Latvia's exports: the real 'success story'

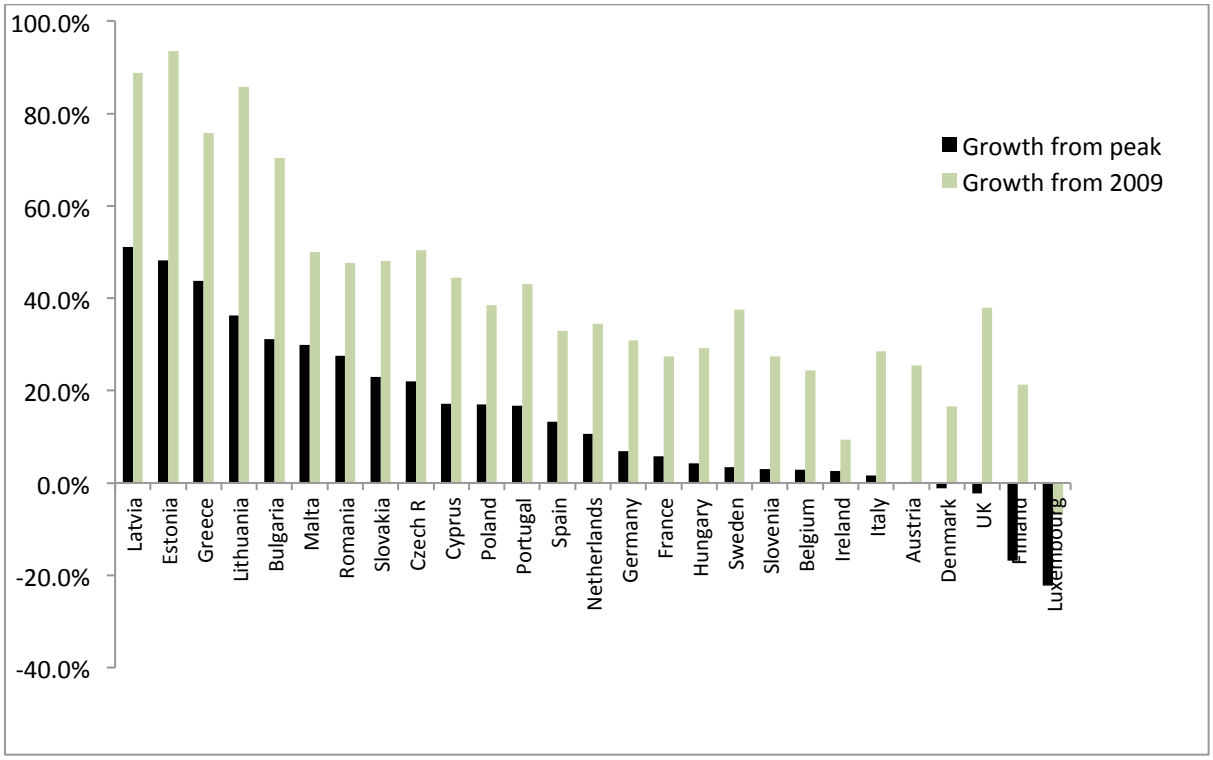
Alf Vanags[1]

Baltic International Centre for Economic Policy Studies

1. Introduction

A notable feature of the recovery from the recession in the Baltic states has been the strong performance of exports. This is illustrated in Table 1, which shows the developments of EU member state exports from their pre-recession peak, and also from the low point experienced in 2009.

Table 1: Export growth in EU27



Source: Eurostat

While in nearly all EU countries, exports have recovered from the low point of 2009, the Baltic states are the leaders, with export growth since the low point of the recession between 86% and 93%. More significant is the strength of export growth from the pre-recession peak. Here, Latvia is the clear leader with exports in 2012 up by 51% as compared with its pre-recession peak (which, for Latvia, and for most countries, was reached in 2008).

With 30% export growth between 2009 and 2010, by the end of 2010 Latvia had surpassed its previous absolute record export level, and with further growth of 30% in 2011 and 16% in 2012 has continued to post new record levels. This has mostly been

[1] Many thanks to the Latvian Investment and Development Agency, especially Signe Kareļkova, for identifying case study examples and to Santa Kratule for major input in gathering and processing trade and investment data.

growth in export volumes, but unit export values also grew by 8-9% in 2010 and 2011, and by 3% in 2012. In contrast, most EU economies' export growth since the previous peak has been more modest[2] and some countries (e.g. Denmark, UK, Ireland and Luxembourg) have not yet recovered their pre-recession export levels.

Therefore, the Baltic states really do stand out – and, arguably, this represents the real 'success story' of the Latvian economy.

This is even more the case because it is not just a 'bounce back' from the recession. Table 2 shows that the exceptional growth of Latvia's export volumes predates the recession. Thus, while export growth accelerated after 2009, with export volume growing 67% and taking export volume to a level more than 4 times greater than in 2000, in 2008, export volume was already 2.75 times the level in 2000, representing the third highest growth in the EU, after Lithuania and Slovakia, over 2000-2008.

Table 1: Development of export volumes EU27, 2000 =100

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Belgium	119.9	124.0	129.7	136.4	133.7	118.9	129.0	133.9	134.1
Bulgaria	149.2	166.5	183.6	198.0	213.0	183.2	220.9	266.4	268.4
Czech R	160.6	175.4	204.7	235.7	250.5	210.3	248.7	272.9	280.1
Denmark	110.7	117.2	122.4	126.8	128.4	114.2	118.0	121.4	120.5
Germany	120.5	127.6	139.8	148.9	148.3	121.6	140.1	149.3	150.7
Estonia	141.9	178.9	216.6	215.2	217.1	179.5	224.7	284.8	295.1
Ireland	109.9	110.1	106.3	109.6	105.2	104.7	106.0	107.5	106.9
Greece	102.5	115.1	127.8	129.8	129.3	116.9	121.5	155.3	178.4
Spain	113.4	114.6	120.2	125.8	125.9	112.0	125.0	135.6	136.5
France	99.8	99.5	100.8	100.8	99.6	84.7	93.1	95.5	96.2
Italy	103.1	104.2	110.1	115.7	111.6	90.6	100.3	104.8	105.8
Cyprus	188.3	284.0	244.1	228.5	228.1	222.9	242.5	282.3	295.9
Latvia	**156.3**	**200.9**	**225.5**	**252.1**	**275.2**	**245.7**	**295.0**	**361.4**	**410.6**
Lithuania	194.1	234.2	258.2	269.0	316.4	270.5	320.9	365.7	398.2
Luxembourg	156.7	183.5	216.3	198.5	213.0	203.7	187.1	186.3	179.2
Hungary	150.7	169.3	201.2	232.0	241.0	200.4	226.2	241.9	242.8
Malta	87.0	86.8	93.7	102.4	91.6	75.2	92.3	97.0	104.1
Netherlands	118.9	130.7	141.0	148.0	152.9	135.9	150.9	151.5	157.6
Austria	129.7	132.8	138.4	146.8	147.0	120.0	138.1	146.3	148.1
Poland	165.6	188.6	222.2	247.8	267.2	241.8	278.2	298.5	312.9
Portugal	107.7	116.2	127.1	133.8	132.6	112.6	121.3	137.0	149.1
Romania	156.9	172.3	188.6	215.0	232.0	213.9	254.8	282.0	278.4
Slovenia	132.5	150.0	173.4	198.7	203.9	171.9	193.3	207.8	207.6
Slovakia	159.6	172.6	221.5	280.7	312.3	270.9	322.4	360.7	400.1
Finland	106.9	106.5	118.0	118.6	119.0	87.9	93.9	95.1	95.1
Sweden	108.4	112.3	119.9	123.5	122.7	98.6	114.2	121.5	118.8
UK	90.4	95.5	103.4	91.6	89.5	75.0	83.7	89.7	85.1

Source: Eurostat

[2] Other notable and interesting strong export performers include Greece, Bulgaria and Romania.

Developments in the theory and empirics of international trade provide a basis for a deeper understanding of the mechanics of international trade and its growth, as compared with the classical comparative advantage approach, which explains only the direction and commodity composition of trade. For example, detailed decomposition of trade into products and markets enables analysis of diversification of products and markets, and of the relative importance of new products and new markets in generating export growth, as compared to the intensification of export of existing products to existing markets.

Another development has been the recognition and analysis of the role of 'fragmentation' in the international production process, whereby both production and services have been increasingly distributed over different locations. This phenomenon has come to be known as the development of *global value chains* (GVCs), and is regarded as one of the explanations for global international trade growing faster than GDP. The importance of GVCs is reflected in the growth of interest in empirically distinguishing between a country's total trade (exports) and the share that generates domestic value added. The challenge of mapping GVCs has been taken up by a number of international researchers, and Box 1 in UNCTAD (2013) provides a summary of five important initiatives, including the UNCTAD Eora data base, the OECD/WTO Inter Country Input Output model (ICIO) and the EU's World Input Output Database (WIOD).

The GVC phenomenon also provides a link between a country's trade and the Foreign Direct Investment it attracts.

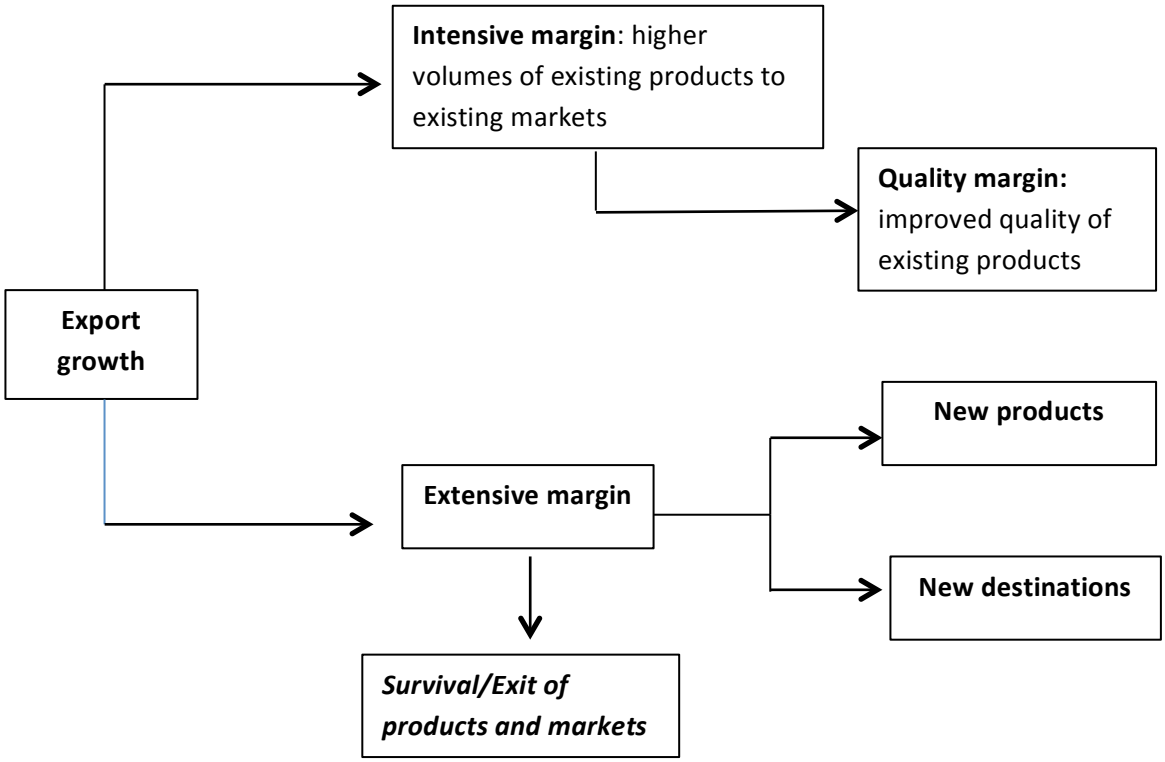
This chapter aims to assess what light these approaches can shed on interpreting the development of Latvia's export performance. The first section examines the evidence on diversification and the extensive/intensive margin, the second section examines the statistical evidence on Latvian participation in GVCs, and a third section reports on some recent export-oriented FDI case studies.

2. The diversification of exports: extensive and intensive export margins

Considerable recent attention has been focused on export diversification and on the role of extensive and intensive margins in the growth of exports for different groups of countries. The schematic decomposition of export growth into extensive and intensive margins is illustrated in Figure 2. Thus, the 'intensive margin' is associated with higher or more intensive exports of existing export products to existing export destinations. On the other hand, the 'extensive margin' captures the emergence of new export products and new export destinations. The extensive margin can be further thought of in terms of 'product diversification', which is made up of the sum of new products to new destinations and new products to old destinations and 'geographical diversification' which consists of the sum of new products to new destinations and old products to new destinations (see Amurgo-Pacheco and Pierola, (2008)).

This definitional picture is complicated by the presence of a quality margin, i.e. higher quality can increase exports at the intensive margin without sacrificing price or even at higher export prices. On the extensive margin, there is an issue of sustainability of new export relationships. According to Besedes and Prusa (2007), disaggregated export data show that most export relationships are very short lived – they show that "for some countries about 7 of 10 new export relationships fail within two years; by comparison, more successful exporters experience failure at about half that rate" (p.1.)

Figure 2: Decomposition of export growth into extensive and intensive margins



Source: Adapted from Reis and Taglioni (2013)

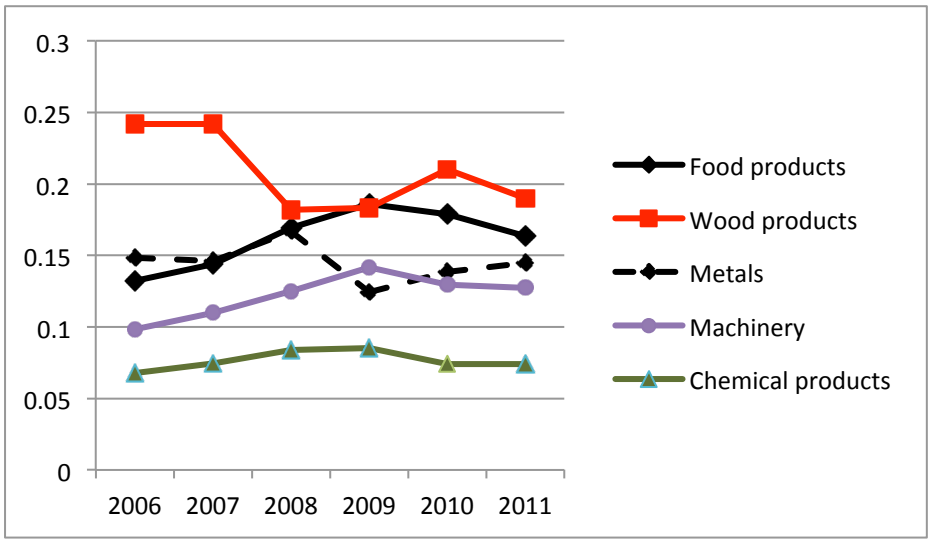
How does Latvian evidence on the development of markets and diversification look? At the most aggregate level, we do not observe much action. Figure 3 shows developments of the share of the top five export groups in 2011 over a period starting in 2006.

It is apparent that, despite some loss of share for wood products, there is rather modest movement in either the absolute shares or the relative positions of these top five products[3], especially since 2008[4].

[3] These product groups correspond to the Roman numeral codes of the Combined Nomenclature: food products correspond to I-IV, chemicals are group VI, wood products correspond to IX and X, metals to XV and machinery to XVI.

[4] Textiles, not shown in Figure 3, have declined from a share of about 8% in 2006 to just 4% in 2011.

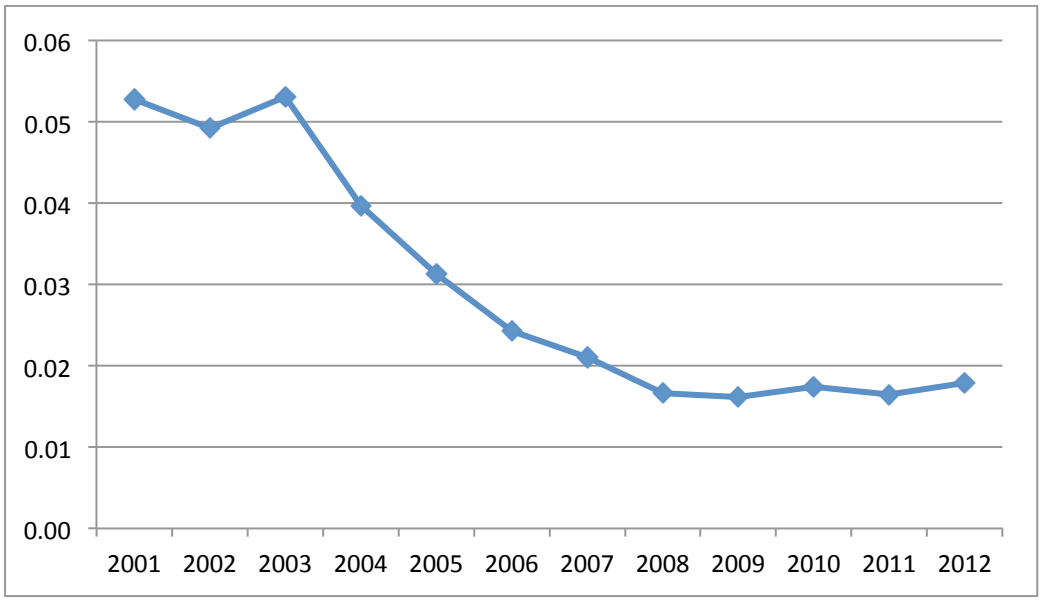
Figure 3: Share of top five export categories: Latvia 2006-11



Source: CSB

As a first glance at a deeper analysis, it is of interest to look at the development in the diversification of Latvian exports, as measured by the Herfindahl index of concentration[5]. Figure 4 illustrates this:

Figure 4: The Herfindahl index of Latvian export concentration (SITC-3digit level)



Source: Eurostat

The data show a quite dramatic diversification of Latvian exports from 2004 to 2008, with the Herfindahl index of concentration falling from more than 0.5 to less than 0.2. Since 2008, there has been a flattening out of the index. Thus, the diversification process

[5] The Herfindahl index is a standard measure of concentration and is defined here as the sum of the squared export shares of all commodity groups at the three digit level of the SITC (Standard International Trade Classification). A high value of the index indicates a high degree of concentration, and lower values represent less concentration or, alternatively, more diversification.

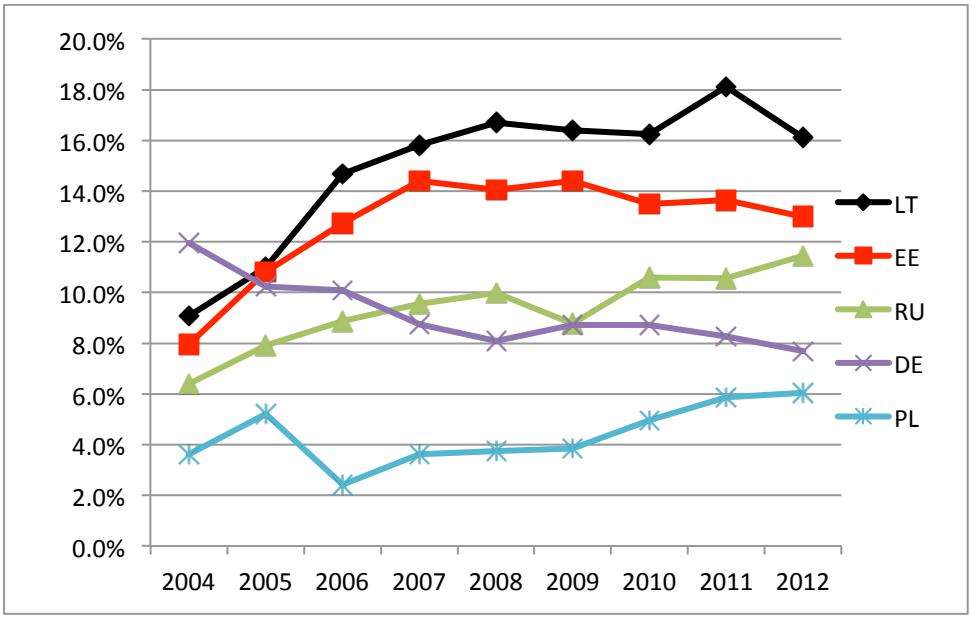
as measured by the Herfindahl index pre-dates the crisis and the recovery. The current level of concentration of Latvian exports is less than CEE countries in general, and at about the same level as that of Denmark.

Export destinations offer another perspective. Figure 5 shows the development of export shares by destination country since EU accession. The main things to note are:

- the rapid emergence of Lithuania and Estonia as Latvia's top export partners after EU accession in 2004;
- the decline of the German market;
- the recent strong growth of both Russia and Poland as export destinations.

All of this reflects diversification away from 'old EU', i.e. the EU 15, which in 2004 was the destination for 54% of Latvia's exports, but today receives about one third.

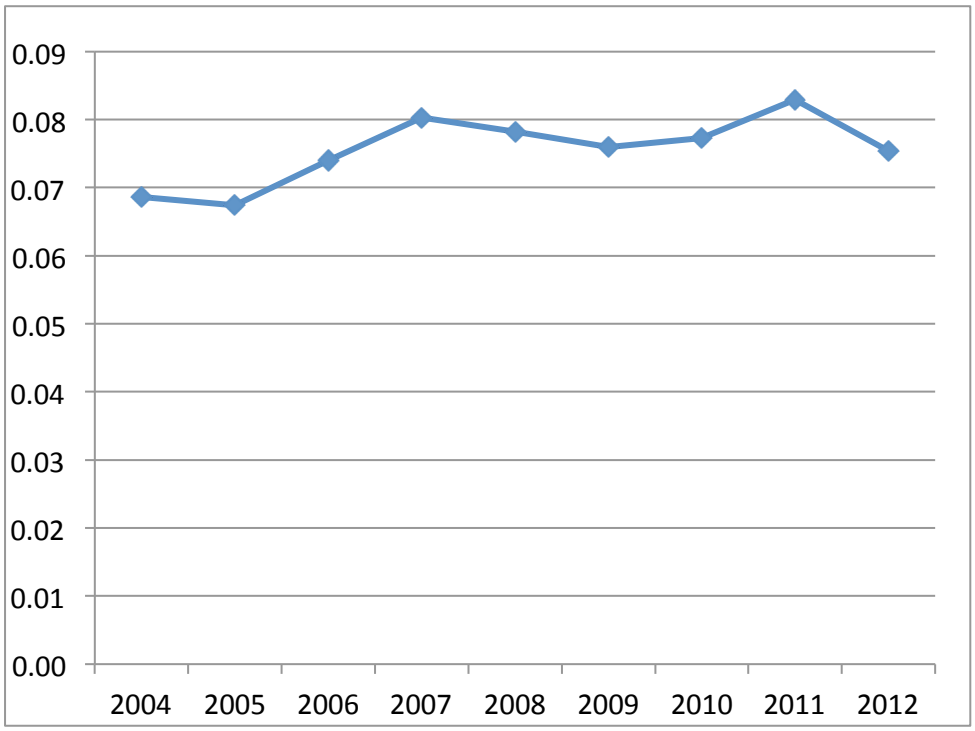
Figure 5: Latvia's main export destinations by export share%



Source: CSB

The Herfindahl index for Latvia's export destinations offers an alternative perspective on diversification, and the development of this indicator is shown in Figure 6. Here, no clear trend is discernible and the intuition of this is not entirely clear, especially in light of the rapid growth of new export destinations reported later in this section.

Figure 6: Herfindahl index by Latvian export destinations



Source: CSB

There is a limit to what can be concluded at the levels of aggregation considered so far, i.e. at the 2 or 3 or 4 digit commodity classification level. A detailed and highly informative study of Latvia's export competitiveness in terms of diversification and at both the intensive and extensive margins has recently been published by Benkovskis (2012). Benkovskis employs data at the six-digit HS[6] level for the period between 1999 and 2010[7]. Table 2 shows the development over time of the number of export markets, which is defined as the number of countries where at least one Latvian product is imported, and the number of exported products.

Table 2: Development of export markets and products 1999-2010

	1999	2003	2004	2005	2006	2007	2008	2009	2010
Markets	8,959	11,686	13,412	18,968	20,472	20,827	21,033	22,593	24,905
Products	2,638	2,854	3,065	3,377	3,490	3,416	3,462	3,562	3,610
Destinations per product	3.4	4.1	4.4	5.6	5.9	6.1	6.1	6.3	6.9

Source: Benkovskis 2012

These figures are very striking. Over the whole period, both the number of markets and the number of products increased strongly, especially after EU accession, since when the number of markets has increased by 86% and the number of products per market has grown by 57% (from 4.4 to 6.9). Thus, in terms of the classification described in

[6] Harmonised System. This is the commodity classification used in the United Nations Commodity Trade Statistics Database (Comtrade).

[7] This generates a database of 379,768 potential markets for Latvia's export products – that is 5,132 individual products times 74 importing destination countries.

Figure 2, Latvian export growth has certainly occurred at the extensive margin – Latvian exporters have been successful in bringing new products to international markets, and in finding new markets in which to sell both traditional and new products

However, although informative and suggestive, the 'raw' figures reported in Table 2 do not by themselves permit a comparison of the relative importance of the intensive and extensive margins in Latvian export performance. In order to make such an assessment, Benkovskis has performed a decomposition of changes in Latvia's market share in export markets[8] into three components: the contribution of the intensive margin, the contribution of the extensive margin and the effect of shifts in demand.

Overall, the Benkovkis analysis concludes that while the share of Latvia's exports in world markets almost doubled between 1999 and 2010, which implies an almost doubled competitiveness, most of this has been at the intensive margin, i.e. in the exports of traditional goods to traditional markets, while growth at the extensive margin, i.e. growth in market shares of new products or new markets, was just under 25% over the period[9], although most of this effect (about 20%) is geographical, i.e. sale of existing products to a new destination, while the share of new products was about 5%. At the same time, the third component of the decomposition has had a negative impact, i.e. the share of Latvia's traditional markets in world trade has fallen, and this has contributed to a more than 15% reduction in Latvia's share in world markets. Almost all of this effect is geographical: the share of Latvia's traditional export destinations in the structure of world demand has declined. As Benkovskis points out, "important partners like Germany, Sweden and UK did not increase their imports as fast as developing countries of Asia".

The decomposition into intensive, extensive and demand structure can also be done at the level of individual product groups. This analysis reveals that all of Latvia's most important product groups increased their share in world markets over 1999-2010, with the market share of 'vehicles and other transport equipment' improving by a factor of more than ten, while the Latvian market share in 'machinery and mechanical appliances' increased by a factor of more than five, and for food products by a factor of more than four. For these products the Benkovskis decomposition shows that "both intensive and extensive margins [have been] important. Latvia's producers of machinery, vehicles and food were able to increase diversification of their sales (mainly expanding the geographical dimension without losing product diversification, although exporters of vehicles were also able to increase their set of products by almost 15%) and at the same time to enhance their presence at the traditional markets. A similar

[8] Benkovskis interprets the share of Latvian exports in the world market as an indicator of Latvian competitiveness.

[9] The method of decomposition has something of a bias against extensive growth: an export to a new market is classified as belonging to the extensive margin in the first year of appearance; if it survives further, it is reclassified into the intensive margin. However, this is fairly standard.

development, although not as rapid, was observed for base metals" (Benkovskis (2012) p. 12).

On the other hand, for both wood products and chemical products Benkovskis concludes that "[a] different strategy was used by exporters. The wood sector is the only important export sector with almost unchanged diversification over the last 12 years. The lack of geographical and product expansion was compensated by a more intensive presence of Latvia in traditional markets for wood products. The same strategy was used by exporters of chemical products: changes in the extensive margin were small (albeit positive), while competitiveness was improved by growing presence in traditional markets" (p.12).

Price/non-price competitiveness

Benkovskis offers an interesting analysis of the role of non-price factors in the evolution of Latvia's export competitiveness. Some commentators on Latvia's recent export performance have attributed the strong performance at least in part to the price competitiveness achieved through the now famous 'internal devaluation'. Benkovskis argues that the standard approaches, which are based on real effective exchange rate indicators, are flawed because these indicators contain elements that do not correspond to, or appear directly in, export prices and as a consequence have overstated the loss of competitiveness observed up to the crisis and also during the recovery afterwards. Using a 'relative export price index' based on disaggregated trade data, he suggests that the maximum loss of price competitiveness for Latvian exports (observed in 2008) was just 15% (as compared with the level observed in 1999) and correspondingly the improvement in price competitiveness observed in 2009 and 2010 was also modest[10]. Benkovskis notes that the differences between approaches can be accounted for by factors such as changes in VAT and excise taxes (which do not appear in export prices) and changes in profit margins over the cycle and, perhaps most importantly, by "structural differences between Latvia and its rivals, which are not captured by aggregated indices. A slower increase of disaggregated relative export price might show that losses of price competitiveness were much less pronounced in the main exporting sectors of Latvia" (p.18). This, of course, is consistent with the idea that as a small trader in the world economy, Latvia is effectively a 'price-taker' in many export markets.

In order to capture the non-price effect, Benkovskis decomposes the relative export price index into components that include a quality or taste component[11]. This component captures relative quality and taste, e.g. variety, and it turns out that the gain in competitiveness generated by these factors outweighs the loss of price competitiveness. Thus, the combined competitiveness index (relative export prices

[10] This compares with, say, a 70% loss of competitiveness calculated on the basis of a unit labour cost-based real effective exchange rate and a subsequent recovery of around half of this. Consumer price-based real effective exchange rate variations are slightly lower but larger than in the relative export price index.

[11] This is based on an approach to measuring unobserved quality or taste developed by Hummels and Klenow (2005).

adjusted for non-price factors) improved by nearly 10% between 1999 and 2010, and almost half of the improvement has occurred since 2008.

The product and geographical dimensions of the changes in non-price competitiveness are interesting: all of Latvia's top five export products except 'vehicles' have posted gains in non-price competitiveness, with 'prepared foodstuffs' being the leader – showing a three-fold gain in non-price competitiveness. Machinery, wood products and chemicals have also achieved non-price competitiveness gains of 63%, 27% and 30%, respectively.

Geographically, the biggest non-price competitiveness gains have been observed in the Russian market (by more than 100%) and Estonia, Lithuania and Sweden (about 20%), whereas important markets where non-price factors have deteriorated are Poland (by 14%) and Germany (by 4%). The improvement in the Russian market is, of course, linked to the improvement in the quality of foodstuffs, for which Russia is a major market.

The Benkovskis results on non-price factors are interesting because they point to a much bigger impact of quality (and taste) on the competitiveness of Latvian products than suggested by conventional indirect indicators of export quality, such as the technical sophistication of Latvian exports.

3. Global value chains

Although the so-called fragmentation of production processes is not a new phenomenon, it is widely believed that as a result of technological progress, increased access to resources and markets, as well as trade policy reforms, world trade and production have in the last two decades become increasingly structured through global value chains (GVCs) in which the geographical dispersion of individual components in the chain is based on the comparative advantages of locations in tasks, rather than in products or final goods as such. A particularly important factor in these developments has been the cost of doing business internationally. Thus, research by Pham and Martin (2007) concludes that the cost of doing business has a "strong and significant impact on the extensive margin".

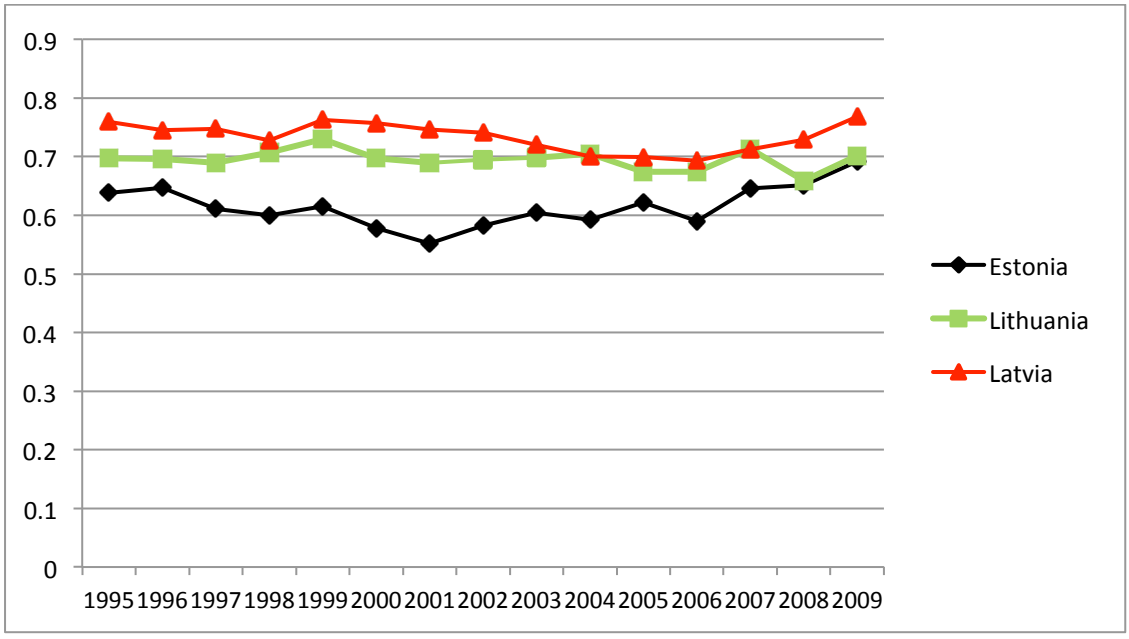
The result is that, according to OECD (2012), "[t]oday, more than half of world manufactured imports are intermediate goods (primary goods, parts and components, and semi-finished products), and more than 70% of world services imports are intermediate services" (p.4). Or, according to UNCTAD (2013), "GVCs account for some 80% of global trade"

The OECD "Mapping global value chains" (OECD 2012) defines a value chain as "the full range of activities that firms and workers do to bring a product from its conception to

its end use and beyond. Typically, a value chain includes the following activities: design, production, marketing, distribution and support to the final consumer. These activities can be performed within the same firm or divided among different firms." (p.7) Moreover, these activities are increasingly spread across different countries.

The specialisation of countries in tasks or businesses, rather than products, represents a challenge to the interpretation of traditional trade data both from a descriptive point of view and a normative one. Thus, the question arises of how much domestic value added is contained in a country's gross exports, and how much is in fact value added created elsewhere, i.e. imported and then 're-exported'. The first item represents what is usually termed 'domestic value added' (DVA) exports, and the second as 'foreign value added' (FVA) exports. Considerable recent effort has gone into measuring this decomposition for different sets of countries. Unfortunately, most of the publicly available databases do not include Latvia. However, Rudolfs Bems from the IMF is a leading researcher in this area and he has made some estimates for the Baltic states, which he has made available for this report. Figure 7 shows the development in DVA since the mid-1990s: Latvia consistently has the highest DVA, at around 75%, with a dip to just below 70% during the first years of EU accession. Estonia has had the lowest DVA, at around 60% or less, but increasing to nearly 70% by 2009. These figures put Latvia at about the same level of DVA as Italy (73%) or Switzerland (71%), below Russia (91%) or the US (89%), but much higher than Netherlands (47%) or Belgium (42%). [12]

Figure 7: Domestic value added share in gross exports, Baltic states



Source: personal communication from Rudolfs Bems

[12] See UNCTAD (2013), Figure 7.

There is no particular normative significance to these figures – thus, larger countries tend to have a higher DVA – and the welfare implications of value added trade require further analysis.

However, the value added trade is an input to the so-called 'GVC participation rate'. This is defined as the sum of foreign value added (FVA) and the value added supplied to other countries' exports as a share of gross exports. According to UNCTAD (2013), this indicator is useful because it measures "the extent to which a country's exports are integrated in international production networks and it is thus helpful in exploring the trade-investment nexus. This variable corrects the limitation of the previous indicators in which countries at the beginning of the value chain (e.g. exporters of raw materials) have a low foreign value added content of exports by definition. It gives a more complete picture of the involvement of countries in GVCs, both upstream and downstream" (Box 2, p.5).

OECD (2012) offers some calculations of GVC participation rates for a selection of countries in 2008. For Latvia, this indicator took on a value of about 57% in 2008, which is less than for Lithuania (just over 60%) or Estonia (also just over 60%). This is broadly consistent with the DVA evidence in Figure 7. Globally, countries with high GVC rates (over 70%) are Taiwan, Singapore and Malaysia. In Europe, Luxembourg, with a GVC participation rate of nearly 80%, stands out, but otherwise the highest participation rates are observed in the Slovak republic, Norway, Hungary, Belgium, the Czech Republic and Estonia (with rates between about 66% and just over 60%). Clearly, GVCs are less prevalent in Europe than in Asia.

4. Latvian case studies

Latvian companies participate in international supply chains in a variety of ways. For example "Avoti SWF" is a major Latvian furniture manufacturer, which now produces mainly for the global retail sales network of IKEA. "Argos", a leading UK retailer, outsources the production of plastic chairs to Latvia, a switch from China, which is no longer regarded as sufficiently cheap. Food retailers "Tesco" in the UK and "Coop" in the Netherlands are increasingly importing a variety of food products from Latvia, including such very Latvian products as 'griķi' (buckwheat).

Here we offer four case studies of successful export-oriented FDI. These are not meant to be comprehensive or even representative, but should be interpreted as illustrative examples of foreign companies that have set up operations in Latvia that are integrated in their global operations.

Bucher Schörling

This represents an FDI in the vehicle components sector in Latvia. Bucher Schörling Baltic Ltd is a subsidiary of Bucher Group, a Swiss-based global manufacturer of state-of-the-art machinery and equipment used for a variety of purposes, such as harvesting, producing and packaging healthy foods, keeping cities clean and safe and hydraulic

systems for high-performance machinery. With approximately 7900 employees worldwide, Bucher Group generated over EUR1.6 billion in sales in 2010.

The Latvian-based company manufactures components and spare parts for road sweepers and 100% of the output is exported. The final product is made in Switzerland and sold in countries such as Russia, Germany, France, Italy, Spain and Ukraine. Spare parts produced in Latvia are sent directly to dealers in Russia, Germany, France, Italy, Spain, Ukraine, etc. Some of the inputs needed for production in Latvia are bought from Latvian suppliers, and others are imported from Germany, UK, Switzerland, Sweden, Italy, France, Austria, Poland, etc.

Bucher Schörling Baltic Ltd. started operations in Latvia in 2004. In addition to manufacturing vehicle components, it manages Schörling's Eastern sourcing network. In 2011, Bucher Schörling Baltic invested EUR5 million—including co-financing from the EU Structural Funds—to open a second factory in Ventspils, the port city in Western Latvia. This brought the total number of employees in Latvia to over 100.

Niklaus Huser, chairman of the board of Bucher Schörling Baltic, has commented: "Availability of qualified welders and mechanics is one of the most essential requirements for us, and we have made investments in training employees, especially as we expand our operations here. Our decision in choosing Ventspils as our site was based on several considerations, including good overall entrepreneurial conditions; outstanding support from the Free Port of Ventspils Authority and the local municipality; a lower levels of salaries compared to the Riga region; benefits from the free economic zone; a harbour with frequent ferry traffic to and from Germany; and proximity to the Russian market." The company is considering further expansion in Latvia, given that the existing factory is operating at high levels of efficiency.

Brabantia:

The Dutch company Brabantia is Europe's leading supplier of innovative household products, with exports to over 80 countries and a revenue of EUR93 million in 2010.
The company opened its first production plant in Latvia in 2008, renovating a brownfield site, and by 2011 it had moved its production of laundry dryers and ironing boards to Latvia, employing approximately 75 people.

The company exports 100% of its output, mainly to the UK, Belgium and the Netherlands. Some of the inputs needed for production are sourced in Latvia, while others are imported from Lithuania, Belgium, Italy, Finland, Poland, China, Slovakia, Sweden, and Germany

A strong tradition in metalworking was a major factor in choosing Latvia as a location for a production facility. Other factors included Latvia's membership of the EU, its Euro-

pegged currency, and its business-friendly environment. Other positive factors include fast reaction to changes in demand by customers in the EU, lower inventory, a talented workforce, low employee turnover and a salary/productivity balance that is competitive with Asian workers.

Marcel van de Velde, Brabantia's Production Director in Latvia, has also acknowledged the support and the professional assistance from LIAA, the Latvian Investment and Development Agency.

AKG Group

The AKG Group is a worldwide manufacturer of coolers and heat exchangers for a broad range of industrial equipment and consumer appliances. The company has almost 3,000 employees in 12 production facilities around the world, producing over 2.5 million units each year.

Its Latvian subsidiary, AKG Thermotechnik Lettland, established its initial Latvian production facility in Jelgava in 2005 and focuses on the production of aluminium heat exchangers. With revenues of approximately EUR26 million in 2011, the Latvian facility employs almost 200 people. Jelgava has a developed metalworking sector and a long tradition in automobile manufacturing, as well as a low-cost industrial park with good infrastructure. 100% of AKG output is exported, with more than half of its sales being in Germany. In 2012, the company received the 'Made for Germany' prize, awarded by the German-Baltic Chamber of Commerce.

"The factory in Latvia has the lowest production expenses of all AKG's factories in Europe," notes Dr. Gerhard Ritzmann. "Our low costs have enabled Jelgava to produce radiators even for buyers in Asia, where local factories did not have the capacity to fulfil all incoming orders." AKG Thermotechnik Lettland plans to build a second factory in Jelgava by 2014 to double its current capacity. The plan is to invest EUR5 million for the second factory, creating 150-200 new workplaces.

Ferroplan

Ferroplan is the leading Finnish manufacturer of conveyor solutions designed for handling piece goods and bulk cargo, for a wide range of industries and materials including environmental products, metal, logistics and storage, packing and wood. The company prides itself on innovation in design and production of conveyor systems, as well as efficient, reliable and safe products. With 60 employees in Finland and Latvia, the company had revenues of EUR7 million in 2011 and serves its global customers in a variety of industrial sectors.

The company opened its component manufacturing unit in Jelgava, SIA Ferroplan, in 2005, specializing in welding, folding, plasma cutting and machining of different kinds of metal products with pallet dispensers, conveyors and conveyor components like rollers, metal frames and adjustable feet being important outputs. Most of SIA Ferroplan products are exported.

In evaluating expansion opportunities in the Baltic states, Ferroplan selected Latvia as its investment base because of its central location, the availability of a skilled workforce, and long-term cost advantage. In late 2011, the unit in Latvia initiated a major development programme to enable the production of more advanced products in Latvia.

"We are very satisfied with the investment incentives we received from the Latvian state and European Union." says Mr. Pentti Patosalmi, managing director of Ferroplan. "Together with our investment here, our aim is to grow in Latvia and have 15-20 employees there in a few years' time."

5. Concluding remarks

Latvian export performance is an unequivocal success story. However, the underlying causes are heterogeneous. The case study evidence points to the importance of export-oriented FDI in some of the sectors that have experienced the strongest growth of competitiveness, as measured by growth of market share, e.g. 'vehicles' or 'machinery and mechanical appliances'. It is interesting that FDI has been attracted to the historical locations of skills and that some of the investments have been supported by structural funds.

The growth in the number of markets has been impressive, though in some cases hard to understand, e.g. in recent years Algeria has emerged as a destination for as much as over 2% of Latvian exports – mainly steel and grains.

The importance of non-price competitiveness is not something that has been extensively documented until recently.

In terms of participation in global value chains, Latvia appears to be about average in a European context.

References

Amurgo-Pacheco, A and Pierola, M.D. (2008) "Patterns of Export Diversification in Developing Countries: Intensive and Extensive Margins" *World Bank Policy Research Working Paper* 4473, January 2008.

Beltramello, A., K. De Backer and L. Moussiegt (2012), "The Export Performance of Countries within Global Value Chains (GVCs)", *OECD Science, Technology and Industry Working Papers,* 2012/02. http://dx.doi.org/10.1787/5k9bh3gv6647-en

Beņkovskis, K. (2012) "Competitiveness of Latvia's exporters" *Bank of Latvia Working Paper* 3/2012.

Besedes, T. and Prusa, T.J. (2007) "The Role of Extensive and Intensive Margins and Export Growth" *NBER Working Paper* No. 13628, November 2007, Revised August 2010

Hummels, D., and P. J. Klenow.(2005) "The Variety and Quality of a Nation's Exports" *American Economic Review* 95(3): 704–23.

OECD (2012) "Mapping global value chains" Working party of the Trade Committee, 4-5 December 2012.

Pham, C. and Martin, W. (2007) "Extensive and Intensive Margin Growth and Developing Country Exports" DECRG World Bank, Wednesday, March 14, 2007

Reis, J.G. and Taglioni, D. (2013) "Determinants of export growth at the extensive and intensive margins: Evidence from product and firm level data for Pakistan" *World Bank Policy Research Paper* 6341, January 2013

UNCTAD (2013) *Investment and Value Added Trade in the Global Economy*: *a preliminary analysis.*