

3. A closer look at some drivers of trade performance at Member State level

This chapter takes a closer look at some drivers of the trade performance of individual euro-area Member States. It shows that the import content of exports is high and rising, particularly in smaller Member States. This has important implications for the impact of exports on growth and the trade balance. Decomposition of export growth based on a constant-market share technique shows that country differences in export performance are mainly driven by market share gains or losses within geographical destinations and product markets, with the overall geographical and sectoral specialisation playing only a modest role. There is some persistence in export performance over time, with market share gains within geographical destinations and product markets in pre-crisis years correlated with gains since the crisis. This inertia in export performance is a factor that could contribute to the persistence of external imbalances. And there does not seem to be any trade-off between strategies which enhance product competitiveness horizontally (across all geographical markets) and those which may customise products to local needs or tastes in destination countries. Finally, export performance appears to be only partly related to price competitiveness, leaving an important explanatory role for non-price competitiveness. In a policy perspective, strategies to rebalance current account deficits should aim to enhance both price and non-price competitiveness, with a key role to be played by increased competition in the service sector, export promotion programmes and the promotion of R&D and skilled labour.

Chapter II of this report provides an assessment of the overall trade performance of the euro area. This aggregate picture conceals substantial country differences, however. The present chapter therefore takes a closer look at the trade performance of euro-area Member States, emphasising in particular those countries currently engaged in a process of rebalancing large current account deficits. It aims to gain a better understanding of the role of some key structural factors underpinning trade performance and their possible contribution to external rebalancing.

Section 3.1 evaluates the import content of exports across Member States. While empirical analyses of trade performance frequently focus exclusively on exports, understanding the contribution of exports to the trade balance requires an evaluation of their import content. Section 3.2 presents a shift-share decomposition that disentangles the roles of Member States' geographical and sectoral specialisations. It also discusses the links between export market share gains and price or non-price competitiveness and reviews the recent empirical literature on non-price competitiveness factors. Section 3.3 then draws conclusions and offers some policy insights.

3.1. Import content of exports

Deducting embedded intermediate inputs from gross exports — determining the import content of exports — is important for a proper assessment of competitiveness and of current account rebalancing challenges.

The methodology used to calculate the import content of exports is described in Box 3.1. A summary picture of the results is presented in Graph 3.1, which shows ⁽²⁴⁾ the import content as a percentage of the total value of exports for the economy at large. It therefore includes all industries, from agriculture to services. Three main findings emerge:

- In all Member States, the import content of exports is far from negligible. A rise in exports therefore entails an increase in imports of intermediate goods, which mitigates significantly the expected effect of exports on the trade balance.
- For most countries in the sample, the import content is rising over time, which reveals the increasing role of international value chains in modern economies.
- There is a wide variation across countries, which could be partly driven by size or sectoral structure.

The import content of exports in 2005 in the euro area ranged from 26% in Greece to 52% in Estonia. More than a quarter of the value of exports thus consists of intermediate inputs imported, with this share being substantially

⁽²⁴⁾ The estimates are based on data from Eurostat Input-Output tables. Since the latest data available vary across countries, the years 1995 and 2005 have generally been taken to harmonise the presentation of results. Exceptions include: Estonia (1997), Hungary and Ireland (1998), and Bulgaria, Lithuania, Poland, Romania, Slovenia and Slovakia (2000).

Box 3.1: Calculating the import content of exports

The import content of exports refers to the intermediate inputs of foreign origin which are, both directly and indirectly, embedded in the goods and services exported by the country. The calculation is carried out using the input-output tables for EU countries published by Eurostat. The method used is standard and is based on the following expression:

$$MC = \left\{ \frac{[M(I - A_d)^{-1}]X}{X_t} \right\} \times 100$$

M is a vector of technical coefficients representing the use of imported intermediate inputs: for each industry it is calculated as the ratio of intermediate inputs imported to the gross value of production. A_d is the matrix of technical coefficients calculated from the matrix of intermediate transactions for domestic products. X is a vector of exports of domestic products and X_t is the total value of exports. The number of industries is 59.

This expression provides the import content of exports for the economy at large. The results by industry, which underlie the overall figure, provide interesting insights into the interpretation of the results. As the calculation uses basically the intermediate flows matrix, the import content of exports does not include the imports of capital goods used, as part of the capital stock of the economy, in the production of exports. In other words, it does not measure the contribution of capital of foreign origin used to produce goods and services exported.

higher in a number of countries. Small countries tend to be more open to trade and to post a higher import content, while France, Germany and Italy are all at the bottom of the euro-area ranking. ⁽²⁵⁾

In addition to size, the diversity of these shares may also be related to the sectoral structure of the economy. An example is Greece, where the comparatively low import content of exports could be explained, at least partly, by the fact that the economy is more oriented towards services. Outside the euro area, a similar explanation holds for the low import intensity of UK exports.

The import content of exports increases significantly between the two years considered in Graph 3.1, and the trend is further confirmed by results for more recent years available for a few countries. Annual data for Germany and Finland also show that the upward trend is steady, although the lack of data for 2010 means that the impact of the crisis cannot be analysed. The trend is strongly driven by the process of globalisation and the organisation of production around global value chains (GVCs), a development which is more apparent when analysed at firm and industry level. ⁽²⁶⁾

For the EU as a whole the import content of exports is substantially lower (13.5%) than for individual countries. This shows the significant

role of the internal market in terms of the supply of intermediate inputs for the production of exports by EU countries. On average for the period 1999–2011, 70% of the intermediate inputs used by industries in EU countries were imported from other EU countries. Imports of intermediate inputs are not just a leakage of activity towards partner countries, but also a factor of competitiveness to the extent that the economy has access to better quality inputs.

The import content of exports shows a high variation across industries within a country as the internationalisation of the production process is more developed in some industries than in others. For instance, in Germany the import content of exports ranges from 3.7% (other services) to 81.6% (coke, refined petroleum products and nuclear fuels), for an overall average of 28.5%. While these are extreme cases, there is still substantial variation across industries: manufacturing and transport activities are above the average, while, as expected, all the other services industries are below the average.

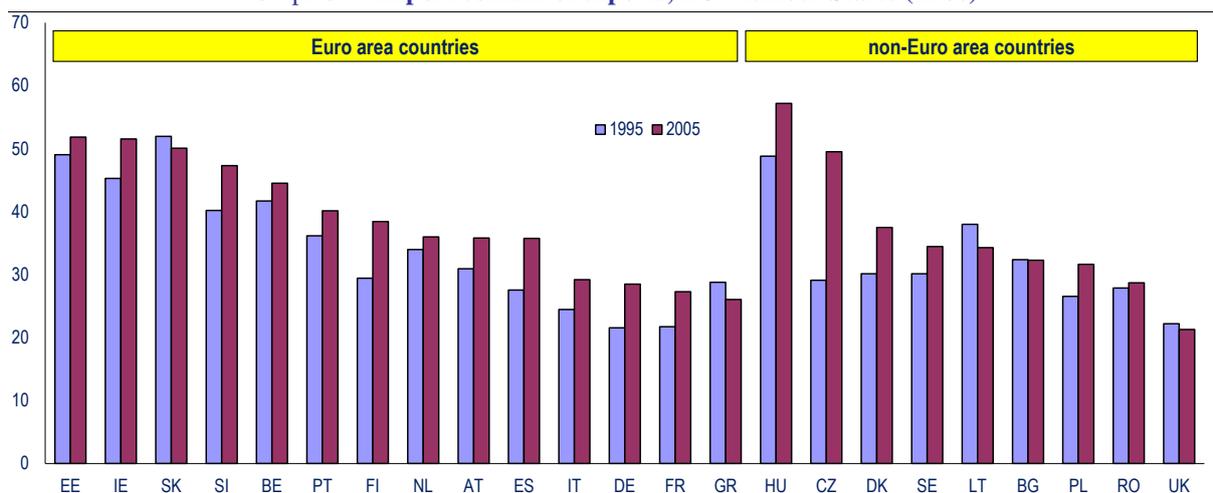
Although there is a positive correlation between the import content of exports at industry level in different countries, there is still substantial variation in the proportion of imported inputs used by the same industry across countries. This reflects the above-mentioned country size effect and the different position of countries in the GVCs. For example, in computers and office equipment the import content of exports ranges from 19.8% (EL) to 88% (IE) and in electrical machinery from 25.5% (DE) to 68.4% (EE). For the same industries — and as expected — France,

⁽²⁵⁾ The rank correlation coefficient (Spearman) between the import content of exports for the whole economy and GDP is negative (−0.57) and statistically significant.

⁽²⁶⁾ Gereffi, G., J. Humphrey and T. Sturgeon (2005), 'The governance of global value chains', *Review of International Political Economy*, Vol. 12, No 1, 2005.

3. A closer look at some drivers of trade performance at Member State level

Graph 3.1: Import content of exports, EU Member States (in %)



Source: Commission services' calculations. Bulgaria: OECD STAN database.

Germany and Italy exhibit lower uses of imported intermediate inputs than the other countries.

The analysis presented here also has implications in terms of assessing the needs of Member States with current account imbalances. For the euro-area countries, an increase in exports will trigger imports of intermediate inputs amounting, on average, to 38.7% of the value of exports. For those countries with a high current account deficit, it is clear that, with the exception of Greece (26%), a quite significant share of export activity leaks to other countries via imports: 35.7% (ES), 40.1% (PT) and 51.8% (EE). While this has been identified as being part of the internationalisation strategy of businesses, the implications for correcting macroeconomic external imbalances cannot be neglected. Likewise, the contribution of exports to growth should be reassessed in the light of these results.

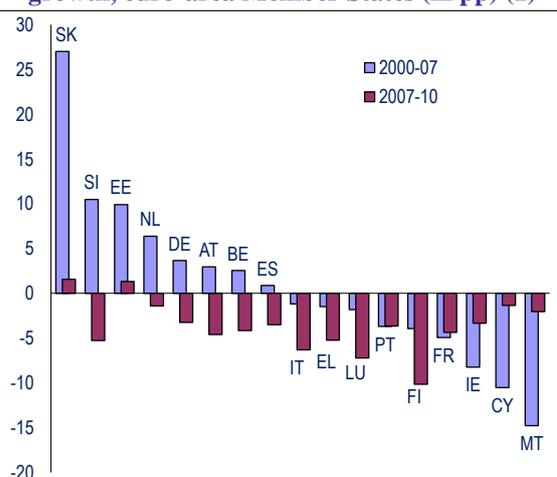
3.2. Export performance in product and geographical markets

Graph 3.2 shows the nominal export growth of euro-area countries net of global nominal import growth. It covers both pre-crisis years (2000-07) and developments since the crisis (2007-10) and gives an idea of Member States' market share gains (when net export growth is positive) or losses (when net export growth is negative) over the two periods.

There are clearly large differences in Member States' export performance over the two periods. To shed some light on the drivers of these differences, a shift-share analysis is applied. There are simple techniques to decompose the growth rates of exports into easy-to-interpret

components. The decomposition used in this chapter allows us to estimate the contributions of four basic components. The first two consist in two *structural factors*: the geographical and commodity composition of exports — i.e. whether a country is specialised in sectors with dynamic global demand and whether destination countries are dynamic markets (see Box 3.2). These two components are labelled respectively *the initial geographical and product specialisations (ISG and ISP)*. The two specialisation components can be seen as the outcome of past successful export strategies and competitive advantage. For the period under analysis they are, however, considered as exogenous.

Graph 3.2: Export growth net of global import growth, euro-area Member States (in pp) (1)



Source: Commission services' calculations based on UN COMTRADE data.

The two remaining components are performance *within product markets* and *within geographical markets*. They show how successful a country has

Box 3.2: Methodology of shift-share decomposition

The decomposition is carried out using UN COMTRADE import and export data for goods for the years 2000, 2007 and 2010, for all the available 2-digit HS product categories (about 100). The year 2007 is selected as a borderline between the period before the global crisis and the post-crisis period. The export and import growth rates are nominal. The importers considered are all the countries available in COMTRADE. The decomposition is subject to the following accounting identity:

$$g^e - g^* = \frac{1}{2} \left[\underbrace{\sum_i w_i^e (g_i^* - g^*)}_{ISG} + \underbrace{\sum_s w_s^e (g_s^* - g^*)}_{ISP} + \underbrace{\sum_i w_i^e (g_i^e - g_i^*)}_{MSGG} + \underbrace{\sum_s w_s^e (g_s^e - g_s^*)}_{MSGP} \right]$$

g^e — growth rate of total exports of country e

g^* — growth rate of global imports

w_i^e — share of exports from country e to country i in total exports of country e

w_s^e — share of exports from country e in sector s in total exports of country e

g_i^e — growth rate of exports from country e to country i (of all products)

g_s^e — growth rate of exports from country e in sector s (to all destinations)

g_i^* — growth rate of total imports of country i

g_s^* — growth rate of global imports in sector s

Obviously, a positive difference between the export growth of country e and the global import growth (assumed to be equal to global export growth) points to an increase in the global market share of country e . However, that can be entirely because of the favourable initial specialisation (geographical component, ISG, or product component, ISP). The two other components in the decomposition show whether market shares increased within geographical markets and product markets: the market share gains in countries (MSGG) and in products (MSGP) components. Consequently, the latter two components represent the competitiveness of exports in the period analysed. The growth rate components are calculated for two periods (2000–2007 and 2007–2010) and annualised.

been in increasing its exports above market growth in destination countries and in products. These two factors can be labelled *market share gains in geographical destinations (MSGG) and in products (MSGP)* and reflect a country's export strategy within geographical and product markets, e.g. sufficient or insufficient customisation to local tastes, too high or competitive prices of standardised goods, or high or low quality of higher-end goods. Hence, the market share gain components reflect both price competitiveness developments (a typically successful strategy when competing in markets for standardised goods or in lower-income markets) and non-price competitiveness (important when competing in higher-income destination countries or in differentiated products).

Patterns in export decomposition across the Member States

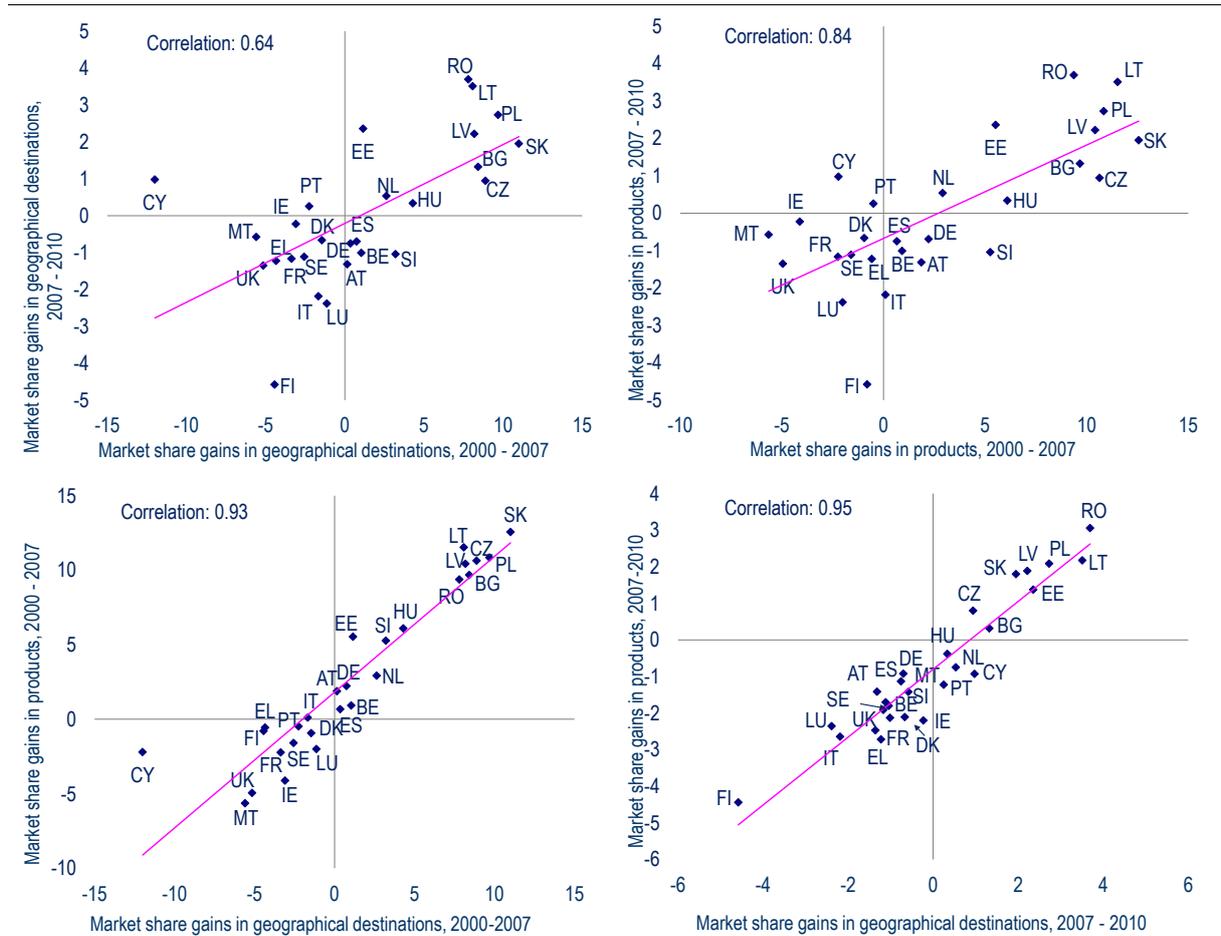
The results of this decomposition for each Member State and for the periods 2000–07 and 2007–11 are presented in Table 3.1. A number of statistical patterns can be observed based on the correlations between the export growth components across countries (Graph 3.3).

First, performance shows inertia across the four components. This is particularly true for market share gains within product and geographical markets (*MSGP* and *MSGG*), with correlations in performance over the two periods (2000–07 and 2007–11) of 0.8 and 0.6 respectively (upper panels of Graph 3.3). So there seems to be some degree of persistence in export performance, especially in competitive performance in products. Though not a surprising finding — after all a country's competitiveness does not change overnight — it also contributes to the persistence of external imbalances.

Second, there is a very strong positive link between competitive performance within product markets (*MSGP*) and within geographical markets (*MSGG*), with a correlation above 0.9 (lower panels of Graph 3.3): Member States which gain market shares within their product markets also gain market shares within their destinations. So, there does not seem to be any trade-off between the strategies which enhance product competitiveness globally (across all geographical markets) and those which may customise products to local needs (in terms of price or quality) or tastes in destination countries. It is possible that exporters in successful Member States are able to

3. A closer look at some drivers of trade performance at Member State level

Graph 3.3: Correlations of export growth components, EU Member States (all market share gains in pp)



Source: Commission services' calculations based on UN COMTRADE data.

produce a wide spectrum of product varieties: both those which compete on prices (usually preferred in lower-income countries) and those which compete on quality (generally with higher demand in richer countries). This strong positive relationship between *MSGP* and *MSGG* is also in line with microeconomic empirical evidence, which shows that high-productivity firms are better at competing both on prices and on quality and at serving more geographical markets, both richer and more difficult markets (e.g. in terms of physical or cultural distance).⁽²⁷⁾

Finally, there is only a weak correlation between the contributions to export growth of initial product composition (*ISP*) and geographical destination composition (*ISG*). In other words, being specialised in fast growing geographical destinations says little about being active in fast-growing product markets, and vice versa.

Similarly, the relationships between the initial specialisation components and the respective market share gain components are relatively weak and mixed. Benefiting from a good specialisation does not necessarily mean a strong capacity to gain market shares on individual markets.

Results of a cluster analysis

To make a more systematic analysis of the main country differences in the shift-share decomposition, a hierarchical clustering method can be used. In order to shed some light on possible differences between euro-area and other EU Member States, the analysis is applied to all EU Member States.⁽²⁸⁾

As shown in Graph 3.5, the method allows us to distinguish between three country groups. The three groups can be characterised by their median performance and dispersion in each of the four

⁽²⁷⁾ Bastos, P. and J. Silva (2010), 'The quality of a firm's exports: Where you export to matters,' *Journal of International Economics*, Vol. 82, No 2, pp. 99-111.

⁽²⁸⁾ Clusters are formed using Ward's method. Distance is Euclidean distance.

Table 3.1: The shift-share components of net export growth, euro area Member States (in pp) (1)

	2000-2007				2007-2010			
	<i>ISG</i> (2)	<i>ISP</i> (2)	<i>MSGG</i> (2)	<i>MSGP</i> (2)	<i>ISG</i> (2)	<i>ISP</i> (2)	<i>MSGG</i> (2)	<i>MSGP</i> (2)
	Initial geographical specialisation	Initial product specialisation	Market share gains in geographical destinations	Market share gains in product markets	Initial geographical specialisation	Initial product specialisation	Market share gains in geographical destinations	Market share gains in product markets
AT	1.3	-0.4	0.2	1.9	-1.0	-0.9	-1.3	-1.4
BE	0.2	0.4	1.0	0.9	-1.0	0.0	-1.0	-2.1
CY	4.7	-1.0	-12.0	-2.2	-1.7	0.3	1.0	-0.9
DE	1.1	-0.4	0.8	2.2	-0.9	-0.7	-0.7	-0.9
EE	4.0	-0.8	1.2	5.5	-1.7	-0.7	2.4	1.4
EL	3.2	0.2	-4.3	-0.6	-1.4	0.1	-1.2	-2.7
ES	0.1	-0.2	0.4	0.7	-1.0	-0.6	-0.8	-1.1
FI	2.1	-0.8	-4.4	-0.8	-0.5	-0.6	-4.6	-4.4
FR	0.8	-0.1	-3.4	-2.2	-1.0	-0.3	-1.2	-1.9
IE	-0.9	-0.1	-3.1	-4.1	-1.4	0.5	-0.2	-2.2
IT	1.0	-0.6	-1.7	0.1	-1.0	-0.5	-2.2	-2.6
LU	0.3	1.0	-1.1	-2.0	-1.2	-1.3	-2.4	-2.4
MT	-1.8	-1.7	-5.6	-5.7	-0.4	0.4	-0.6	-1.4
NL	0.6	0.2	2.6	2.9	-1.2	0.1	0.5	-0.8
PT	0.4	-1.3	-2.2	-0.5	-2.1	-0.6	0.3	-1.2
SI	2.2	-0.2	3.2	5.3	-1.6	-0.8	-1.0	-1.8
SK	3.1	0.3	11.0	12.6	-1.2	-1.0	2.0	1.8

(1) Net export growth is nominal export growth net of nominal world import growth.

(2) Component acronym, see Box 3.2.

Source: Commission services' calculations based on UN COMTRADE data.

components of the shift-share analysis in the two periods investigated (Graph 3.4). The first group (starting from the right in Graph 3.5) consists only of Member States that joined the EU in 2004 or later (but not all of them). These Member States started from very low export levels and experienced rapid catching-up during the decade. The second (and largest) group is made up of Member States which have generally shown comparatively poor export performance over the two periods considered (CY, DK, FI, FR, EF, IE, IT, LU, MT, PT, SE, UK). A third group consists of mostly advanced countries with relatively strong export performance (e.g. AT, DE, BE, ES, EE, HU, SI, NL). The clustering does not allow a clear distinction to be drawn between euro-area and other EU Member States.

Graph 3.4 points to large differences between the groups in terms of market share components of the shift-share decomposition. Although there are some group differences in terms of the contribution of the geographical and product specialisation components (*ISP* and *ISG*), it turns out that the product market share gain components (*MSGP* and *MSGG*) are much more important for explaining export growth differences. This relative pattern seems to be stable over time. This means that the deep global crisis, which is partly captured by the figures for the second period, did not change the general qualitative picture,

although it obviously had an impact at the overall average level of export growth. Finally, it is interesting to note that the second group (low performers) did worse than the other two groups in terms of market share gains within both product and destination markets.

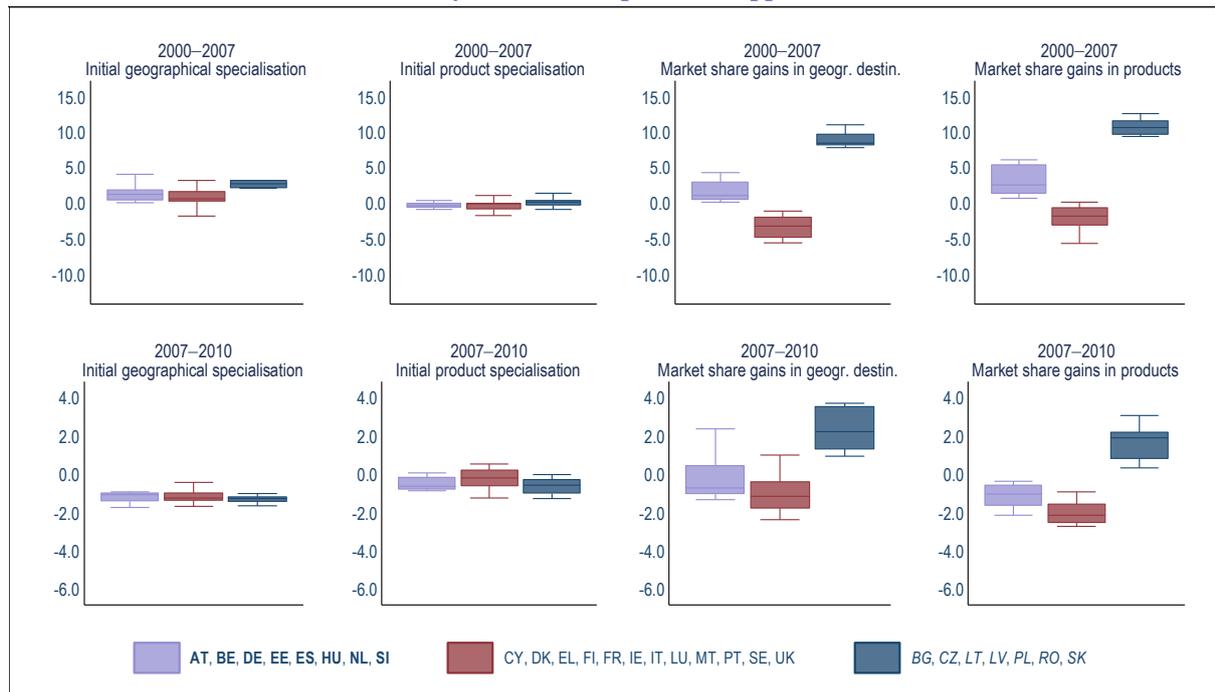
Developments since the global economic crisis

Turning to developments since the crisis,⁽²⁹⁾ although most Member States have suffered from the crisis and seen their overall market share performance deteriorate significantly relative to the pre-crisis trends, large country differences are again noticeable. Larger countries have generally kept their ranks in terms of export performance relatively stable whereas the relative positions of smaller countries have been more volatile. This higher volatility for small countries may reflect their dependence on relatively fewer products (due to scale effects in manufacturing) and less diversified trading partners, both leading to a lower degree of export diversification. There are, however, exceptions to this general volatility difference between large and small countries: Italy is one of the countries with the largest relative deterioration.

⁽²⁹⁾ As in the previous section the most recent year covered by the analysis is 2010.

3. A closer look at some drivers of trade performance at Member State level

Graph 3.4: The performance of country clusters in each of the export growth components of the shift-share analysis in the two periods (in pp) (1)



(1) Horizontal lines inside the boxes represent medians, the bottoms and the tops of the boxes represent the 25th and the 75th percentiles, and the 'whisker' lines represent the Tukey adjacent values.

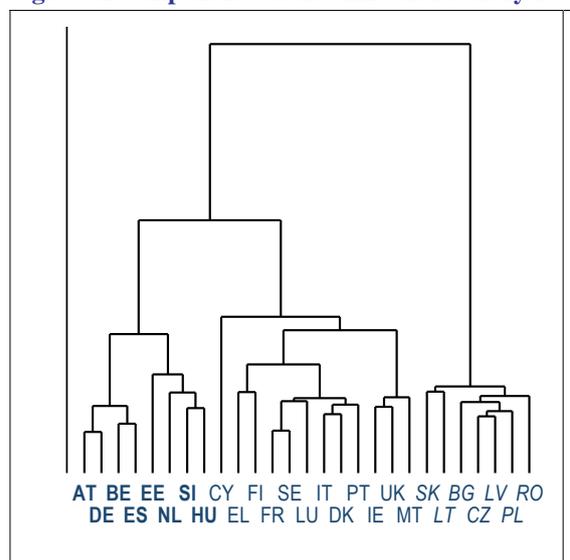
Source: Commission services' calculations based on UN COMTRADE data.

with high or medium external deficits,⁽³⁰⁾ the dynamism of destination countries (*ISG*) has generally made a negative contribution since the start of the crisis — not surprisingly given the large share of exports going to other sluggish EU economies in that group. The role of product composition (*ISP*) is mixed, with some deficit countries benefiting from the dynamism (though moderate) of their export basket (notably CY, MT, IE and, to a lesser extent, EL) — while the rest suffered from specialisation in products facing below-average global demand. The contribution from the components reflecting countries' market share gains in product (*MSGP*) and geographical markets (*MSGG*) is negative for all deficit countries, with the notable exception of Slovakia, which shows significant market share gains over the post-crisis period (also before the crisis), and Cyprus, whose negative performance in terms of product market shares is offset by market share gains in destination countries.

Overall, although the effect of a given geographical and sectoral specialisation may change over time, reflecting shifts in the geographical and product drivers of global trade, the results of the analysis of recent years suggest

⁽³⁰⁾ These countries have already started their adjustment process, in some cases quite significantly.

Graph 3.5: Country clusters based on the export growth components of the shift-share analysis



Countries marked in bold font belong to the first cluster, those in normal font to the second cluster, and those in italics to the third cluster in the three-cluster classification used in the following analysis. The dissimilarity scale is square-root transformed.

Source: Commission services calculations based on UN COMTRADE data.

that the specialisation of deficit countries will not be a major help in the correction of external imbalances and that persistent losses in individual

market shares are a reflection of deep-seated competitiveness problems (both price and non-price) in these countries.

Price vs non-price competitiveness

A final important issue is the extent to which market share gain contributions to export growth can be explained by cost developments. The correlations between the two market share gain components (*MSGG* and *MSGP*) and the changes in the real effective exchange rate (REER) in the same period are negative but small in absolute terms (around -0.2 overall) for the euro-area countries. The role of cost factors in shaping exports in 2007–2010 seems even slightly weaker than in the period 2000–2007. Note, however, that accumulated REER appreciations were so large in some countries before the onset of the crisis that even a low elasticity of exports to price factors could translate into large export losses. In addition, the correlations above are based on a cross-country relation and assume the same sensitivity of exports to the REER for each country.⁽³¹⁾ However, exports may react differently in different Member States, for example due to different product composition.⁽³²⁾

Still, it appears that non-price factors have been important determinants of Member State differences in export performance over the past decade. These results signal that strategies for successfully correcting external deficits in the euro area should combine ongoing price-competitiveness gains with policies aimed at developing non-price competitiveness. However, policies to develop non-price competitiveness may require a longer timescale to fully deliver their effects.

As regards new Member States, both export and cost developments strongly reflect the catching-up process, resulting in positive, though generally weak, correlations between market share gain contributions to export growth and changes in the REER.

Given the importance of non-price competitiveness factors, Box 3.3 presents a review of recent empirical work on the drivers of export performance. It points to the importance of the extensive margin (new firms engaging in export activities as well as entering new

destinations and supplying new products) for long-term trade performance and the positive impact of R&D, innovation and high-skilled labour on export growth. FDI, the quality of infrastructure and services and the quality of institutions also emerge as important factors of competitiveness.

3.3. Some policy implications

The results presented in this chapter underscore the need to take into consideration, from a policy perspective, structural and microeconomic (industry and ultimately firm-level) mechanisms that underlie a country's trade performance. In the current macroeconomic context, where many Member States in the euro area still have to go through a significant adjustment of their external imbalances, a better understanding of factors behind performance in external trade would help gauge the effort required and its sustainability.

The development of global value chains goes along with increasing trade in intermediate inputs. In this context, traditional sectoral specialisation at country level, as measured using only export figures, provides only a partial picture as the specialisation strategies of firms and industries are increasingly dependent on their insertion in GVCs, in which imports play a significant role. In assessing the contribution of exports to the rebalancing of current account deficits, the rising importance of imported intermediate inputs needs to be taken into account. Greater insertion in GVCs entails a lower direct contribution of exports to growth and jobs, but as increased sourcing abroad should have a positive effect on a country's competitiveness it should also foster exporting activities and, ultimately, have a positive impact on growth and on trade imbalances.

Decomposing export growth using the constant-market share technique has shown that there seems to be some persistence in export performance, especially in market share gains in products. There is therefore a risk that the weak export performance observed in some Member States may be corrected only slowly, a factor which may contribute to the persistence of external imbalances. Moreover, there does not seem to be any trade-off between the strategies which enhance product competitiveness horizontally (across all geographical markets) and those which may customise products to local needs (in terms of prices or product characteristics) in destination countries. Finally,

⁽³¹⁾ The correlation between exports and the real exchange rate is typically significantly higher when estimated for individual countries than in country cross-sections as here.

⁽³²⁾ As some products are more sensitive to price fluctuations than others.

Box 3.3: Recent literature on the determinants of export performance

Most recent research on export performance extends the theoretical models rooted in Krugman's new trade theory and Melitz's model of heterogeneous firms and tests them empirically. These modern trade models highlight the differences across markets, firms and products even within the same sector. This box reviews a number of recent contributions in this area, distinguishing between five groups of determinants of exports.

Geographical and product diversification

Besedeš and Prusa (2011) argue that there is scope for expansion of the extensive margin in exports of both standardised goods and differentiated products. Analyses for Spain indicate that short-run changes in exports are driven by the intensive margin (i.e. increases in exports by incumbent firms within established trade linkages). In the long run, both the intensive and the extensive margins (the latter consisting of net entry of firms and product-country switching) are equally important (De Lucio et al., 2011). According to evidence from the UK, exports tend to stabilise firms' sales through market diversification. While more volatile firms — including probably those with innovative products — are more likely to face financial constraints and to go bankrupt, they have more incentives to start exporting (García-Vega et al., 2012). However, when faced with multiple destinations to which they can export, many firms will choose to sequentially export in order to slowly learn more about their chances of success in untested markets (Nguyen, 2012). Therefore, there may be some persistence in the extensive margin.

Product differentiation, innovation, and human capital

Di Pietro and Anoruo (2006) find that the level of innovation and technology in a country, the amount of technological transfer from other countries, and the magnitude of business startups are positively correlated with exports. Faruq (2010) provides evidence that the export of high-quality differentiated goods to the US is associated with research and development activities. Munch and Skaksen (2008) show that firms may escape intense competition from low-wage countries in international markets by using high-skilled workers to undertake or improve innovation, design or branding and thereby to differentiate their products. The importance of human capital for exports is also supported by Contractor and Mudambi (2008). In particular, not only product upgrades but also innovations in production and distribution processes can have a positive impact on exports (Leon-Ledesma, 2002).

Imports and foreign direct investment

Across industries, imports can be a source of inputs used in exports but they can also be an important part of competition in intra-industry trade. The knowledge spillovers (Bitzer and Geishecker, 2006) or the positive disciplining effects (Kee and Hoekman, 2007) appear to be stronger than the negative impact due to 'market stealing'. Concerning foreign direct investment (FDI), Alfaro and Charlton (2009) show empirically that multinationals invest abroad to lower the cost of multistage production. Hence, FDI stimulates exporting rather than substituting it. In countries that are members of large free-trade areas, such as the EU, the link between trade and FDI may be particularly strong, because foreign firms can establish plants in one country to serve the whole area freely and exploit scale economies (Neary, 2009). The Member States that joined the EU in 2004 have attracted plenty of FDI, to a large extent thanks to their accession. The strong export performance of these countries can be better explained when FDI inflows are accounted for (Allard, 2009). Positive spillovers from FDI to exports are reported in the empirical literature even for a mature economy such as the UK (Greenaway et al., 2004; Girma et al., 2007), likely because of the positive impact on productivity (Haskel et al., 2007). Also cross-country regressions confirm the positive role of FDI for exports (De Clercq et al., 2008; Tebaldi, 2011).

The quality of services

Empirical investigations have shown that plentiful, high-quality transport infrastructure and high-quality information and communications services facilitate exports (Shepherd and Wilson, 2009). Better financial systems can increase the chances of successful innovation and can act as a facilitator for starting exports (Berman and Hericourt, 2009). Wolfmayr (2008) confirms a significant positive correlation between international service linkages mainly related to high-skilled, technology-driven industries and export market shares. Francois and Woerz (2008) show that imported services are important inputs stimulating exports in skill- and technology-intensive industries.

The quality of institutions

Moenius and Berkowitz (2004) find that improvements in the quality of institutions increase the share and volume of exports of differentiated, high-value added products through stronger enforcement of contracts and better

(Continued on the next page)

Box (continued)

protection of property rights. The significant role of institutions for long-term export performance is also pointed out by Alvarez (2011). The quality of institutions, such as the regulatory framework and public administration, may be particularly important for the export of manufacturing goods (Méon and Sekkat, 2008). Nicolini (2011) presents evidence that institutional quality, in the form of contract enforcement by the judicial system, may be a source of comparative advantage, especially in those industries which are more contract-intensive. The impact in relationship-specific and complex-task-intensive sectors is larger in developed countries. She also notes that although institutional comparative advantage is not a 'new' development, institutional comparative advantages seem to gain relevance over time.

References:

- Alfaro, L. and A. Charlton (2009), 'Intra-industry foreign direct investment', *American Economic Review*, Vol. 99, No 5, pp. 2096-2119.
- Allard C. (2009), 'Competitiveness in Central-Europe: What Has Happened Since EU Accession?', IMF Working Paper WP/09/121.
- Alvarez, R. (2011), 'Export transitions', *Journal of International Trade and Economic Development*, Vol. 20, No 2, pp. 221-250.
- Berman, N. and J. Hericourt (2010), 'Financial factors and the margins of trade: Evidence from cross-country firm-level data', *Journal of Development Economics*, Vol. 93, No 2, pp. 206-217.
- Besedeš, T. and T. J. Prusa (2011), 'The role of extensive and intensive margins and export growth', *Journal of Development Economics*, Vol. 96, No 2, pp. 371-379.
- Bitzer, J. and I. Geishecker (2006), 'What drives trade-related R&D spillovers? Decomposing knowledge-diffusing trade flows', *Economics Letters*, Vol. 93, No 1, pp. 52-57.
- Contractor, F. J. and S. Mudambi (2008), 'The Influence of Human Capital Investment on the Exports of Services and Goods: An Analysis of the Top 25 Services Outsourcing Countries', *Management International Review*, Vol. 48, No 4, pp. 433-444.
- De Clercq, D., J. Hessels, and A. Van Stel, (2008), 'Knowledge spillovers and new ventures' export orientation', *Small Business Economics*, Vol. 31, No 3, pp. 283-303.
- De Lucio, J., R. Mínguez-Fuentes, A. Minondo, and F. Requena-Silvente (2011), 'The extensive and intensive margins of Spanish trade', *International Review of Applied Economics*, Vol. 25, No 5, pp. 615-631.
- Di Pietro, W. R. and E. Anoruo (2006), 'Creativity, innovation, and export performance', *Journal of Policy Modelling*, Vol. 28, No 2, pp. 133-139.
- Faruq, H. A. (2010), 'Impact of technology and physical capital on export quality', *Journal of Developing Areas*, Vol. 44, No 1, pp. 167-185.
- Francois J. and J. Woerz (2008), 'Producer services, manufacturing linkages, and trade', *Journal of Industry, Competition & Trade*, Vol. 8, No 3/4, pp. 199-229.
- García-Vega, M., A. Guariglia, and M.-E. Spaliara (2012), 'Volatility, financial constraints, and trade', *International Review of Economics & Finance*, Vol. 21, No 1, pp. 57-76.
- Girma, S., R. Kneller, and M. Pisu (2007), 'Do exporters have anything to learn from foreign multinationals?', *European Economic Review*, Vol. 51, No 4, pp. 993-1010.
- Greenaway, D., N. Sousa, and K. Wakelin (2004), 'Do domestic firms learn to export from multinationals?', *European Journal of Political Economy*, Vol. 20, No 4, pp. 1027-1043.
- Haskel, J. E., S. C. Pereira, and M. J. Slaughter (2007), 'Does Inward Foreign Direct Investment Boost the Productivity of Domestic Firms?', *The Review of Economics and Statistics*, Vol. 89, No 3, pp. 482-496.
- Kee, H. and B. Hoekman (2007), 'Imports, entry and competition law as market disciplines', *European Economic Review*, Vol. 51, No 4, pp. 831-858.
- Leon-Ledesma M. (2002), 'Accumulation, innovation and catching-up and extended cumulative growth model', *Cambridge Journal of Economics*, Vol. 26, No 2, pp. 201-216.
- Méon, P.-G. and K. Sekkat (2008), 'Institutional quality and trade: Which institutions? Which trade?', *Economic Inquiry*, Vol. 46, No 2, pp. 227-240.
- Moenius J. and D. Berkowitz (2004), 'Institutional change and product composition: Does the initial quality of institutions matter?', William Davidson Institute Working Paper, No 662.
- Munch, J. R. and J. R. Skaksen (2008), 'Human capital and wages in exporting firms', *Journal of International Economics*, Vol. 75, No 2, pp. 363-372.
- Neary, J. P. (2009), 'Trade costs and foreign direct investment', *International Review of Economics and Finance*, Vol. 18, No 2, pp. 207-218.
- Nguyen, D. X. (2012), 'Demand uncertainty: Exporting delays and exporting failures', *Journal of International Economics*, Vol. 86, No 2, pp. 336-344.
- Nicolini, M. (2011), 'On the evolution of institutional comparative advantages', *Structural Change and Economic Dynamics*, Vol. 22, No 2, pp. 162-172.
- Shepherd, B. and J. Wilson (2009), 'Trade facilitation in ASEAN member countries: Measuring progress and assessing priorities', *Journal of Asian Economics*, Vol. 20, No 4, pp. 367-383.
- Tebaldi, E. (2011), 'The determinants of high-technology exports: a panel data analysis', *Atlantic Economic Journal*, Vol. 39, No 4, pp. 343-353.
- Wolfmayr, Y. (2008), 'Producer services and competitiveness of manufacturing exports', FIW Research Reports series I-009.

export underperformance seems to result mainly from market share losses within geographical destinations and product markets rather than from wrong initial specialisation. These geographical and product market share gains reflect the competitive advantage of the countries concerned during the period under consideration and are only partly determined by price or cost advantages.

This chapter does not provide a systematic analysis of non-price competitiveness factors. However, a careful reading of the economic literature points to a number of areas where policy action can support long-term export growth.

One such area is services. Services can be important inputs in exported differentiated product 'bundles' (e.g. after-sales support services or training) as well as trade facilitators (e.g.

3. A closer look at some drivers of trade performance at Member State level

transport, communication, or financial services). Therefore, increasing competition in the services sectors would improve the cost-competitiveness and quality of services and ultimately support export performance.

Promoting business research and development and the supply of skilled labour may boost the creation of new products and foster exports of higher-end varieties of goods where price competition is less pronounced and competitive advantages more durable.

Export promotion programmes also have a role to play. They may influence the extensive margin (i.e. induce non-exporting firms to engage in exports, and encourage exporting firms to extend the range of destinations and enter new product markets), especially if a comprehensive set of services is offered.⁽³³⁾ Such policies can, for instance, aim to provide exporters with more information on emerging markets so as to reduce

the information asymmetries and the cost of expanding the extensive margin. The diversification of exports appears to be hindered by market imperfections, such as uncertainty about the production costs of new goods, uncertainty about the characteristics of foreign demand (including e.g. redesigns needed to meet foreign standards and tastes), and spillovers from the first-mover investments (needed to find out how big those costs are and learn the characteristics of foreign demand). Hence public support for ‘export discoveries’ might be justified. Those who can benefit most are companies in the initial exporting stages.⁽³⁴⁾

Finally, structural reforms do not usually have immediate effects because they operate on the supply side of the economy where the reaction is gradual — enterprises need to adapt their technologies and managerial techniques.⁽³⁵⁾ This calls for policy-makers to act promptly.

⁽³³⁾ Martincus, C. V. and J. Carballo (2010), ‘Export promotion: Bundled services work better,’ *World Economy*, Vol. 33, No 12, pp. 1718-1756. Dennis, A. and B. Shepherd (2011), ‘Trade facilitation and export diversification,’ *World Economy*, Vol. 34, No 1, pp. 101-122.

⁽³⁴⁾ Klinger, B. and D. Lederman (2011), ‘Export discoveries, diversification and barriers to entry,’ *Economic Systems*, Vol. 35, No 1, pp. 64-83. Freixanet, J. (2011), ‘Export promotion programs: Their impact on companies’ internationalization performance and competitiveness,’ *International Business Review*, forthcoming.

⁽³⁵⁾ Mickiewicz, T. (2005), ‘Is the Link between reforms and growth spurious? A comment’, William Davidson Institute Working Paper, No 775.