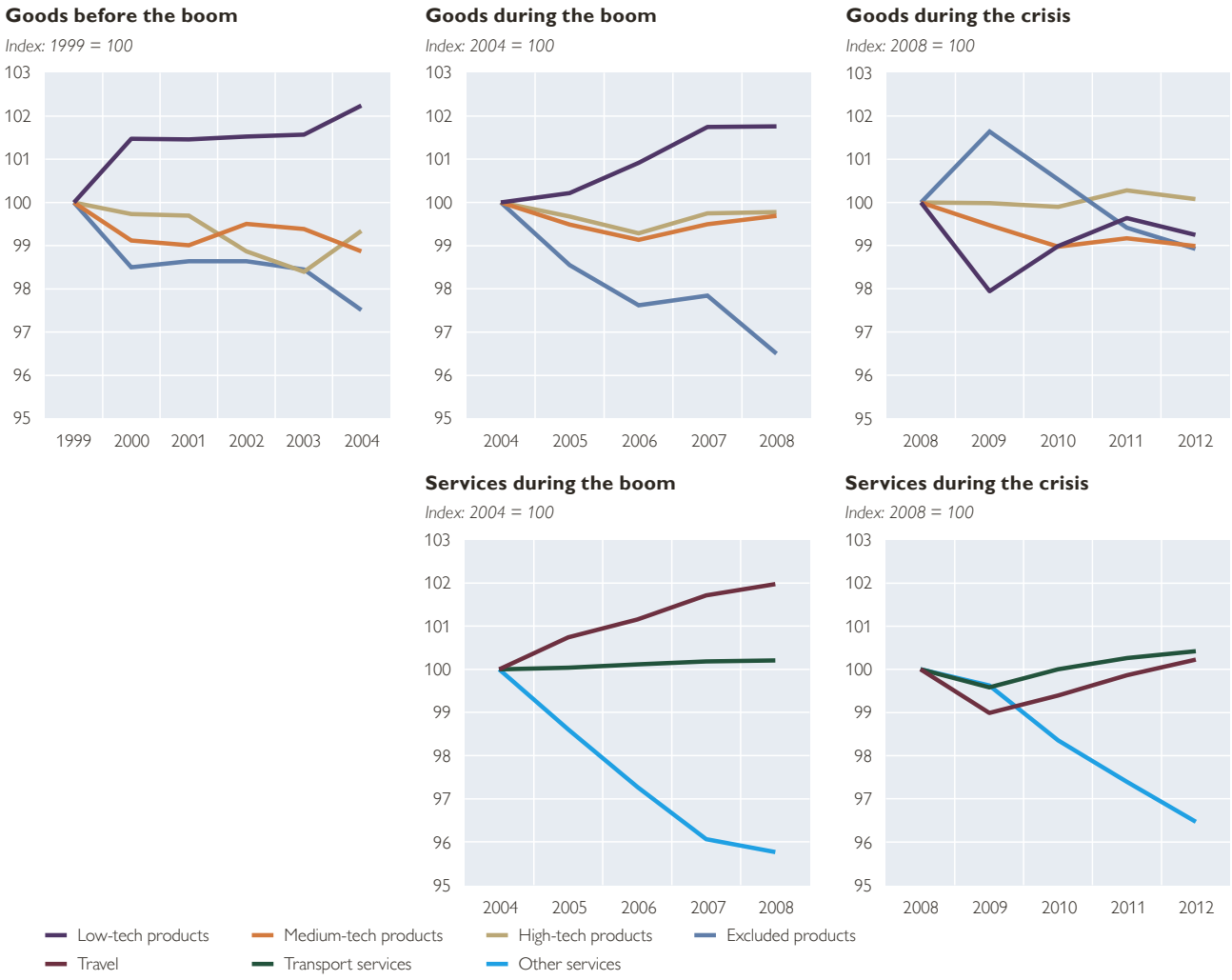
Chart 5 presents the product-specific results derived for 59 product categories. While the individual product categories are rather small at this very detailed level of classification, condensing them into technology classes[17] yields clearer results:

- *Looking at goods exports,* the Austrian export industry benefited most from producing low-tech goods before and during the boom. By contrast, the production of medium-tech and high-tech products was too small to win market shares. However, the array of products changed over time, and during the crisis Austria was able to gain market shares in high-tech goods exports. The analysis at hand is

[17] *The paper uses the same product classification as Jiménez and Martin (2010).*

Chart 5

Breakdown of the Product Effect



Source: Eurostat, own calculations.

supported by Bank Austria (2013). The finding there is that between 2007 and mid-2013, Austria expanded production in the high-tech segment most strongly, followed by the medium-high and the medium-low-tech segment. The data basis in that study captures production for foreign and domestic demand, while this analysis focuses solely on exports.

- The disaggregation of *service exports* cannot be as detailed as that of good exports for the following reasons: First, travel can be separated only into holiday and business travel; holiday travel is the larger aggregate and is more important for Austria. While possible, separating transport (into air, ground, water) would provide only little additional information. The most important and dynamic, albeit highly volatile category is "other services"; again, decomposition does not provide meaningful information, because other services comprises many small, disparate subcategories. Second, data availability is limited already at the level of disaggregation

considered; hence, a further disaggregation of the other services would result in many data holes.
- The breakdown shows that Austria benefited from tourism during the boom but faced problems during the crisis. Transport developed quite constantly over the whole time period.
- "Other services" (all services other than travel or transport) were one of the driving forces of service exports before and during the crisis. Their development cushioned the overall setback in exports in 2009. Nevertheless, the results presented here indicate that the share of other services in Austria is still below the share of other services in the EU (based on the predominance of tourism in Austria) and is shrinking.

6 Summary

The article presents a standard constant market share analysis (CMSA) for goods and services for intra-EU countries' exports. The main findings are as follows:

First, the pattern of goods market shares is surprisingly constant over time and is almost independent of boom/bust cycles. This fact holds especially for the crisis years 2008/09 and shows that almost all countries were simultaneously hit by a common supply shock. Within the EU, the Central and Eastern European countries gained market shares; some Western European countries (including Germany, the Netherlands and Austria) managed to keep their shares almost constant while others (including France, Italy and the U.K.) lost shares. Market share developments for services mirror the respective development of goods for most countries, except for those specialized in the service trade (like Belgium, Luxembourg and Ireland), which lost goods market shares but gained service market shares.

Second, the changes in market shares were driven by the competition effect. At the same time, putting a country's potential to improve its overall competitiveness down to competition only is not uncontested. Quite often, the competition effect is just interpreted as a residual effect that covers all unexplained factors other than demand-driven aspects. Regarding the demand-driven structural effect, the data do not support a clear predominance of either market or product effects for the EU countries.

The more detailed analysis of the Austrian export market shares shows (1) Germany as the most important partner country for Austrian exports and market shares, (2) the growing importance of high-tech products for goods exports, and (3) further growth potential of other services in a European comparison.

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Annex

Table A1

Cumulative GDP, Export and Import Growth for Chosen Time Periods

	GDP		Exports		Imports	
	2004–2008	2008–2012	2004–2008	2008–2012	2004–2008	2008–2012
	Cumulative growth in percentage points					
Austria	11.7	1.5	27.7	–0.4	19.9	1.1
Belgium	8.5	1.1	16.7	6.1	19.5	6.1
Bulgaria	28.1	–2.8	35.9	13.9	55.9	–9.0
Cyprus	17.7	–2.5	14.7	–5.6	36.3	–19.4
Czech Republic	24.5	–1.4	46.9	17.7	35.8	11.0
Germany	9.0	2.7	35.2	11.7	29.4	13.0
Denmark	6.8	–3.7	24.9	0.1	35.6	–3.0
Estonia	23.5	0.3	31.7	27.0	34.0	16.7
Greece	11.5	–20.4	16.4	–16.4	26.5	–40.2
Spain	12.6	–5.6	15.6	10.5	21.6	–14.7
Finland	13.5	–3.8	37.4	–12.9	38.2	–6.8
France	6.6	0.5	10.4	3.8	18.1	2.4
Hungary	9.1	–5.9	61.0	10.2	46.4	0.5
Ireland	14.9	–5.2	17.5	9.5	21.3	–6.8
Italy	3.7	–5.7	15.8	–0.3	14.0	–8.6
Lithuania	31.3	–4.9	51.0	30.8	62.0	2.3
Luxembourg	16.9	–0.9	34.3	–3.4	36.3	0.2
Latvia	30.7	–10.0	46.1	20.1	43.1	–2.4
Malta	14.9	3.6	22.3	19.3	21.5	11.8
Netherlands	11.6	–2.5	23.4	10.6	24.0	10.3
Poland	23.6	12.5	44.6	16.9	50.9	4.5
Portugal	4.6	–5.4	20.2	8.3	18.4	–14.0
Romania	28.2	–5.0	38.7	16.4	95.5	–2.7
Sweden	10.5	5.1	25.0	2.5	31.5	2.3
Slovenia	21.7	–8.5	47.2	–0.5	44.7	–12.6
Slovakia	35.0	4.1	56.8	19.7	49.0	5.6
United Kingdom	8.9	–2.2	20.9	3.5	13.8	–0.2

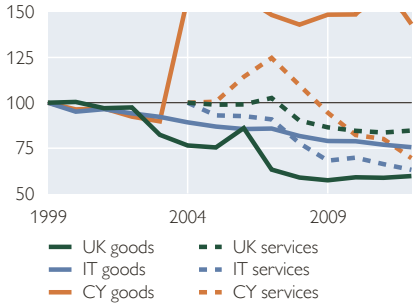
Source: Eurostat.

Chart A1

Market Shares: Goods and Services

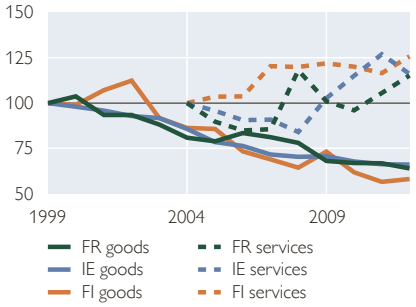
UK, IT, CY

Index 1999 = 100 (goods): Index 2004 = 100 (services)



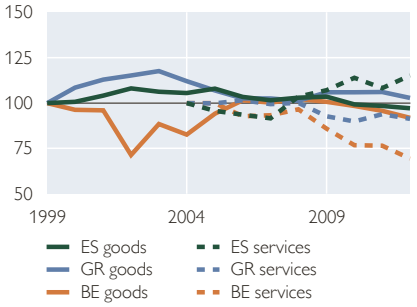
FR, IE, FI

Index 1999 = 100 (goods); Index 2004 = 100 (services)



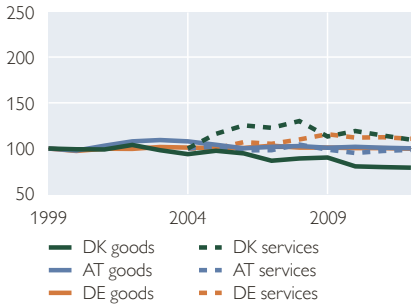
ES, GR, BE

Index 1999 = 100 (goods); Index 2004 = 100 (services)



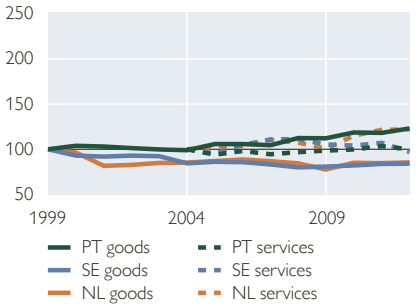
DK, AT, DE

Index 1999 = 100 (goods); Index 2004 = 100 (services)



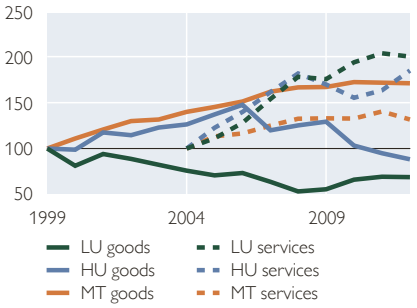
PT, SE, NL

Index 1999 = 100 (goods); Index 2004 = 100 (services)



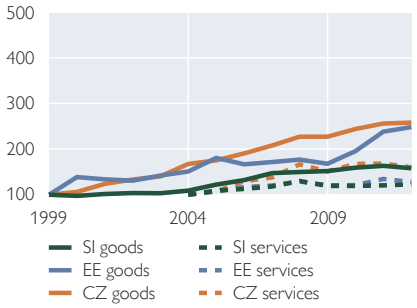
LU, HU, MT

Index 1999 = 100 (goods); Index 2004 = 100 (services)



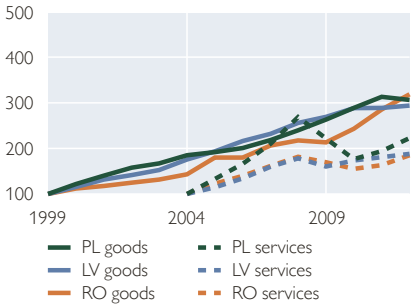
SI, EE, CZ

Index 1999 = 100 (goods); Index 2004 = 100 (services)



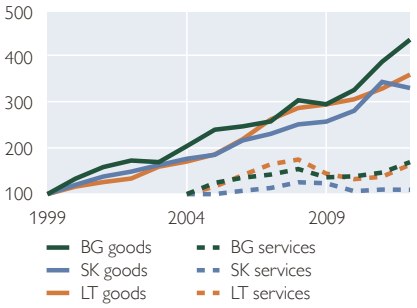
PL, LV, RO

Index 1999 = 100 (goods); Index 2004 = 100 (services)



BG, SK, LT

Index 1999 = 100 (goods); Index 2004 = 100 (services)

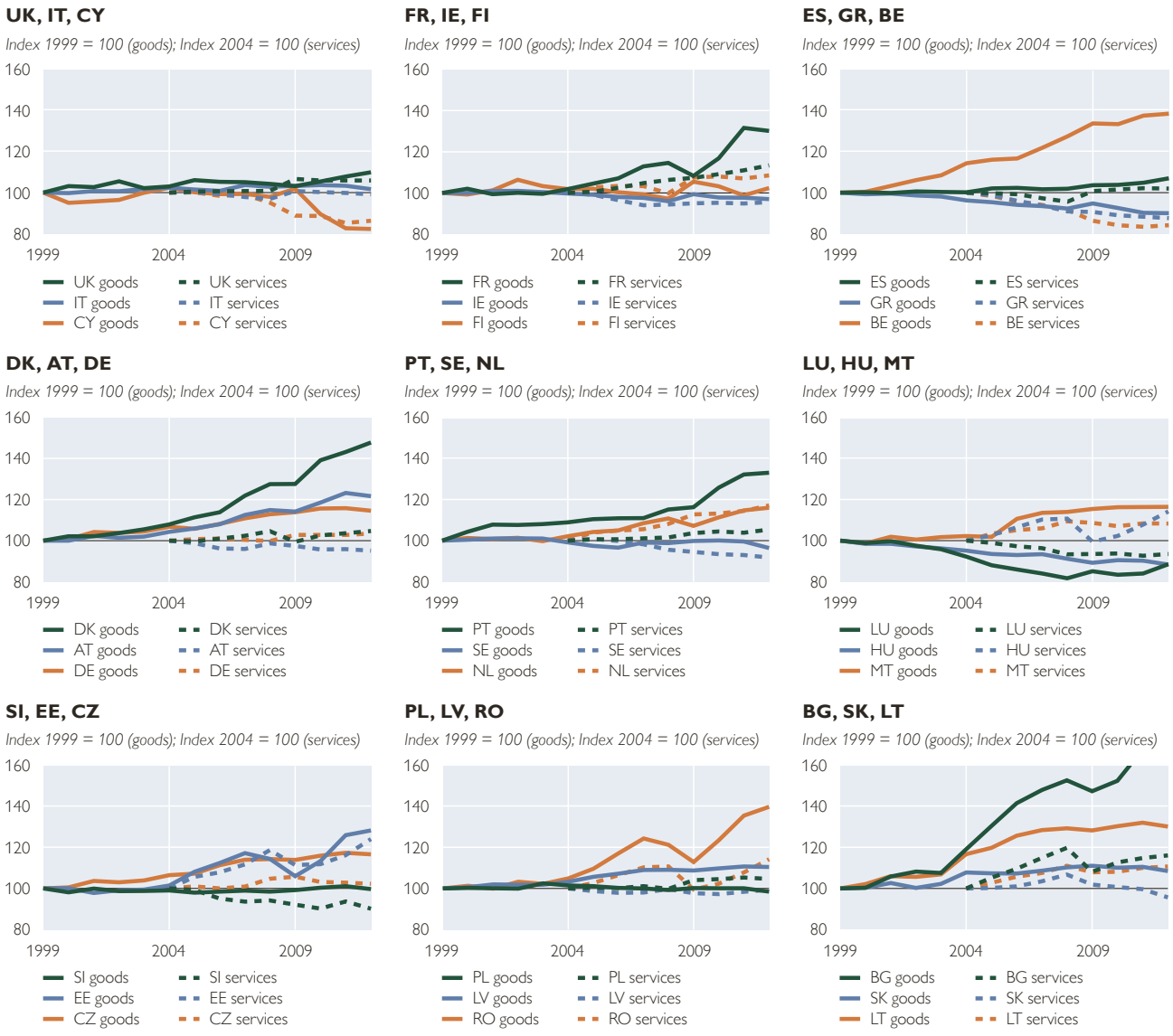


Source: ComExt, Eurostat.

Note: BE (Belgium), BG (Bulgaria), CZ (Czech Republic), DK (Denmark), DE (Germany), EE (Estonia), IE (Ireland), GR (Greece), ES (Spain), FR (France), IT (Italy), CY (Cyprus), LV (Latvia), LU (Luxembourg), HU (Hungary), MT (Malta), NL (Netherlands), AT (Austria), PL (Poland), PT (Portugal), RO (Romania), SI (Slovenia), SK (Slovakia), FI (Finland), SE (Sweden), UK (United Kingdom).

Chart A2

Structural Effect: Goods and Services



Source: ComExt, Eurostat.

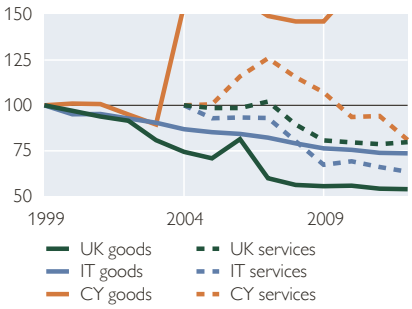
Note: BE (Belgium), BG (Bulgaria), CZ (Czech Republic), DK (Denmark), DE (Germany), EE (Estonia), IE (Ireland), GR (Greece), ES (Spain), FR (France), IT (Italy), CY (Cyprus), LV (Latvia), LU (Luxembourg), HU (Hungary), MT (Malta), NL (Netherlands), AT (Austria), PL (Poland), PT (Portugal), RO (Romania), SI (Slovenia), SK (Slovakia), FI (Finland), SE (Sweden), UK (United Kingdom).

Chart A3

Competition Effect: Goods and Services

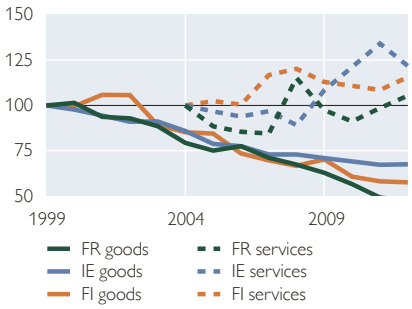
UK, IT, CY

Index 1999 = 100 (goods); Index 2004 = 100 (services)



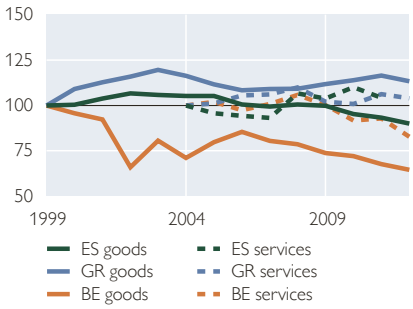
FR, IE, FI

Index 1999 = 100 (goods); Index 2004 = 100 (services)



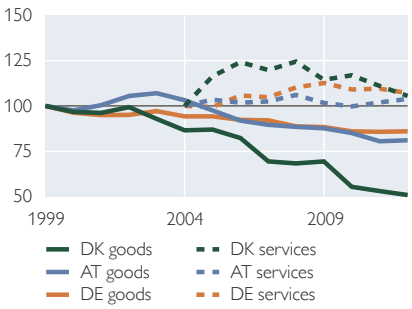
ES, GR, BE

Index 1999 = 100 (goods); Index 2004 = 100 (services)



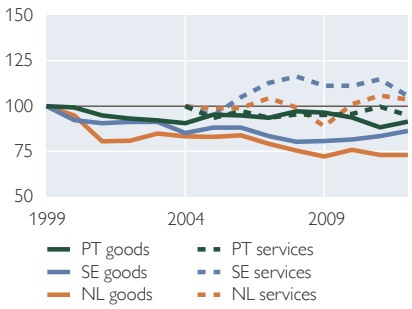
DK, AT, DE

Index 1999 = 100 (goods); Index 2004 = 100 (services)



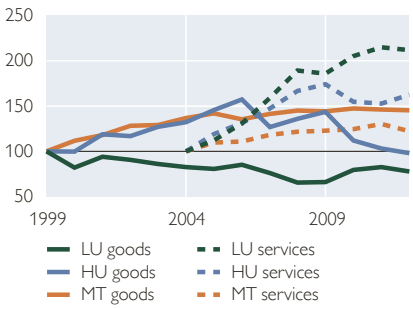
PT, SE, NL

Index 1999 = 100 (goods); Index 2004 = 100 (services)



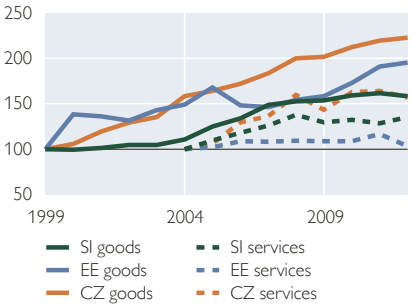
LU, HU, MT

Index 1999 = 100 (goods); Index 2004 = 100 (services)



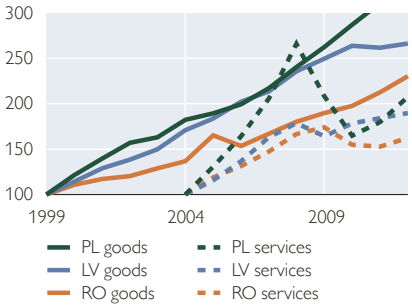
SI, EE, CZ

Index 1999 = 100 (goods); Index 2004 = 100 (services)



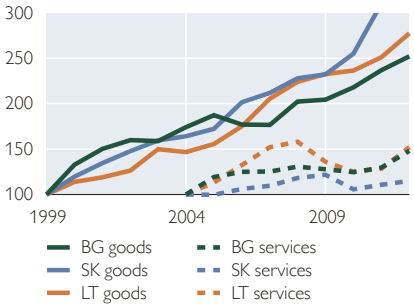
PL, LV, RO

Index 1999 = 100 (goods); Index 2004 = 100 (services)



BG, SK, LT

Index 1999 = 100 (goods); Index 2004 = 100 (services)



Source: ComExt, Eurostat.

Note: BE (Belgium), BG (Bulgaria), CZ (Czech Republic), DK (Denmark), DE (Germany), EE (Estonia), IE (Ireland), GR (Greece), ES (Spain), FR (France), IT (Italy), CY (Cyprus), LV (Latvia), LU (Luxembourg), HU (Hungary), MT (Malta), NL (Netherlands), AT (Austria), PL (Poland), PT (Portugal), RO (Romania), SI (Slovenia), SK (Slovakia), FI (Finland), SE (Sweden), UK (United Kingdom).

Table A2

Country-Specific Product and Market Effect for Goods Exports

	Product effect		Market effect	
	2004–2008	2008–2012	2004–2008	2008–2012
Latvia	4,8	2,8	12,5	12,2
Lithuania	9,9	10,1	14,2	8,6
Romania	–2,2	–3,5	0,1	–0,2
Slovakia	–0,0	–3,0	7,5	2,9
Malta	–5,8	3,1	–5,1	–2,4
Poland	–0,0	–2,5	5,1	3,7
Bulgaria	–0,8	–0,4	1,7	–6,5
Estonia	–0,2	1,8	12,4	5,6
Czech Republic	–3,0	–3,8	7,8	4,7
Slovenia	–2,6	–3,5	2,1	2,0
Luxembourg	–2,4	–5,2	–2,5	1,5
Hungary	–4,1	–3,6	6,6	3,3
Netherlands	2,7	5,4	–1,3	1,9
Sweden	3,8	0,1	0,9	0,4
Portugal	–0,7	–1,5	–5,2	–6,3
Germany	–1,2	–2,1	0,5	1,2
Ireland	–2,6	3,6	–6,3	0,9
Belgium	3,1	3,2	–1,7	1,9
Denmark	6,5	4,7	0,9	2,7
Austria	**2,6**	**–2,0**	**3,3**	**2,9**
Spain	–1,8	–1,6	–2,9	–3,5
France	–0,8	–0,9	–3,3	–1,4
Finland	6,5	0,7	3,5	3,9
United Kingdom	3,7	4,3	–2,3	–5,5
Greece	2,7	4,9	7,5	–3,2
Italy	–1,4	–2,3	–0,7	–1,7
Cyprus	–2,2	0,7	–4,3	–18,9

Source: Eurostat, own calculations.