

# ROMANIA WEST REGION COMPETITIVENESS ENHANCEMENT AND SMART SPECIALIZATION

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*Trade Outcomes Assessment*

March 2013

Intermediate report

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## EXECUTIVE SUMMARY

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The West Region export performance is very positive in overall terms. In addition to being one of the regions with the highest contribution of exports to GDP, the West Region is one of the most trade-dense regions in Romania. Export growth has been sustained, particularly since 2009 and – although driven by the performance of firms located in Arad and Timis – each of the four counties in the region is a net exporter.

Yet, there is no space for complacency. Export performance is also very concentrated. It is dominated by the auto sector and – to a lesser extent – by the apparel/footwear sector. Most exports are generated by a handful of fully or partly foreign-owned firms. The relative big size of exporting firms in terms of export sales compared to other regions in Romania also suggests that export participation may be below potential for the rest of the producers in the region. Finally, overall, West Romania exports relatively low skilled and less sophisticated products.

Linkages to foreign suppliers and producers are very important. There is a strong positive relationship between the presence of foreign affiliates in the upstream (supplying inputs) and downstream manufacturing industries and entry into exporting markets. This result is in line with other research showing the importance of high quality inputs for product upgrading and the role of multinational suppliers in the process. Sophisticated inputs require a sophisticated production process, which explains why only foreign exporters (which tend to be larger than national firms) and larger domestic exporters seem to be more affected by the presence of FDI in upstream industries.

However, the same econometric evidence suggests that increased competition from multinational firms in the same industry makes it harder for a domestic producer to start exporting successfully. One possible explanation for this result is that foreign-owned firms, which are remarkably large in the West Region, crowd out smaller local firms and leave very little space in the same industry.

And West Region's firms cannot be blamed for not trying. They experiment a lot both in terms of new export destinations and products. However, only one out of six product spells succeeds in the export markets for more than two consecutive years.

While attracting foreign manufacturers remains very important for the region as a key catalyst of growth, channels to diversify and to help domestic firms export should be identified. Diversifying in terms of markets may go hand in hand with diversifying in terms of sectors/products and fostering SMEs. There is a strong circular causality in the over-concentration of the West Region exports. A few large firms, exporting a range of consolidated products to a few markets, mostly within the context of the automotive, textile and apparel industries drive almost the entirety of regional exports.

Hence, any diversification strategy will have to be tri-pronged. It should simultaneously aim at creating the conditions for more firms, and in particular domestic firms, to successfully export; at helping to increase the range of exported products; and at fostering their entry in new markets. Identifying strategies for firms which operate outside the context

of international value chains and identifying demand markets outside the traditional sectors and countries is likely to help. Based on experiences from other countries, initiatives to be considered include:

1. *Supply side initiatives to increase quality and sophistication*, particularly of the domestic firms whose exports remain largely focused on relatively low-skill, low-sophistication products. Strategy advice will be provided in the companion report which will focus on smart specialization strategies and sector-specific case-studies.
2. *Fostering the linkage between domestic suppliers and wholesalers*. This may prove particularly helpful for firms that are not experienced with export activity as it saves them the cost and effort that would be needed to learn about foreign markets and export procedures and to find customers abroad. This could pay off especially in sectors such as food and beverages, chemicals, plastics, and wood, and for the West Region's domestic producers from lagging counties.
3. *Exploiting more opportunities outside traditional export patterns*. Scope for geographic diversification exists in sectors that are currently less prominent. The agri-food industry and especially the animal and vegetable sector have the potential to expand in neighboring countries, including Serbia, Croatia, Moldova and Ukraine. Entry into some non-EU destinations like Serbia, Moldova and Turkey is very dynamic - even more dynamic than entry into most EU countries but survival rates are much lower.
4. *Strengthening modern business services*. Focus groups discussions suggested that there is a large potential to export software and other business services. Data are not available to assess this potential. However a strong service sector is not only a source of export diversification but also a way to strengthen the competitiveness of the domestic economy.
5. *Promoting business friendly product market policies at the national level*. Trade competitiveness depends to a significant extent on the local business environment in which firms operate. A regulatory framework that does not impose unnecessary burdens can facilitate integration in the European Single Market and accelerate growth and convergence to higher income levels. Business regulation can result in resources directed toward compliance rather than the creation of productive output, while constraining the choice of production techniques and leading to misallocation of resources. In the EU context this is particularly relevant, as improvement of the regulatory environment and its alignment with EU standards is essential to reap the full benefits of the single market. Recent evidence shows that product market policies in Romania are more restrictive of competition than in most peer countries. This is reflected in Romania's poor ranking - the 20th- among the 22 EU countries included in an OECD study. Recent analysis shows that had Romania improved its regulatory environment to the same level as Denmark in 2010, its annual productivity growth would have been 14% higher over the 1995-2010 period.

## 1. INTRODUCTION

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The objective of this report is to present an analysis of the West Region recent trade performance. This analysis is based on the Trade Competitiveness Diagnostics analytical framework developed by the International Trade Department of the World Bank (Reis and Farole, 2012). This framework involves assessing trade performance along various dimensions that contribute to form a comprehensive picture of how sustainable the competitiveness of the West Region's export sector is. The dimension analyzed include: i) the level, growth, and market share performance of existing exports (the "intensive margin"); ii) diversification of products and markets (the "extensive margin"); iii) the quality and sophistication of exports (the "quality margin"); and iv) the patterns of entry and survival of exporters.

The analysis presented in this note combines three methodological approaches:

Assessing aggregate trade performance: This analysis makes use of traditional aggregate trade data to assess performance along the dimensions noted above. The analysis makes use of analytical programs that are part of the Trade Competitiveness Diagnostic. It draws mainly from data provided by the Institutul National de Statistica (INS) on exports at the regional and county level, with provides figures disaggregated at the HS 6-digit level. Comparisons with performance by other countries are carried out by using UN Comtrade (via the WITS platform). It also makes use of some other trade data sources from the IMF, UNCTAD, ITC, and World Bank.

Analyzing trade performance through a firm-level lens: Based on detailed firm-level data accessed through the Institutul National de Statistica (INS) – including merged data from Customs transactions and the annual business survey (SBS) containing data at the firm level and at the plant level; – this analysis examines firm-level export dynamics, including patterns of entry, expansion, diversification, upgrading, and exit from exports based on firm characteristics, sectors, and markets. Comparisons with performance by other countries are also carried out, by using the World Bank's Exporter Dynamics Database. This dataset offers a comprehensive picture of exporter characteristics and dynamics in 45 developed and developing countries over the period 2003-2009.

Drilling down for a sector-level perspective: The analytical approaches outlined above have been further associated with an analysis at the sector-level. The sector-level perspective provides a clearer picture of the similarities and differences in terms of performance and determinants of competitiveness across sectors. The sector approach was used, in particular, for carrying out interviews and focus groups<sup>1</sup> that were conducted to enable a richer understanding of the context and to identify more targeted policy recommendations. Focus groups were conducted with representatives of firms from seven sectors: auto, textiles, ICT,

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<sup>1</sup> Five focus group sessions were held in Timisoara, Arad, Cara-Severin and Hunedoara between 26 November and 10 December, 2012. In addition, individual interviews were held with some selected firms and large holding companies in the West Region and Bucharest. Focus group sessions lasted, on average, 2.5 hours and addressed a standard set of issues informed by the initial "Trade Outcomes" analysis. The number of participants in each session ranged from 4 to 9.

tourism, health, construction and energy. It is important to emphasize that these sectors were chosen as they represent important sectors in the local economy. They were identified by local authorities not because they are seen to be “winning” sectors. They were rather chosen for having potential for the future of the West Region and because they are representative of broader trends.

Throughout the note, the West Region’s trade performance is assessed relative to peer regions in Romania and peer countries abroad, in order to better put it into comparative perspective. In many cases, comparisons are made against the following regions in Romania: Bucharest-Ilfov, North-West, and Centre.<sup>2</sup>

The remainder of this note is structured as follows: Section 2 sets the scene by providing a broad summary of the West Region and the importance of the export sector. Section 3 presents the recent export performance in the West Region, characterizes the export sector, and decomposes trade growth to identify and illustrate the key issues that need to be explored. This is followed in Sections 4 and 5 with a more detailed analysis of trade performance and growth prospects from each of the main potential sources of export growth: markets and products, respectively.

This report is part of a wider series of reports that form the basis of the “Romania West Region Competitiveness Enhancement and Smart Specialization” assessment. Other topics covered by the assessment include:

- Territorial Assessment
- Economic Geography Assessment
- Logistics and Transport Infrastructure Assessment
- Competitiveness Diagnostics
- Sector and Smart Specialization Niche Studies

A detailed set of policy recommendations for improving the long-term competitiveness of the Romania West Region will be finalized only after the completion of this series of policy notes in 2013.

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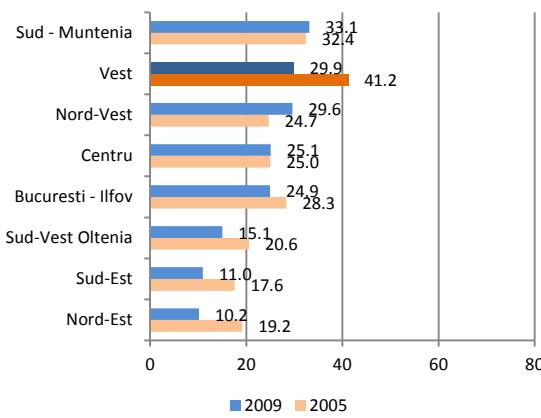
<sup>2</sup> The benchmarking exercise in this report was influenced by data availability at the time this document was prepared. Export data at the regional level in Romania was only available from 2005 to 2011. Ideally, regions in Romania could be benchmarked against similar regions in other EU countries. However, due to the novelty of this analysis, there are no detailed datasets in other countries that we could use to compare to the West Region. Likewise, the comparison of firm-level outcomes at the national level is conditioned by the availability of country data in the World Bank’s Exporter Dynamics Database. Finally, the choice of comparison regions within Romania was done by the West Region’s Development Regional Agency (ADRV).

## 2. SETTING THE SCENE

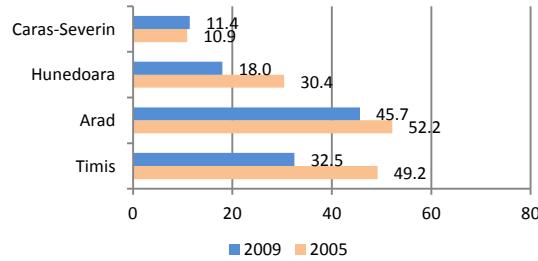
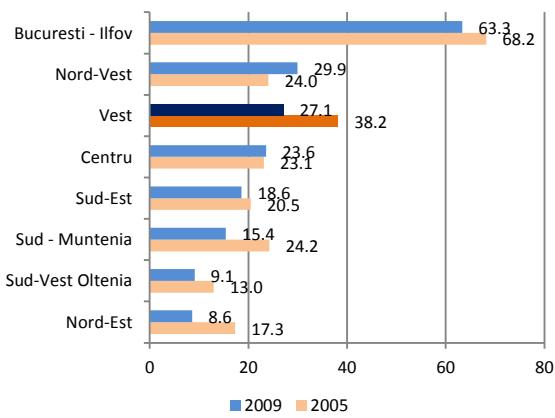
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With exports worth Lei 19 billion (or euro 4.5 billion) and imports worth Lei 17 billion (or euro 4.1 billion), the West Region is the second most export oriented and the third most import oriented in Romania. In 2009 exports represented 29.9% of the GDP of the region and imports 27.1% (Figure 1 and Figure 2). However, the region also experienced the sharpest decline of trade dependence of all of Romania: in 2005, the share of GDP from exports was equal to 41.2% and the one from imports to 38.2. Substantial heterogeneity exists within the region: Arad is the most export and import oriented (45.7% and 41.4% of GDP, respectively) and Caras-Severin the least trade open (11.4% and 9% of GDP, respectively).

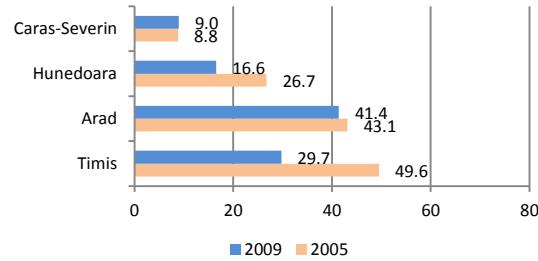
**Figure 1. Exports as % of GDP (2005 and 2009)**



**Figure 2. Imports as % of GDP (2005 and 2009)**



Source: Authors' calculations based on INS data

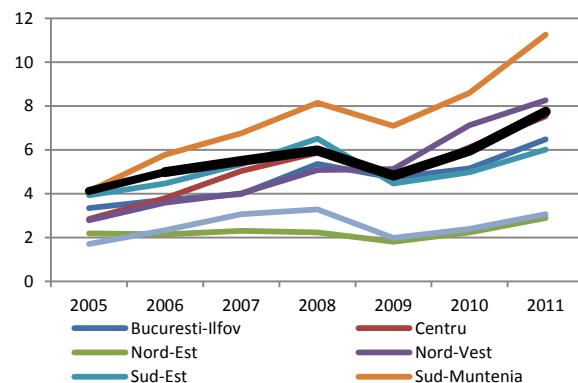


Source: Authors' calculations based on INS data

Overall, the West Region export performance is very positive: export growth is sustained (Figure 3), particularly since 2009 and is driven by the performance of firms located in Arad and Timis (Figure 4) while export growth in Hunedoara and Caras-Severin lags the performance of the two lead regions. Moreover, the region as well as each of its counties is a net exporter. This is not the case of comparator regions (Bucharest-IIfov, Center and North-West) that are also very dynamic in terms of exports. In the West Region, not only do Arad and Timis have substantially greater firm density than in Hunedoara and Caras-Severin, but these firms are significantly more likely to export – the likelihood of a firm in Arad (where export

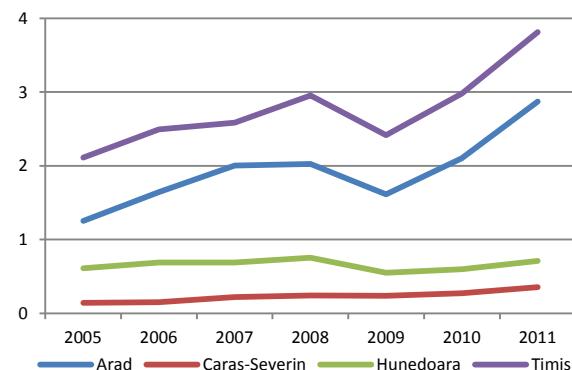
participation is highest) of being an exporter is 67 percent greater than in Caraş-Severin and 50 percent greater than in Hunedoara. The average firm in Arad and Timis exported around 40 percent of their output in 2010, while in Caras-Severin and Hunedoara, the average firm exported only half that level of output.

**Figure 3. Exports across Romanian Regions(US\$ billion)**



Source: Authors' calculations based on INS data

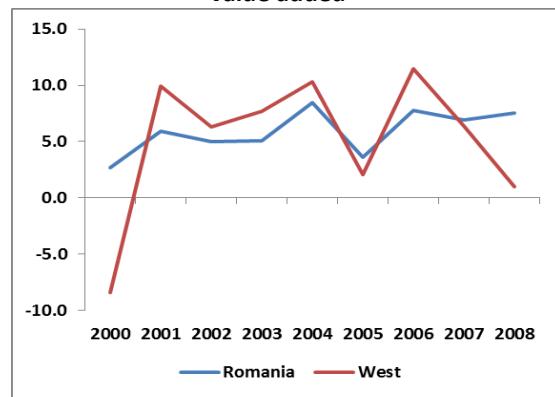
**Figure 4. Exports for the counties of the West Region (US\$ billion)**



Source: Authors' calculations based on INS data

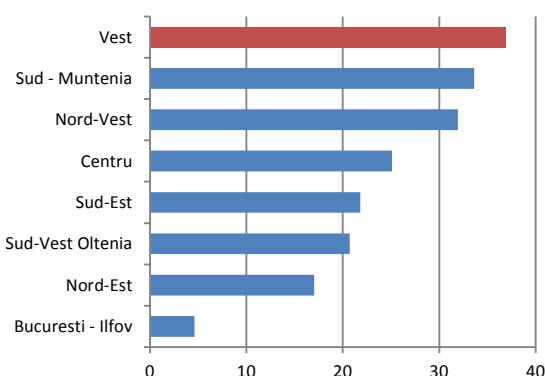
This notwithstanding, there is no space for complacency. The evolution of gross value-added (GVA) for the region suggests that, in the West, both economic expansion and downturns are more pronounced than for the country as a whole (Figure 5). Exports, which represent the highest share of output among all regions in Romania (Figure 6), may represent an important channel for smoothing this cycle. Ensuring stability of demand for the region's exports, for example through export and product market diversification, is therefore important.

**Figure 5. Real growth rate of regional gross value added**



Source: Eurostat

**Figure 6. Contribution of Exports to Turnover (2010)**



Source: Authors' calculations based on INS and SBS data

Exporters have also shown to be more productive than non-exporting firms. Substantial research on trade and firm heterogeneity [Roberts and Tybout (1997); Bernard and Jensen (2004); Bernard et. al. (2007)] shows clearly that the most productive firms tend to be

the ones participating in export markets. Both exporting and non-exporting firms have performed exceedingly well in the West Region and exhibit the highest total factor productivity growth (TFP) in Romania between 2008 and 2010 (Table 1).

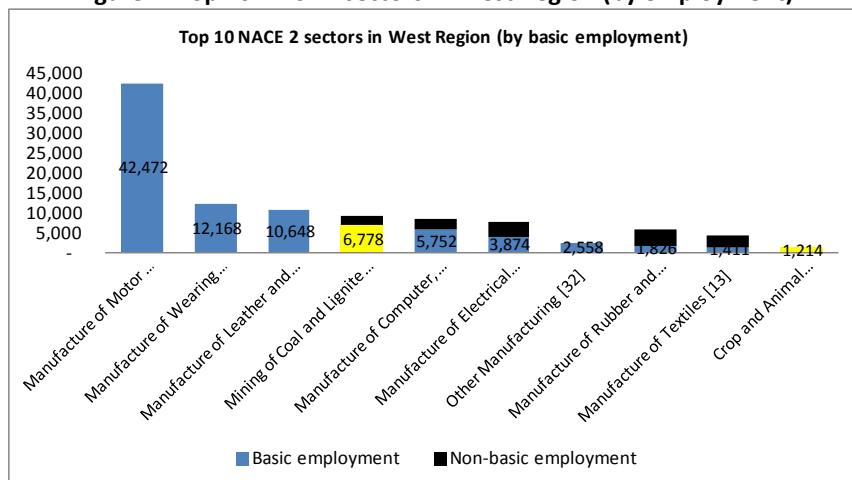
**Table 1. TFP growth by region, 2008-10 (in percentage points, weighted by employment)**

	Non Exp	Exp	Dif (exp-Nexp)
North-East	6.63	31.31	24.68
South-East	4.68	27.44	22.76
South-Muntenia	0.61	32.31	31.71
South-West			
Oltenia	0.58	33.61	33.04
<b>West</b>	<b>8.51</b>	<b>34.37</b>	<b>25.86</b>
North-West	4.69	33.00	28.31
Center	3.57	32.88	29.31
Bucharest-Ilfov	1.63	8.00	6.37
Romania	3.18	25.53	22.34

Source: Authors' calculations based on SBS data

The export-oriented manufacturing sectors are the primary economic engines in the West Region. The auto, textile and footwear sectors are the three largest employers in the West Region and employment in the auto sector alone is higher than total employment in the next ten manufacturing sectors combined. The good performance of auto exports in the West region is reflected in an extremely strong performance in the overall economy: between 2007 and 2010, the sector experienced an 84% turnover and 35% employment growth in the West Region, compared with an average growth of 52% and 2% in the country as a whole, respectively. It is worth noting that 90% of output in the auto sectors is accounted for by exports.

**Figure 7. Top 10 NACE 2 sectors in West Region (by employment)**



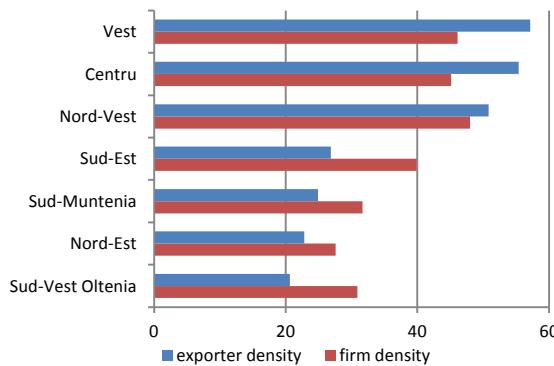
Source: Authors' calculations based on INS data

### 3. TRADE PERFORMANCE AND COMPETITIVENESS: AN OVERVIEW

#### 3.1. Main Characteristics of the Export Sector

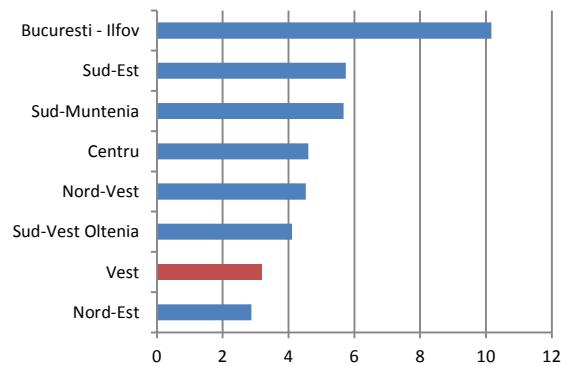
In addition to being one of the regions with the highest contribution of exports to GDP, the West Region is one of the most trade dense regions in Romania. In 2010, the West Region ranked fourth in number of exporters with 1,041 exporting firms and had the highest percentage of firms engaged in exporting in the country (2.2%)<sup>3</sup>. Additionally, the West Region had the second highest exporter density and the third highest firm density in Romania with 53 exporters and 2,400 firms per 100,000 inhabitants which suggest an important level of entrepreneurial activity in the region. However, Figure 8 shows that the West Region still lags behind Bucharest-Ilfov. Its exporter and firm density is less than sixty percent of the density of the latter<sup>4</sup>. Moreover, the dynamics of the export sector in the West Region are showing some lack of dynamism lately as the rate at which the region increased the number of exporters is the second lowest in Romania (Figure 9).

**Figure 8. Firm and Exporter Density in 2010  
(% of density in Bucharest-Ilfov)**



Source: INS and Eurostat

**Figure 9. Annual Average Growth Rate in Number of Exporters (2007-2011)**



Source: INS

There are four main characteristics of the export sector in the West Region that will help understand some of the outcomes presented in this report: (i) the dominance of the auto sector, and to a lesser extent of the apparel/footwear sector, in exports value; (ii) the importance of foreign-owned firms for total exports; (iii) the relative big size of exporting firms in terms of export sales compared to other regions in Romania; and (iv) the concentration of a

<sup>3</sup> In 2010 the number of exporters and percentage of firms exporting per region were: Bucharest-Ilfov 2,097 (1.78%), Center 1,294 (2.18%), North-West 1,279 (1.88%), West 1,014 (2.21%), North-East 783 (1.47%), South-Muntenia 752 (1.40%), South-East 689 (1.20%), and South-West Oltenia 428 (1.19%).

<sup>4</sup> Bucharest-Ilfov is the leading region in terms of both firm and exporter density with 92 exporters and 5,200 firms per 100,000 inhabitants.

significant share of exports in a handful of firms - most of which are foreign-owned and related to the auto sector.

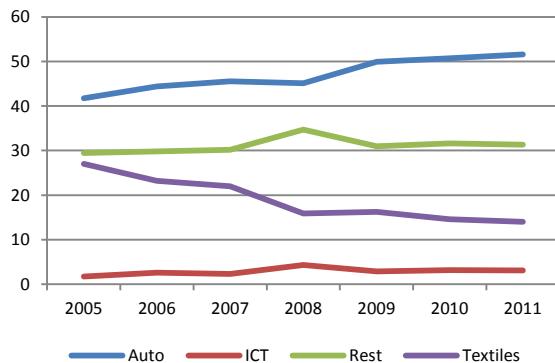
The importance of the auto sector is probably the most recognizable characteristic of the West Region as this sector accounted for 51.6% of total export value in 2011. This dominance in terms of exports is coupled with an extremely strong performance of the auto sector in the overall economy: between 2007 and 2010, the sector experienced a 84% turnover and a 35% employment growth in the West Region, compared with an average growth of 52% and 2% in the country as a whole, respectively. Traditionally, the auto and textiles/footwear sectors represented the bulk of exports in the West Region, although both sectors had different trends: the former is becoming increasingly important as it went from representing 41.8% to 51.6% of total exports between 2005 and 2011 while the relative importance of the latter declined from 27% to 14% in total exports during the same period (Figure 10). The ICT sector, a promising sector that has driven recent export growth in the North-West Region, doubled its importance in the West Region (from 1.7% to 3.2%) over the same period but remains a marginal player of the latter.<sup>5</sup>

Figure 11 shows that the impressive performance of the West Region's exports in the auto sector is not replicated by the automotive sector in comparator regions, with the possible exception of the Centre and South Muntenia regions - the only among comparators in which the auto sector represents more than 20% of exports. In the North West Region, the ICT sector (especially electronics and telecommunications equipment) is the main export sector and represents about a third of exports. On the opposite side of the spectrum, Bucharest-Ilfov has a more diversified export base, with auto, ICT and textiles account for 10% only of total exports. The sector and product dynamics in the West Region will be discussed with more detail in Section 5.

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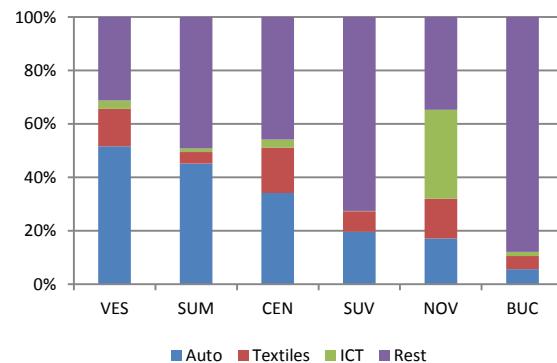
<sup>5</sup> Other important export sectors in the West Region are Manufacture of Rubber Products (7.4%), Manufacture of Domestic Appliances (2.7%), Manufacture of Furniture (2.5%), and Manufacture of Basic Iron and Steel and of Ferro-Alloys (1.5%).

**Figure 10. West Region: Exports by Sectors  
(% total exports)**



Source: Authors' calculations based on INS data

**Figure 11. Regional Composition of Exports by Sectors (% regional exports)**

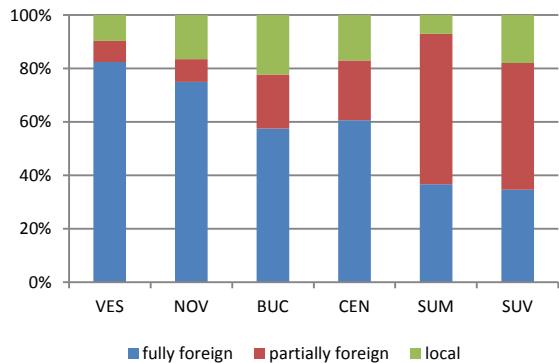


Source: Authors' calculations based on INS data

Foreign ownership of exporting firms is another salient feature of the export sector in the West Region. For Romania as a whole, FDI is an important player as the majority of Romania's exports originates in either fully (47%) or partially foreign-owned firms (26.4%). However, the relevance of foreign-owned firms is particularly significant in the West Region. As much as 82.4% of exports are generated by fully foreign-owned firms and an additional 7.9% of exports comes from partially foreign-owned firms. These percentages for fully foreign firms are the highest among comparator regions (Figure 12).

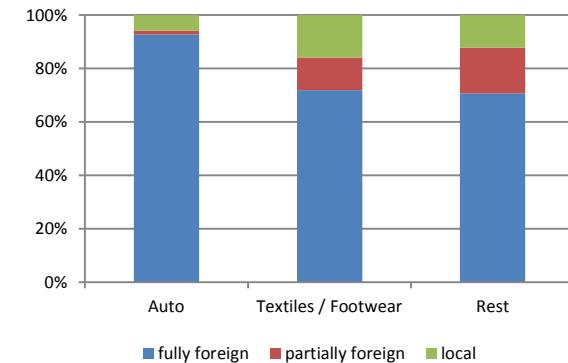
The degree of dominance of fully foreign-owned firms in exports flows in the West Region varies among the major export sectors ranging from 92.6% of exports in the auto sector to 70.7% in exports outside auto and apparel/footwear (Figure 13). It is also worth noting that, especially in the auto sector, the importance of fully foreign-owned firms in total exports has increased over time to the detriment of partially foreign-owned firms. This is an important issue because it suggests reduced opportunities for partnerships and joint-ventures between foreign and domestic firms that could generate productivity spillovers and opportunities for transferring technology and skills to the local economy.

**Figure 12. Percentage of Exports by Ownership Type and Region**



Source: Authors' calculations based on INS data

**Figure 13. West Region: Percentage of Exports by Ownership Type and Sector**

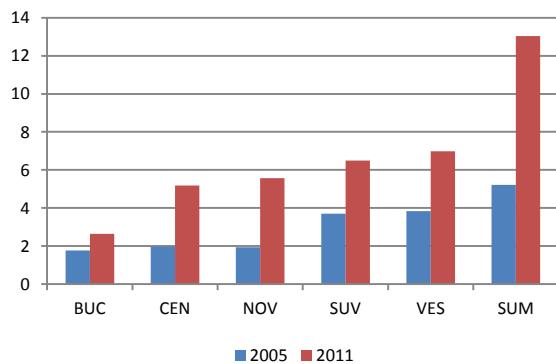


Source: Authors' calculations based on INS data

The third important characteristic of the export sector in the West Region is the relative large size of its firms. We measure it in terms of export sales, but firms are large also according to other size measures (number of employees, assets, etc. – see separate report on the diagnostics of West Romania's firms). Traditionally, exporters in the West Region have been larger than their peers in comparator regions and the average exporting firm in Romania with the exception of the South Muntenia Region. The average exporter size in the West Region increased from US\$ 3.8 million in 2005 to US\$ 7 million in 2011 – almost doubling its average size in a six year span (Figure 14). In 2011, the average exporting firm from the West Region had export sales that were 25% to 30% higher than its counterparts in the Center and North West regions and more than twice the size of the average exporter in the Bucharest-Ilfov Region.

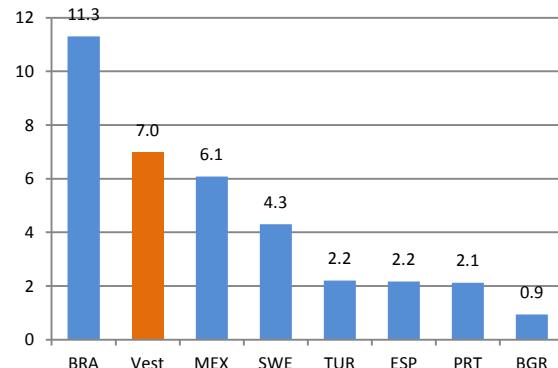
Figure 15 puts this size advantage in an international perspective. Among countries for which comparable data is available, the average exporter in the West Region is only smaller than exporters in Brazil (US\$ 11.3 million). It is instead bigger than the average exporter from Mexico (US\$ 6.1 million), Sweden (US\$ 4.3 million), Turkey (US\$ 2.2 million), Spain (US\$ 2.2 million), Portugal (US\$ 2.1 million) and Bulgaria (US\$ 0.9 million).

**Figure 14. Average Exporter Size (US\$ million exports)**



Source: Authors' calculations based on INS data

**Figure 15. International Average Exporter Size (US\$ million exports)**



Source: INS and Exporter Dynamics Database

The fourth important characteristic of the exporter sector in the West Region is the high concentration of exports in a handful of firms, all of them fully foreign-owned and related to the auto sector. The concentration of exports in a small number of export “superstars” is not a surprising finding as several authors noted. For example, Mayer and Ottaviano (2007) showed that these firms usually dominate exports, while Freund and Pierola (2012) find that the top 1 percent of firms accounts for 53% of exports, on average, across a sample of 32 developing and developed countries. What is remarkable about the West Region is that five firms in 2011 accounted for slightly more than a quarter of total exports (27.8%) while the top ten exporters alone represented 38.3% of exports. High levels of concentration also characterize comparator regions in Romania. Nonetheless, the high concentration of exports is a more recent development in the North-West and Center Regions and relatively long dated in the West Region and in the Bucharest-Ilfov region (Table 2).

**Table 2. Exports by Top Ten Exporting Firms**

	Bucuresti-Ilfov		Centru		Nord-Vest		Vest	
	2005	2011	2005	2011	2005	2011	2005	2011
top firm	7.1	8.0	6.1	6.4	5.2	22.1	8.3	7.4
top 5 firms	24.3	27.0	17.3	24.7	17.9	40.3	27.0	27.8
top 10 firms	34.3	36.2	24.2	35.4	27.0	49.1	40.2	38.3

Source: Authors' calculations based on INS data

### **3.2. Recent Trade Performance**

Exports in the West Region grew at double digit rates on average between 2005 and 2011 and total exports almost doubled from US\$ 4.1 to US\$ 7.7 billion in the six year span covered by the firm level dataset provided by INS. Despite this good performance, however, export growth was lower than in the country as a whole and other comparator regions performed significantly better, e.g. the Center and North-West Regions increased their total exports by a factor of 2.5 and 3 during the same period.

Figure 3 showed the evolution of exports in the West Region and its comparator regions between 2005 and 2011. Two developments are worth highlighting. First, other regions are catching up. Although the West Region was the biggest region in terms of export value in 2005, it has since lost relative importance against the South Muntenia and North-West regions, whose exports have been growing at higher rates. As a result, these two regions are the biggest in terms of exports in 2011. Second, the export dynamics of the Centre Region have converged to those of the West Region. Growth rates that are practically the same in the two regions and a co-movement very synchronized. This sets these two regions apart from Bucharest-Ilfov and North-West.

Having had a satisfactory export growth until 2008, West Region's exports performed even better in the aftermath of the crisis. Table 3 shows that, despite registering a sharp decline of 19% in export value in 2009, export growth accelerated after 2009 and registered an average annual growth (26.8%) that doubled the growth rate recorded in the pre-crisis period (13.2%). The recent dynamism of exports in the West Region is more than just a "rebound effect". Exports in 2011 grew at a rate of 30%, higher than the country average (28.8%) and well above the other comparator regions with the exception of South Muntenia. Moreover, exports from the West Region grew substantially faster than exports from most Eastern European countries, including the Czech Republic (22.7%), Slovakia (22.6%), Poland (19.8%) and Hungary (17.5%).

**Table 3. Export Growth (%) 2006-2011**

	2006	2007	2008	2009	2010	2011
BUCURESTI-ILFOV	11	7	35	-12	9	26
CENTRU	33	33	17	-20	30	23
NORD-VEST	29	12	27	1	39	16
SUD-MUNTENIA	40	17	21	-13	21	31
SUD-VEST-OLTEANIA	37	31	7	-40	21	28
VEST	21	10	9	-19	24	30

Source: Authors' calculations based on INS data

### 3.3. How much of Trade Performance is Explained by Composition versus Competitiveness?

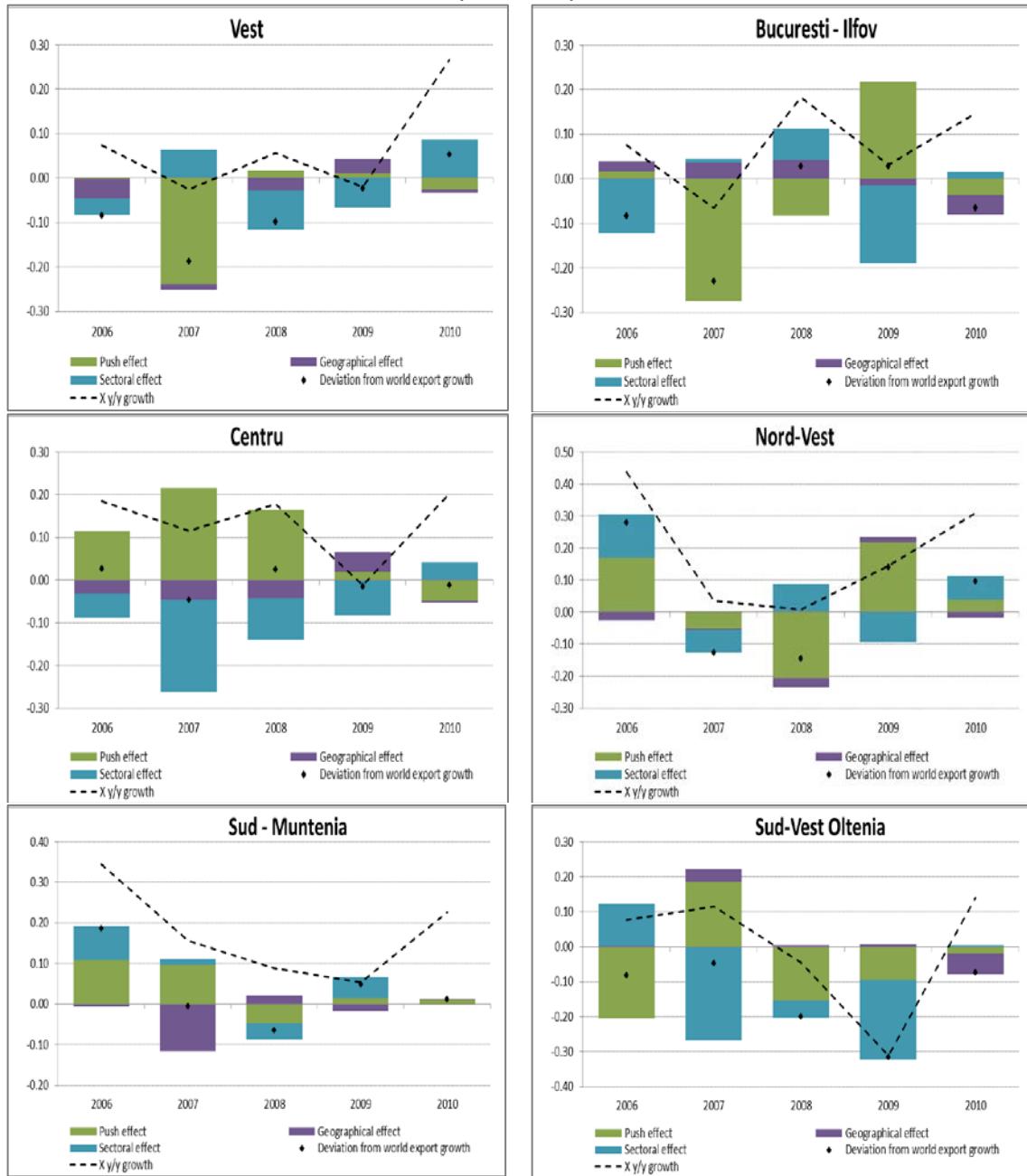
Assuming that one region is “more competitive” in trade than another simply because its exports are growing faster is too simplistic. Even relative measures of performance, like market share growth, may be prone to misinterpretation. This is because export growth is composed of two different types of effects: “pull” (or compositional) effects and “push” (or performance) effects. Two regions may actually have a bundle of export firms that are similarly competitive, but overall export performance of one region could be higher than the other because it has a more favorable (at the time) composition of exports in terms of both geographical markets and sectors (i.e. export growth is mostly “pulled” by a favorable international environment for its main export products or market destinations). What does decomposing exports in push and pull effects say about West Romania’s export competitiveness in recent years?

Figure 16 traces the West Region’s export performance from 2006 to 2010 and compares it with other peer regions in Romania. A few important points emerge from this. First, the West Region underperformed compared to the world’s export growth rate in the years prior to the crisis (2006-2008), performed similarly in 2009, and significantly better in the recovery period after the crisis (2010). Second, “push” effects were marginal with the exception of 2007 when they were negative. Third, “pull” effects played the biggest role in driving positive export growth. Specifically, West Romania has grown well on the back of its sectorial specialization, which helped offset negative push performance both before (2007) and after the global crisis (2010).

A similar outlook is to be found for the Bucharest-IIfov region. Positive performance has been mainly driven by a positive sectorial performance. Push factors instead have been negative, except in 2009. In comparison, North-West Romania outperformed global average growth in 2006, 2009 and 2010, but underperformed it in 2007 and 2008. These were also the years in which “push” effects were positive in the North West region: they played the biggest role in driving export growth throughout the entire period while “pull” sectorial effects were also prominent (except for the penalizing role in the crisis year 2009). Push effects have been

important also in the Centre region, offsetting unfavorable specialization in terms of markets and especially in terms of sectors. In the case of South Muntenia, the strong performance of “push” effects in 2006 and 2007 that allowed the region to over perform the world growth rate, became marginal as the crisis approached and remained so until 2010.

**Figure 16. West Region's export performance decomposition in push and pull factors, (2006-2010)**



Source: Authors' calculations based on INS data

**Table 4. Decomposition of export growth into “pull” and “push” factors: Vest vs peer regions (2006-2010)**

Region	Export Growth	Average deviation from world export growth (13.4%)	Performance (export growth without compositional effects)	Geographical (compositional) pull effect	Sectoral (compositional) pull effect	Push effect ("performance", i.e. market share growth without composition effects)
Vest	10.6	-2.9	7.4	0.4	2.8	-6.1
Bucuresti - Ilfov	9.5	-3.9	7.2	-0.8	3.1	-6.2
Centru	13.7	0.2	22.4	-0.9	-7.9	9.0
Nord - Vest	20.4	6.9	18.4	-0.6	2.5	5.0
Sud - Muntenia	17.0	3.6	18.0	-1.7	0.7	4.5
Sud-Vest Oltenia	-0.4	-13.8	4.1	-2.4	-2.1	-9.3

Source: Authors' calculations based on INS data

Further elements of comparison with peers (Table 4) shed additional light on West Romania's relative trade competitiveness. They show that export performance or “competitiveness” (stripped of compositional effects) during the period 2006-2010 is relatively strong in absolute values (7.4%), but subdued when compared to the performance of its peers such as the Centre, North-West, and South-Muntenia regions (22.4%, 18.4%, and 18%, respectively). The performance of the Centre Region is particularly interesting, as this is the only region among the peers that has a higher positive difference between its “performance” and actual export growth during the period, suggesting that the region's export growth would have been even stronger with more favorable sectorial and geographical specialization. By contrast, the positive specialization of the West Region has worked in favor of its export performance. The negative own performance observed in the years 2007 and 2008 (Figure 16) was strong enough to lead to a negative overall performance of the push factors over the years 2006-2010. A similar negative performance was observed by Bucharest-Ilfov. Meanwhile the Centre and North West regions benefitted from positive push effects over the same period of time.

### 3.4. The Sources of Export Growth

In order to gain further insight into the West Region's export dynamics, we decompose its firm-level export flows along the so-called “trade margins”.<sup>6</sup> As we will see in the following

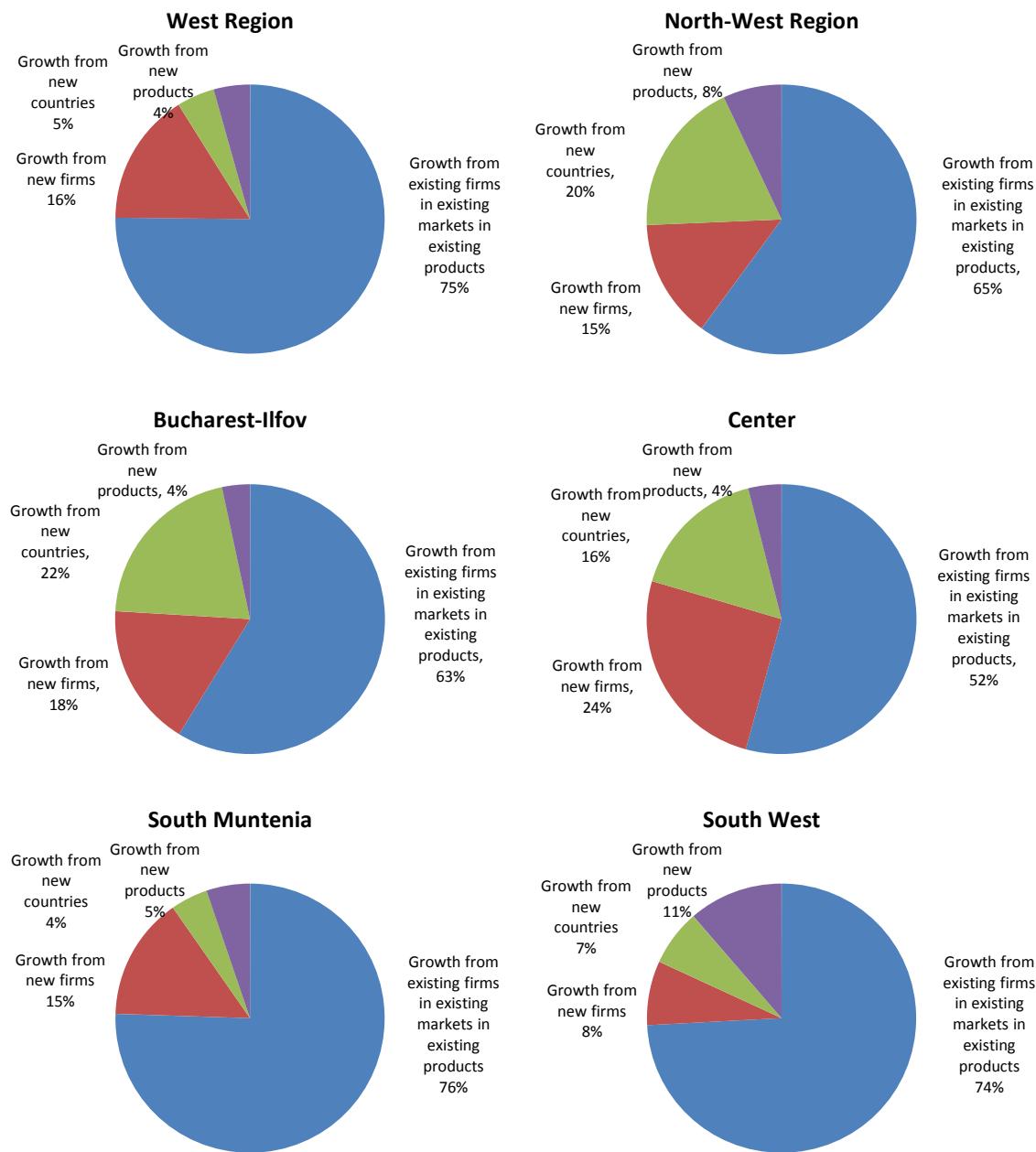
<sup>6</sup> Export growth can come from four main components. First, increased exports of the same products, by the same firms to the same markets – this is known as the “intensive margin” of trade; second, existing exporters may introduce new products; third, existing firms may enter new markets; and fourth there may be firms entering export markets for the first time – these last three together are known as the “extensive margin” of trade. There is a fifth route to growth, which is part of the intensive margin but difficult to isolate – this is the “quality margin”, or

paragraphs, the bulk of export growth in the region's over the past decade has been accounted for by developments at the intensive margin (Figure 17). Three quarters of export growth in the period 2005-2011 originated from firms choosing conservative export strategies both in terms of markets served and products offered in each market – i.e. firms which increased the overall value of their exports to markets where they were already going with products they were already exporting there. By contrast, growth through new markets (5%), new products (4%), and new firms (16%) represented the lowest combined contribution among comparator regions with the exception of South-Muntenia. Because the growth contribution of new products is low on average in Romania (5% on average among all comparator regions), the main difference in export growth contribution in the West Region is due to a poor performance of exports to new markets and new firms.

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the increase in price achieved by exporters (relative to exporters from other countries for the same product and market).

**Figure 17. Contributions to Export Growth (avg. 2006-2011)**



Source: Authors' calculations based on INS data

As we will argue in the next sections, the high degree of dependence of the West Region on the intensive margin (same firms exporting the same products to the same markets) and the low contribution of new export destinations to export growth are influenced by the sector mix of its exports. The functioning of the auto sector (Box 1) partly explains export features in the West Region that emerge from the export growth decomposition into intensive and extensive margin.

At the firm level, the close relationships established between Original Equipment Manufacturers (OEMs) and first-tier suppliers, based on a system of confidence and trust, means that it is difficult for new firms to enter the market for auto parts and components. The fact that the first-tier suppliers with activities in the West Region are big multi-national corporations (MNCs) with global reach and operations in all major centers of auto assembly in the world<sup>7</sup> means that successful entry into this field is limited to other MNCs that are able to compete in this environment.

At the product level, lead firms try to engage first-tier suppliers in the design stage in order to reduce frictions and problems that could arise during the manufacturing process. Because the design and development of a new product could take up to 5 years in the auto industry, and the time and resources involved in this relationship are substantial, usually only one first-tier supplier becomes responsible for supplying a particular component for a new auto line. Because these contracts for specific parts engage the parties for long periods of time, and because first-tier suppliers tend to locate plants with similar activities in geographical clusters, the bulk of export sales comes from few products only (see Section 4 for a detailed discussion of the product dimension of West Romania exports). Additionally, some first-tier suppliers specialize in particular sub-components and/or specific parts (wire harnesses, steering wheels, dashboards, etc) which put limits to the range of products from which export sales could materialize.

Finally, at the market level, because final assembly is also organized in a very distinctive fashion resulting in a geographical pattern of very specialized assembly plants - for instance, the Volkswagen Passat is only assembled in a plant in Emden, Germany and the Audi TT in a sole plant in Györ, Hungary – and first-tier suppliers products are usually designed and engineered for one specific line as already explained, the geographical reach of auto parts/components exports is inherently limited.

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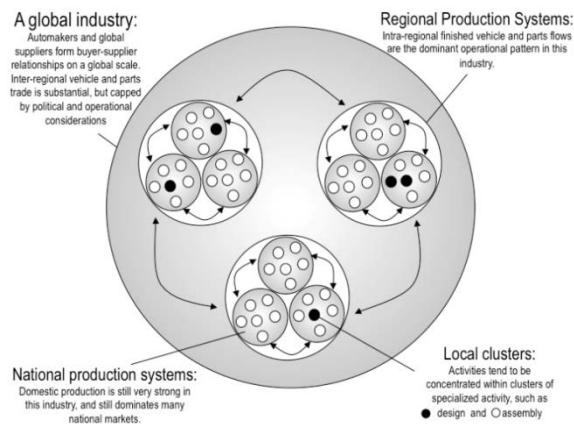
<sup>7</sup> Nine of the top ten exporters that dominate the auto sector in the West Region belong to the top 100 list of first-tier auto suppliers worldwide.

### Box 1. The Automotive Sector

Intra-regional vehicle and parts trade is the dominant operational pattern in the industry. The geographic and organizational structure of the industry is nested (Figure 18). There is an important global dimension which coexists with regional production system, national production systems and clusters of specialized activities. Besides, domestic production is still very strong and dominates many national markets.

There are many reasons for the tendency of the industry to be geographically concentrated. High transportation costs make intercontinental shipping very costly especially in downstream activities such as complete cars or subsystems. In addition, the need for close cooperation between car assemblers and first-tier suppliers and the one between first-tier and second-tier suppliers creates incentives for co-location within regional production systems. Operations such as just in time production, design collaboration and the support of globally produced vehicle platforms need to be organized to benefit from geographical clustering. Finally, political pressure may also justify location close to end markets (Van Bisenbroek and Sturgeon, 2011). The high cost and visibility of automotive products can create the risk of a political backlash if imported vehicles represent too large a share of total auto sales.

**Figure 18. Nested geographic and organizational structure of the automotive industry**



Source: Van Bisenbroek and Sturgeon, 2011

Nevertheless, the dominance of the automotive sector alone does not fully explain the over-reliance of exports on the intensive margin in the West Region. The growth of exports in the apparel/footwear sector, the second most important export of the West Region, is even more concentrated than the auto sector. Almost the totality of export growth (90%) is due to the intensive margin. The apparel/textiles sector is also dominated by internationally fragmented production globally (Box 2) that determine similar dynamics than the auto sector in terms of reliance on the same firms, markets and products. Focus groups suggest that West Romania firms are mostly suppliers of foreign brands. They have not, for the large part, managed to transition to own design and own brand manufacturing.

#### **Box 2. International Value Chains in Apparel**

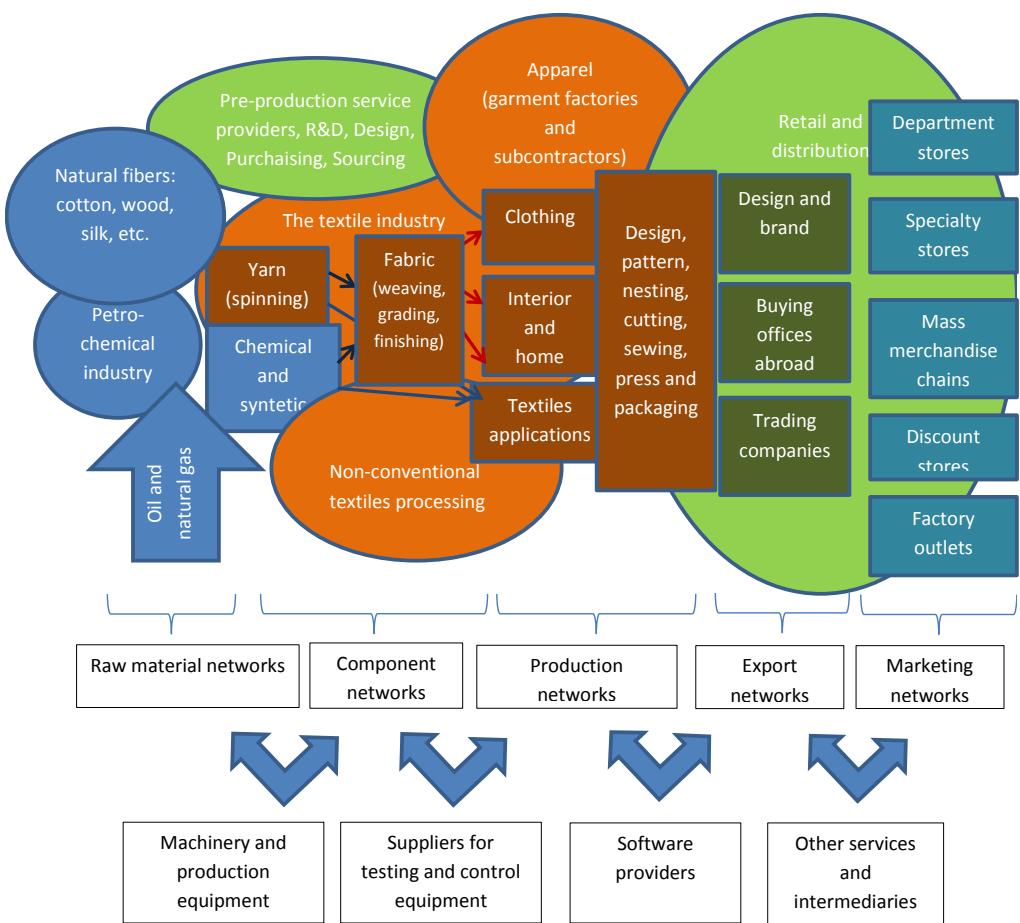
The apparel industry is a buyer driven commodity chain marked by power asymmetries between the suppliers and global buyers of final apparel products (Gereffi and Memedovic, 2003). A synthetic representation of the broad range of raw materials used, technologies deployed, products produced and intermediaries involved is provided in Figure 19.

The companies that develop and sell brand-name products have considerable control over how, when and where manufacturing will take place, and how much profit accrues at each stage, essentially controlling how basic value-adding activities are distributed along the value chain. Unlike producer-driven chains, where value added and profits are generated through greater scale, volume and technological advances, in the buyer-driven apparel and textiles value chain, value added and profits come from combinations of high-value research, design, sales, marketing, and financial services that allow the retailers, designers and marketers to act as strategic brokers in linking overseas factories and traders with product niches in their main consumer markets (Gereffi and Memedovic, 2003). Figure 20 shows the curve of value added in the apparel value chain. Six distinct value-adding activities can be identified: (1) research and new product development (R&D), (2) design, (3) purchasing, (4) production, (5) logistics (distribution), (6) marketing and branding, and (7) services.

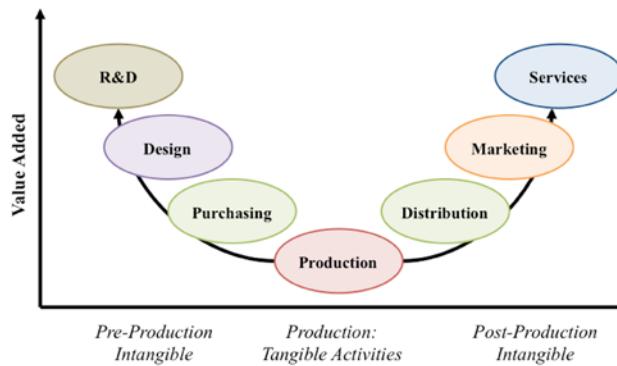
- R&D: This value-adding function includes companies that engage in R&D, as well as activities related to improving the physical product or process and market and consumer research.
- Design: This stage includes people and companies that offer aesthetic design services for products and components throughout the value chain. Design and style activities are used to attract attention, improve product performance, cut production costs, and give the product a strong competitive advantage in the target market.
- Purchasing/Sourcing (Inbound): This stage refers to the inbound processes involved in purchasing and transporting textile products. It includes physically transporting products, as well as managing or providing technology and equipment for supply chain coordination. Logistics can involve domestic or overseas coordination.
- Production/Assembly/Cut, Make, Trim (CMT): Apparel manufacturers cut and sew woven or knitted fabric or knit apparel directly from yarn. The cut-and-sew classification includes a diverse range of establishments making full lines of ready-to-wear and custom apparel. Apparel manufacturers can be contractors, performing cutting or sewing operations on materials owned by others, or jobbers and tailors who manufacture custom garments for individual clients. Firms can purchase textiles from another establishment or make the textile components in-house.

- Distribution (Outbound): After apparel is manufactured, it is distributed and sold via a network of wholesalers, agents, logistics firms, and other companies responsible for value-adding activities outside of production.
- Marketing and Sales: This function includes all activities and companies associated with pricing, selling, and distributing a product, including activities such as branding or advertising. These companies frequently do not make any physical alterations to the product. Apparel is marketed and sold to consumers (via retail channels), institutions, or to the government.
- Services: This includes any type of activity a firm or industry provides to its suppliers, buyers, or employees, typically as a way to distinguish itself from competitors in the market (e.g., offering consulting about international apparel businesses or fashion trends).

**Figure 19: Complexity of the apparel value chain**



**Figure 20: Curve of value added in the apparel value chain**



Source: Fernandez-Stark, Frederick and Gereffi (2011)

### Box 3. International Value Chains in Agro-Food

The food industry, being a resource based sector, is characterized by low appropriability of resources. As such it is dominated by those countries that invest in basic and applied research (e.g. Switzerland, France, the United States). Most innovation and value added is generated by suppliers through the creation of new machinery, new seeds, new chemicals and fertilizers, and more recently by the application of ICT to agriculture. It is also increasingly important to foster the respect of international sanitary and quality standards, and of intellectual property. A typical value chain in agro-food is described in Figure 21. It is quite complex and it has increasingly a global scale, as the value chain of the Nutella shows (Figure 22).

The most important inputs for the industry are seeds, fertilizers, agrochemicals (herbicides, fungicides, and pesticides), farm equipment, and irrigation equipment. Logistics and transportation fulfill key supporting functions, and due to the fragile and perishable nature of some products, a high degree of coordination among different actors along the chain is required. This ensures that those perishable products reach their destination in good condition. In the case of fresh vegetables and fruit, cool storage is used throughout the chain to keep produce fresh, and both air and sea freight are key elements to ensure timely delivery.

Production is divided between production for fresh consumption and for processing. Developing countries have exploited their comparative advantages in climate, land, and labor to excel in the production segment of the chain. Packing and storage are usually carried out by large exporters who consolidate the produce, package, store, and export. The first activity within the packing segment is grading. Unacceptable, low-grade produce will be redirected to processing plants or the domestic market. Washing, trimming, chopping, mixing, packing, and labeling are other processes that may occur in this stage of the value chain.

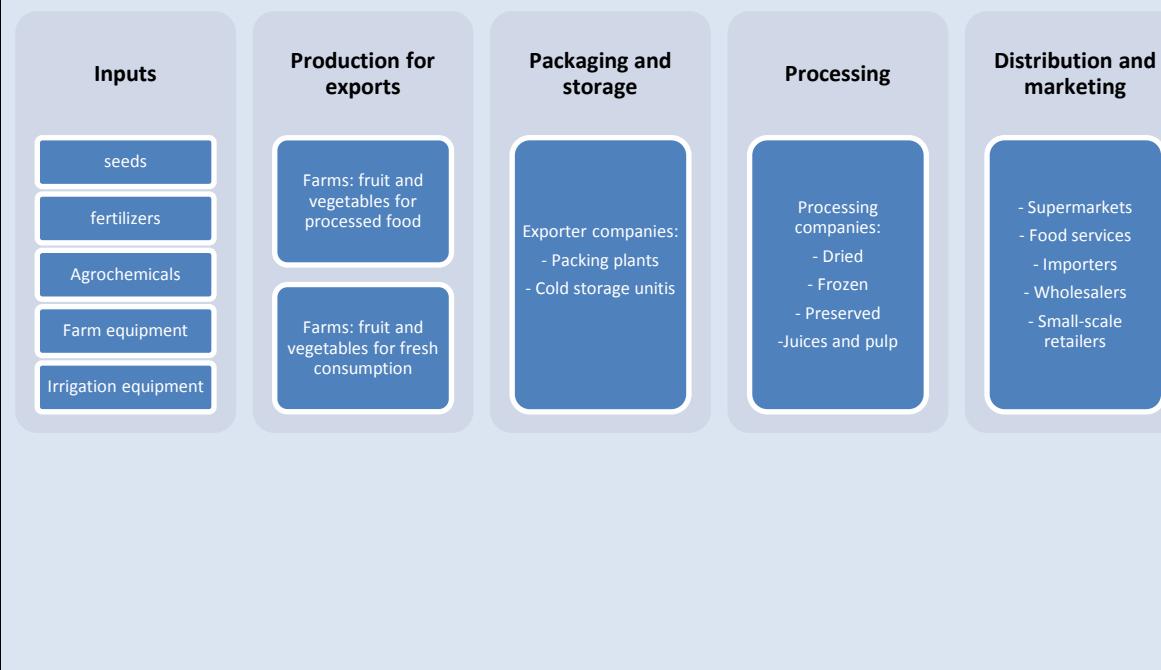
Producer-exporters usually consist of a few large multinationals plus a large number of medium-size domestic firms. Strong domestic firms in some developing countries, such as Kenya and Chile, have expanded abroad and have vertically integrated along the value chain (Fernandez-Stark et al. 2011). Producer-exporters often consolidate vertically, through (i) backward integration of exporters to production and increased dominance of large farms; (ii) contracted supply from outgrowers whereby the farmer may receive inputs, credit, technical assistance, and guaranteed sales from the exporters;

and (iii) non-contracted supply from independent growers (Jaffee and Masakure 2005). Large farms are mostly used for products with strict quality and traceability requirements, because coordination and control is centralized in management. These large producers typically have greater access to the financial capital necessary to make the investments needed to meet these rigorous requirements. These firms may undertake other important high-value functions such as product development and innovation (Humphrey 2005).

Opportunities for smallholder outgrowers are sometimes limited to domestic or regional markets or to developing countries, where standards are not as rigorous and compliance is less expensive. For example, much of Morocco's citrus supply goes to the Russian Federation, where standards are lower than other European markets, whereas Jordan exports a significant proportion of its vegetables to countries of the Pan-Arab Free Trade Area, where lower quality does not limit market access. In key European and North American countries, there are niche immigrant markets, such as that for sweet potatoes, and the food services industry purchases based on cost with less attention to monitoring pesticide residue and other quality requirements (Jaffee and Masakure 2005).

On the demand side, large supermarket chains are the leading actors in key markets, with controlling market shares across Europe and increasingly in the United States. These buyers, such as Sainsbury's, Marks & Spencer, and Wal-Mart, seek enhanced competitiveness and consistency from their global supply chains. As Gereffi and Lee (2009) note, they exert significant influence over the entire value chain and dictate how fruit and vegetables are produced, harvested, transported, processed, and stored. In addition, governments of developed countries have created standards, usually aimed at food safety. The outcome has been a complex system of multiple standards at national, regional, and international levels. These private standards also include codes of conduct that both large and small producers around the world are required to adopt in order to maintain their access to markets (Dolan 2004).

**Figure 21: A typical value chain in agro-food**



**Figure 22: The Nutella value chain**



Source: OECD (2012)

Source: Adapted from Staritz, C. & J. Reis. (2013) and World Bank (2013)

The preponderance of international value chains in the automotive sector also explains why this sector is overwhelmingly dominated by large foreign-owned firms in the West Region. As Table 5 shows, foreign owned firms with more than 250 employees represented less than 40% of exporters in the auto sector but accounted for 90.5% of total exports in 2011.

**Table 5. Concentration of Exports for Main Export Sectors in the West Region (2011)**

Number of exporters									
	Auto			Textiles			Rest		
	big	mid	small	big	mid	small	big	mid	small
fully	60	23	18	64	23	9	99	75	104
local	23	8	2	30	11	10	78	73	141
partially	9	12	5	14	5	1	52	27	38
% of exporters in sector									
	Auto			Textiles			Rest		
	big	mid	small	big	mid	small	big	mid	small
fully	37.5	14.4	11.3	38.3	13.8	5.4	14.4	10.9	15.1
local	14.4	5.0	1.3	18.0	6.6	6.0	11.4	10.6	20.5
partially	5.6	7.5	3.1	8.4	3.0	0.6	7.6	3.9	5.5
% of sector exports									
	Auto			Textiles			Rest		
	big	mid	small	big	mid	small	big	mid	small
fully	90.5	1.2	0.9	59.9	8.6	3.3	55.3	5.4	9.9
local	5.7	0.2	0	14.6	0.8	0.6	4.5	2.2	5.5
partially	0.8	0.5	0.2	10.1	2.1	0	14.5	1.6	0.9

Source: Authors' calculations based on INS data

### **3.5. Summary**

This chapter sets the context of the export sector in the West Region. In summary, the following issues emerge:

- **Export-intensive region, with strong export growth.** Exports in the West Region grew at double digit rates on average between 2005 and 2011 and total exports almost doubled from US\$ 4.1 to US\$ 7.7 billion in six years. The recent dynamism of exports in the West Region is more than just a “rebound effect”. Exports grew steadily after the 2008 trade collapse at double the pre-crisis rates. In 2011 they grew at a rate of 30%, above the three comparator regions and substantially faster than exports from most Eastern European countries, including the Czech Republic, Slovakia, Poland and Hungary.
- **A region with a very high density of exporters.** With 1,041 exporting firms, in 2011 the West Region ranked fourth in Romania in number of exporters. The West Region had the highest density of exporters relative to total firms and the second highest exporter density relative to the region’s inhabitants. These figures suggest an important level of outward oriented entrepreneurial activity in the region.
- **The export-driven growth model of the region potentially very vulnerable to exogenous developments.** West Romania’s exports are over-reliant on a handful of foreign owned large exporters mainly from the auto and apparel/footwear industry. In 2011, five foreign owned firms accounted for slightly more than a quarter of total exports (27.8%) while the top ten exporters alone (all fully foreign-owned) represented 38.3% of exports. As much as 82.4% of exports are generated by fully foreign-owned firms and an additional 7.9% of exports come from partially foreign-owned firms. Moreover, export growth over the period 2005-2011 has been very reliant on the intensive margin, i.e. 75% export growth came from incumbent exporters going to markets they already served and with no innovation in terms of product range. This makes the region very vulnerable to exogenous developments. For example, the total exports from the region experienced a decline of 19.4% during the 2008-2009 trade collapse, with exports to some countries shrinking by more than a third. The concentration of export activity is matched with a very volatile economic performance. The evolution of gross value-added for the region suggests that, in the West, both economic expansion and downturns are more pronounced than for Romania as a whole.
- **Diversifying in terms of markets may go hand in hand with diversifying in terms of sectors/products and fostering SMEs.** There is a strong circular causality in the over-concentration of the West Region exports. Few large firms, exporting a range of consolidated products to few markets, mostly within the context of the automotive, textile and apparel industries drive almost the totality of regional exports. Hence, any diversification strategy will have to be tri-pronged. It should simultaneously aim at creating the conditions for more firms, and in particular domestic firms, to successfully

export; at helping increasing the range of products exported; and at fostering their entry in new markets. Identifying strategies for firms operating outside the context of international value chains and identifying demand markets outside the traditional sectors and countries is likely to help.

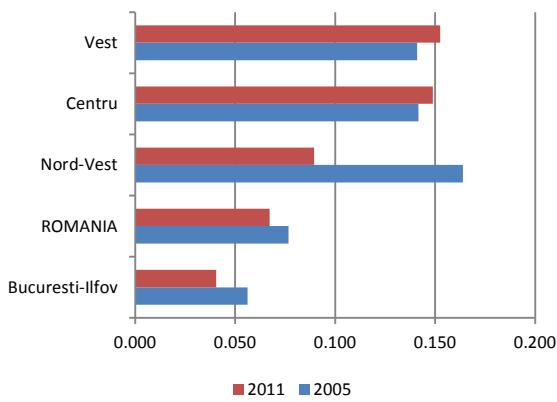
## 4. MARKET EXPANSION AND DIVERSIFICATION

### 4.1. Market Performance: Concentration, Composition and Trends

The West Region is the most concentrated in terms of export markets among comparator regions. It exhibits a level of concentration that is significantly higher than the country as a whole (Figure 23). Export market concentration measured by the Herfindahl-Hirschman Index increased slightly between 2005 and 2011 following an opposite path than the North-West and Bucharest-Ilfov regions. The Center Region is the only other region, among comparators, for which export market concentration increased over this period.

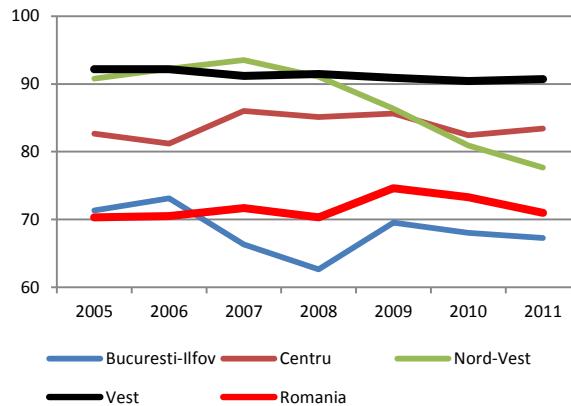
The high export concentration exhibited by the West Region is mainly due to its reliance on the EU as a destination market. The importance of the EU for exports in the West Region is the highest among comparator regions and has remained above 90% of total exports throughout this period. It is worth however noting that the only region that managed to make a substantial push towards market diversification (North West) did it by decreasing its reliance on the EU as a destination market (Figure 24).

Figure 23. Market Concentration (HH Index)



Source: Authors' calculations using INS data

Figure 24. Percentage of Exports to the EU27



Source: INS

The export sector in the West Region integration to the European Union is further reflected in the fact that its top ten market destinations belong to the EU (Table 6). Exports within the EU are also concentrated, with Germany and Italy alone representing about half of total exports. Jointly they accounted for 50.6% of total exports in 2011 (up from 46.1% in 2005). However, the dynamics of export flows to these two countries are very different: declining for Italy and increasing for Germany. More precisely, Italy was the main export destination in 2005 but has been progressively losing importance as the top export market, while Germany was gaining importance and overtook Italy as the most important export destination in 2008. Exports to Germany have been growing twice as fast as exports to Italy up to the last year of available data while exports to the latter remain below their pre global crisis

levels. This indicates that the reorientation of exports from Italy to Germany is not a transitory one due to the crisis, but a phenomenon likely to have more structural features. We will see in Section 4 that these trends are reflected in a sectorial shift in specialization as well, from textiles (predominantly exported to Italy) to automotive (predominantly exported to Germany).

Another group of countries that include France, the United Kingdom and Austria, represent traditional export markets to which export growth has slowed down or, in the case of Austria and the United Kingdom, it has declined in absolute terms over the last six years.

**Table 6. West Region: Top Ten Export Market Destinations in 2011**

	Value (US\$ million)		% exports		Average annual growth rate			
	005	011	005	011	005- 11	005-08	008-09	009-11
Germany	82	,577	9.0	3.3	2.0	5.9	7.7	3.7
	,116	,340	7.1	7.3	.1	.0	29.0	4.3
	20	78	.3	.2	3.8	6.4	37.8	1.6
	37	57	0.6	.9	.8	.1	19.4	3.8
	7	49	.7	.5	3.3	5.2	4.8	3.3
	6	38	.6	.4	3.8	9.8	41.3	1.4
	40	50	.2	.2	5.0	8.8	36.6	3.6
	72	04	1.5	.6	13.0	21.5	27.8	1.4
	3	80	.3	.3	2.8	5.5	36.7	5.5
	7	65	.9	.1	3.5	4.4	1.8	2.9
<i>Total</i>	<i>,549</i>	<i>,339</i>	<i>6.1</i>	<i>1.9</i>	<i>0.1</i>	<i>1.7</i>	<i>20.6</i>	<i>7.2</i>
<b>Exports</b>	<b>,121</b>	<b>,744</b>	<b>00.0</b>	<b>00.0</b>	<b>1.1</b>	<b>3.2</b>	<b>19.4</b>	<b>6.8</b>

Source: INS

Export growth dynamics tells where West Region exports are going. Germany, followed at distance by the Czech Republic and Slovakia are driving export growth in the West Region. Table 7 shows that half of total export growth between 2005 and 2011 was accounted by exports to Germany. Export growth to the Czech Republic and Slovakia accounted for 8.9% and 8.6%, respectively. Finally, Hungary grew at 7.1% over the same period of time. The four central European countries in the list (Germany, Slovakia, the Czech Republic and Hungary) accounted for 74.2% of export growth between 2005 and 2011. The fifth country with highest

export growth (6.2%) was Italy. However the majority of Italy's contribution to export growth was in the period before the crisis and the apparently high contribution after 2009 is only a rebound effect as exports to this country are still 7% lower in 2011 than in 2008.

We will show in the next section that the increasing importance of the auto sector in the West Region is behind this shift in major export growth drivers. However, here it is useful to provide a preliminary assessment. We will use the general evolution of exports during the trade collapse to illustrate the possible link between market concentration and the increasing specialization of the West Region exports on automotive value chains, with OEM, in particular from Germany and involving the Czech Republic and Slovakia. The Czech Republic and Slovakia<sup>8</sup> are the only two countries that were not in the top 10 destinations in 2005. Since then, export towards them grew at impressive annual rates: 53.3% and 53.8%, respectively. In the case of the Czech Republic, exports grew 14.8% even during the 2008-2009 trade collapse, a remarkable achievement considering that total exports of the West Region experienced a decline of 19.4% that year with exports to some countries shrinking by more than a third. Moreover, exports to Germany were among the least affected by the crisis of 2008-2009 and declined only by 7.7%<sup>9</sup>.

**Table 7. West Region: Contribution to Export Growth by Main Destinations (% of total export growth)**

	2005-2011	2005-08	2008-09	2009-2011
Germany	49.6	42.1	10.3	38.8
Czech Republic	8.9	7.8	-2.2	5.2
Slovakia	8.6	8.1	6.2	8.0
Hungary	7.1	12.1	14.4	6.9
Italy	6.2	17.7	36.1	10.7
France	0.6	0.1	7.3	3.6
<b>Total Export Growth</b>	<b>11.1</b>	<b>13.2</b>	<b>-19.4</b>	<b>26.8</b>

Source: Authors' calculations based on INS data

Are other regions diversifying their sources of export growth and/or choosing to rely on a different set of countries as much as the West Region? Figure 25 provides the answer to these questions. First, the West Region exhibits the highest dependence of export growth on Germany. Not only is the importance of Germany for export growth the highest compared to peer regions, it is also the single destination with the highest contribution. Second, Slovakia and the Czech Republic while being an emerging and important source of export growth in the West Region, remain marginal export destinations for all peer regions. Overall, we could say that the market diversification pattern followed by the West Region is unique in Romania and less balanced than the one followed by the North-West and Bucharest-Ilfov regions.

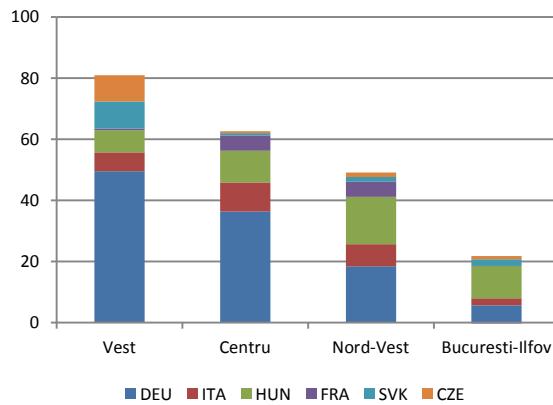
<sup>8</sup> In 2005, Czech Republic and Slovakia were the 16<sup>th</sup> and 17<sup>th</sup> most important destinations, respectively, for the West Region.

<sup>9</sup> Only exports to the Czech Republic and Spain, which grew 14.8% and 11.8% respectively, were less affected by the 2008-2009 crisis.

There is evidence that this unique market diversification pattern has served the West Region well so far. Figure 26 depicts the West Region's top 10 export markets in 2011. The x-axis shows import growth in the destination market between 2005 and 2011 and the y-axis shows the West Region's exports growth to that destination over the same period. The size of the bubbles represents how important the destination market is for the region's export portfolio in 2011. If a market is above the 45 degree line, exports from the West Region are increasing at a higher pace than that country's imports from the rest of the world, indicating that the West Region is gaining market share in those markets. This graph shows that the West Region is gaining market share in the majority of its most important recent export destinations (Germany, Slovakia, Czech Republic, and Hungary) and losing market share in traditional markets like Italy, France, Austria and the United Kingdom. Moreover, the upward orientation of the West Region's main export markets indicates that its export growth is oriented toward countries in which imports are growing faster and that the region is performing well in these fast-growing markets.

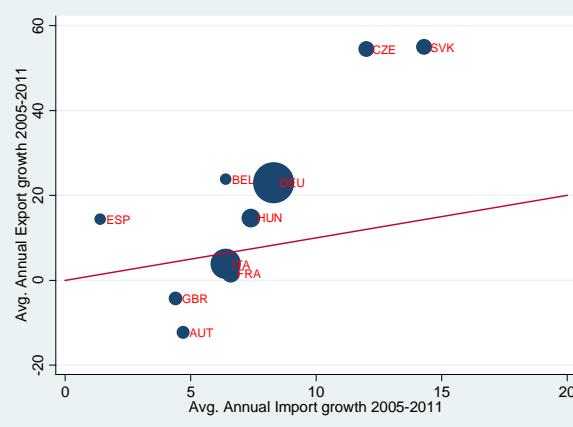
Overall, this orientation shows that the West Region is becoming more dependent on a very few countries that are however growing fast and in which West Romania is aggressively gaining market share. Although this strategy seems to have worked for now, it is important to consider what could be the potential pitfalls resulting from relying on such a small set of countries, should their import growth abruptly slow down in the future.

**Figure 25. Contribution to Export Growth by Region (2005-2011)**



Source: Authors' calculations based on INS data

**Figure 26. West Region: Market Growth Orientation (2005-2011)**



Source: Authors' calculations based on INS data

## 4.2. Market Expansion and Diversification – Responses at the Firm Level

The previous section showed that export growth in the West Region is highly dependent on the EU and is becoming increasingly reliant on a few countries. In this section we look at firm-level data to shed light on these aggregate outcomes and better understand whether these outcomes are the result of corresponding strategies being pursued by a broad set of exporters or, instead, may be driven by specific sectors or types of firms.

Table 8 shows that almost half of the exporters from the West Region do so to only in one market; by contrast only 8% of exporters go to more than 10 markets (although these firms make up more than half of exports by value). This pattern is not unusual. Similar data, available for countries as diverse as Turkey, Chile, and South Africa show that in every country, aggregate exports are determined by a few leading exporters that supply several foreign markets. Obviously, the more markets a firm serves, the number and complexity of fixed costs and trade barriers faced by the firm increases. This explains why only few firms are able to cover many markets at the same time, and suggests that an export promotion strategy based on market diversification at the firm level should primarily target the reduction of fixed entry costs and bilateral trade barriers with trade partners, so that more firms can afford the costs of being present on multiple markets at the same time.

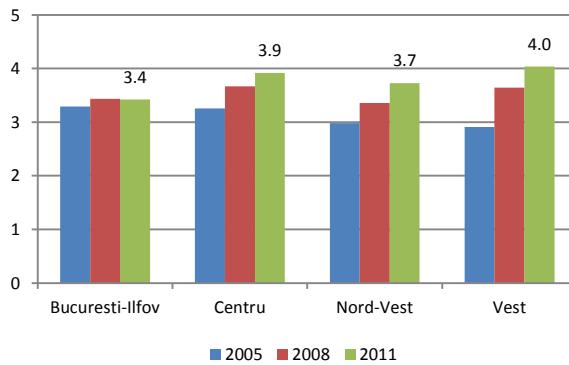
**Table 8. Market Reach of Exporters in the West Region and Selected Countries**

	West Region		Turkey		Chile		South Africa	
Number of destinations	Number of exporters (% total)	Value of exports (% total)	Number of exporters (% total)	Value of exports (% total)	Number of exporters (% total)	Value of exports (% total)	Number of exporters (% total)	Value of exports (% total)
1	47	11	45	7	54	2	48	4
2 to 5	35	18	36	15	31	8	37	11
6 to 10	10	16	10	10	8	10	9	13
> 10	8	55	9	69	8	80	7	72
Total	100	100	100	100	100	100	100	100

Source: INS for the West Region, Exporter Dynamics Database for Turkey, Chile and South Africa.

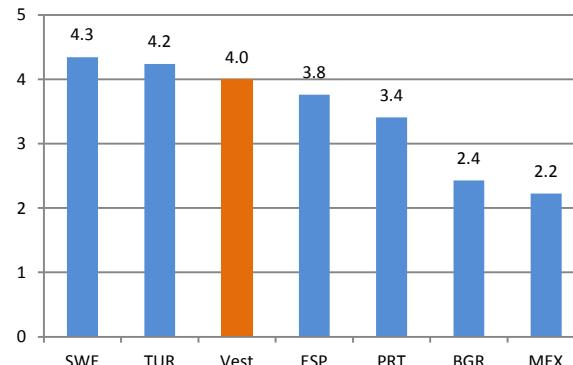
The average number of destinations reached by exporters in the West Region has increased from 2.9 to 4 between 2005 and 2011. Figure 27 shows that whereas exporters in the West Region reached on average the lowest number of destinations in 2005 (2.9) compared to peers, the outlook is completely different in 2011. Exporters in the West Region have converged and overtook peer regions: they reach the highest number of destinations (4) compared to the Center (3.9), North-West (3.7) and Bucharest-IIfov (3.4). Nonetheless, differences are small in absolute terms. The average reach of regional exporters also fares well in an international comparison: West Region exporters reach more destinations on average than exporters in Spain (3.8), Portugal (3.4), Bulgaria (2.4) and Mexico (2.2) and only fewer destinations than exporters in Sweden (4.3) and Turkey (4.2). However, the median number of destinations reached in the West Region remained the same (2) over this period confirming that market expansion is almost exclusively driven by the largest exporters, i.e. those able to face the trade costs associated with serving multiple destinations. Taken together, these results suggest that in the last six years the West Region generated many new exporters, that many of them have chosen to focus exports to maximum two foreign locations, and that largest exporters have been able to reach a growing number of markets.

**Figure 27. Average Number of Destinations by Region**



Source: Authors' calculations based on INS data

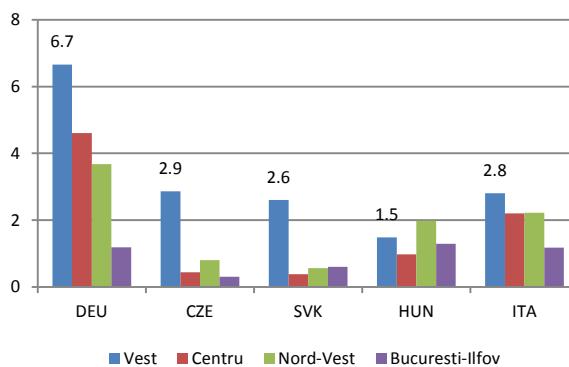
**Figure 28. Average Number of Destinations (Country)**



Source: Exporter Dynamics Database and INS data

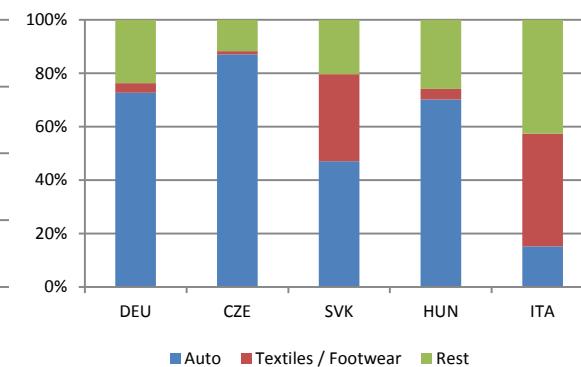
If the reach of the average exporter in the West Region is the highest among peer regions and even fares well compared to other countries, what could be driving export market concentration? We will argue that, in the case of the West Region, the average number of destinations reached by exporters is less important to explain the high market concentration than the average size of exports to a few particular locations. In concrete, exports by large firms that ship relatively high export values to countries like Germany, the Czech Republic and Slovakia partly explain the high market concentration of the West Region exports. The average value exported by firms in the West Region to Germany (US\$ 6.7 million), Slovakia (US\$ 2.6 million), and the Czech Republic (US\$ 2.9 million) is 0.5, 3.5 and 4.6 times higher, respectively, than the region with the second highest export exposure to these locations (Figure 29). Figure 30 provides further evidence that these unusually large export values are partially driven by auto and textiles/apparel exports, two sectors that are dominated by FDI in the West Region (Figure 13).

**Figure 29. Average Export Value by Destination**



Source: Authors' calculations using INS data

**Figure 30. Composition of Exports by Destination**



Source: Authors' calculations using INS data

## Market Entry and Exit

The patterns of firms' entry and exit into export markets can shed light on some important issues regarding the lack of market diversification exhibited by the West Region: Is the lack of diversification due to low levels of exporters' experimentation in terms of destinations? Are exporters mostly targeting the same traditional markets inside the EU and showing less inclination for non-traditional locations? The results from Table 9 provide three key insights with regards to export market entry in the region. First, although the number of market entries is significantly lower than peer regions<sup>10</sup>, in particular it is low compared to Bucharest-Ilfov, once the number of entries is adjusted by the number of exporters in each region, the level of experimentation is broadly similar across regions. Second, exporters in the West Region seem to prefer countries inside the EU as new export destination. This is not the case for the Bucharest-Ilfov region. As little as 37.6% of West Region export entries are to destinations outside the EU. This compares with 51.6% in Bucharest-Ilfov and 42.1% in the Center Region. By contrast, the North West Region new export entries are even more focused towards the EU27 (64.7%). Third, after the global crisis, all regions seem to have refocused their export strategies towards the EU. These results suggest that experimentation in terms of market entry does not constitute a problem in the West Region as exporters seem to be trying as hard as those in other regions to enter foreign markets. Market entries, though, are mostly targeted at destinations in the EU and this feature distinguishes the West Region from more diversified regions like Bucharest-Ilfov.

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<sup>10</sup> Market entries are defined as instances in which a firm enters a market to which it did not export to the previous year.

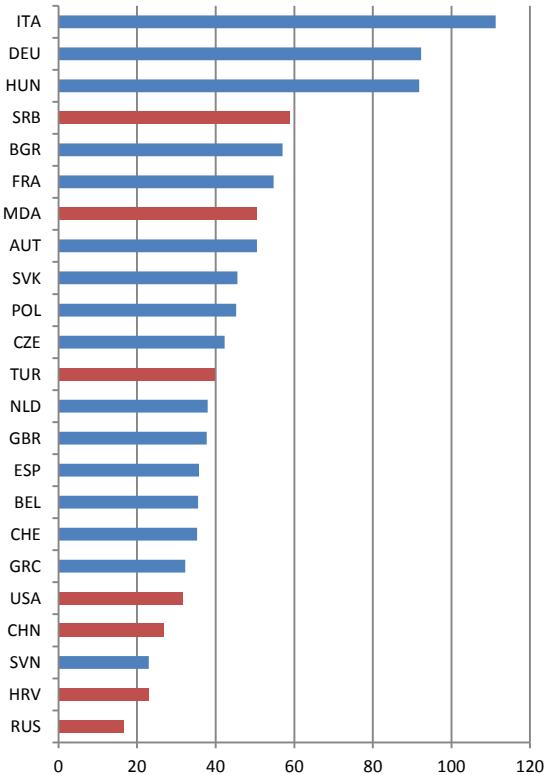
**Table 9. New Market Entries, 2007-2011**

	2007	2008	2009	2010	2011
<b>New market entries</b>					
Bucurest-IIfov	6,059	3,296	2,903	3,057	3,257
Center	4,621	2,255	1,766	1,642	1,780
North-West	4,193	2,059	1,760	1,628	1,705
West	3,021	1,717	1,410	1,353	1,508
<b>New market entries / # exporting firms</b>					
Bucurest-IIfov	1.7	1.7	1.7	1.7	1.5
Center	1.5	1.3	1.4	1.4	1.4
North-West	1.4	1.3	1.4	1.5	1.4
West	1.4	1.4	1.5	1.5	1.5
<b>Share of new market entries to the EU27</b>					
Bucurest-IIfov	42.9	43.8	50.9	48.9	48.4
Center	56.0	56.6	60.3	59.5	57.9
North-West	58.1	61.1	64.1	66.1	64.7
West	53.0	53.2	62.0	61.4	62.4
<b>Share of new market entries outside the EU27</b>					
Bucurest-IIfov	57.1	56.2	49.1	51.1	51.6
Center	44.0	43.4	39.7	40.5	42.1
North-West	41.9	38.9	35.9	33.9	35.3
West	47.0	46.8	38.0	38.6	37.6

Source: Authors' calculations using INS data

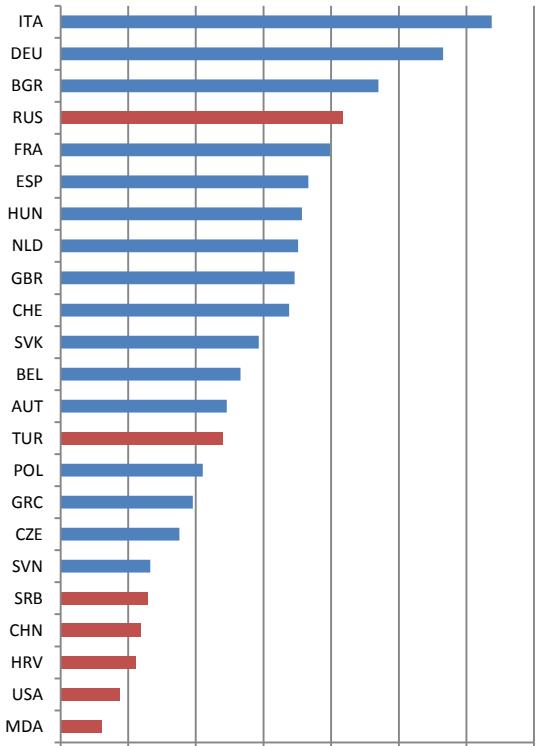
Despite their preference for targeting entry into EU markets, exporters in the West Region also actively seek to enter some destinations outside the EU. Although Italy, Germany and Hungary clearly are the preferred destinations for new exporters from the West Region, non-EU destinations like Serbia, Moldova and Turkey attract a relatively high number of exporting firms every year (Figure 31). Surprisingly, between 2008 and 2011, the average number of firms that entered the Serbian (59) and Moldovan (51) markets is higher than the number of firms that tried entry into Slovakia (46) and the Czech Republic (42). However, with the exception of Russia, the average entry value into non-EU destinations is significantly lower than the value of entries in the EU (Figure 32). For instance, the mean value of exports per entrant in Germany was US\$ 565,600, which is 2.4, 4.4 and 9.3 times higher than the mean entry value into Turkey (US\$ 240,500), Serbia (US\$ 128,500) and Moldova (US\$ 60,600), respectively. The fact that the differences between mean and median entry values are significantly higher suggest that the differences in entry value size are partially driven by big firm entries (i.e. big firms deciding to enter EU markets with higher export values).

**Figure 31. Average Market Entry (Number of Firms) by Destination (2008-2011)**



Source: Authors' calculations based on INS data

**Figure 32. Average Export Value per Entry (2008-2011)**



Source: Authors' calculations based on INS data

Difficulties in sustaining export flows could also be responsible for lack of diversification even if entry rates were similar for both EU and non-EU destinations. Table 10 show the survival rate of export flows to EU and non-EU destinations. Each column is an entry cohort firms that started exporting to a given destination in a given year. In each row the percentage is given of firms from the cohort surviving up to the indicated year. The key result emerging from this table is that it is harder to sustain export spells outside the EU: the probability that an export relationship inside the EU survives one year is 53% but this percentage declines to 39% if the relationship is established in a market destination outside the EU.

**Table 10. Survival Rates by EU and non-EU Destinations (2007-2011)**

year	Export to the EU-27			
	2008	2009	2010	2011
2008	100			
2009	50.7	100		
2010	33.5	53.4	100	
2011	27.6	42.1	57.8	100
year	Exports outside the EU-27			
	2008	2009	2010	2011
2008	100			
2009	37.1	100		
2010	24.3	39.3	100	
2011	17.1	23.4	41.6	100

Source: Authors' calculations using INS data

In summary, experimentation in terms of market entry does not constitute a problem in the West Region as exporters seem to be trying as hard as those in other regions to enter foreign markets. Market entries, though, are mostly targeted at destinations in the EU and this feature distinguishes the West Region from more diversified regions like Bucharest-Ilfov. Despite this preference for export markets inside the EU, entry into some non-EU destinations like Serbia, Moldova and Turkey is very dynamic - even more dynamic than entry into most EU countries. However, two issues play against increasing market diversification outside the EU: the relative small size of export entries into non-EU destinations compared to entries into EU countries, and the fact that it is harder to sustain export spells outside the EU. Policies aimed at supporting exports to nearby non-traditional markets such as Serbia, Moldova and Turkey may help in this regard.

#### 4.3. Potential and Constraints for Market Diversification

Diversification of markets is useful for two main reasons. First, diversification may reduce the risk of volatility in demand, through a portfolio approach. That assumes, of course, that demand is not closely correlated across destination markets. Table 11 shows that the correlation of import demand is high between the EU-27 and other European destinations, as there is a strong correlation in demand across most markets. This suggests that further diversification away from the EU to other destinations within Europe, to Russia or to Turkey is likely to have only limited benefits in terms of reducing risk. Interestingly even diversification towards further away destination such as Asia and MENA would not necessarily help. Indeed, the growing correlation in import demand across destinations globally reflects the trend toward and increasingly integrated global economy.

**Table 11. Correlation of Non-Oil Import Demand across Regions (2000-2011)**

	EU-27	Turkey	SEE6 +	RUS-UKR-MDA	South Asia	MENA
<b>EU-27</b>	1.000					
<b>Turkey</b>	0.980	1.000				
<b>SEE6 +</b>	0.978	0.928	1.000			
<b>RUS-UKR-MDA</b>	0.967	0.976	0.939	1.000		
<b>South Asia</b>	0.918	0.969	0.851	0.955	1.000	
<b>MENA</b>	0.831	0.881	0.792	0.887	0.933	1.000

Source: Authors' calculations using UN-COMTRADE data

The increasing correlation of demand across destinations suggests therefore that diversification may be a less effective strategy to reduce risk than it was in the past. Indeed, an assessment of the riskiness of the West Region's export market structure (see Box 4 for a description of the methodology) indicates that risk (measured by the volatility of a partner's imports) has grown vis-à-vis almost all countries (Figure 33). Critically, many of the countries that sit farthest from the regression line and show particularly high import volatility are nearby locations into which the West Region is little present, including Moldova and Bosnia and Herzegovina.

**Box 4. Measuring Export Risk**

A country  $a$ 's aggregate volatility (variance) of import growth at time  $t$  can be expressed as follows:

$$Var(x_{at}) = Var \left[ \sum_{i=1}^N s_{ait} x_{ai} \right] = \sum_{i=1}^N s_{ait}^2 Var(x_{ai}) + \sum_{i=1}^N \sum_{\substack{j=1 \\ j \neq i}}^N s_{ait} s_{ajt} Cov(x_{ai}, x_{aj}) \quad (1)$$

where subscripts  $a$ ,  $i$  and  $t$  denote country, import product and time.  $x$  denotes the year-on-year growth of imports of product  $i$  to country  $a$ .  $s$  is the import share of product  $i$  to country  $a$  at time  $t$ . Aggregate volatility is the sum of the variance of import growth of products  $i$  in country  $a$  over our period of interest, weighted by the time-varying import shares  $s$  (first term), and the covariance of import growth of product  $i$  with every other import product  $j$  in country  $a$  over our period of interest, weighted by the respective time-varying import shares  $s$  (second term). Aggregate volatility of import growth at time  $t$  is thus a function of three determinants: (i) the variance of import growth of each product  $i$ , (ii) the covariance of import growth of each product  $i$  with each product  $j$  in country  $a$ , and (iii) country  $a$ 's structure of import demand, determined by  $s$ .

Following di Giovanni and Levchenko (2009), we can rewrite equation (1) as follows:

$$Var(x_{at}) = \sum_{i=1}^N s_{ait}^2 Var(x_{ai}) + \sum_{i=1}^N s_{ait} (1 - s_{ait}) \rho_{ai,(I-i)} Cov(x_{ai}, x_{a(I-i)}) \quad (2)$$

where the subscript  $I-i$  denotes the sum of all import products in country  $a$  except for product  $i$ .  $\rho_{ai,(I-i)}$  is the correlation coefficient of year-on-year growth of import product  $i$  with year-on-year growth of all other import products  $I-i$  in country  $a$ . Using expression (2) makes it easier to compute aggregate volatility without any loss of generality.

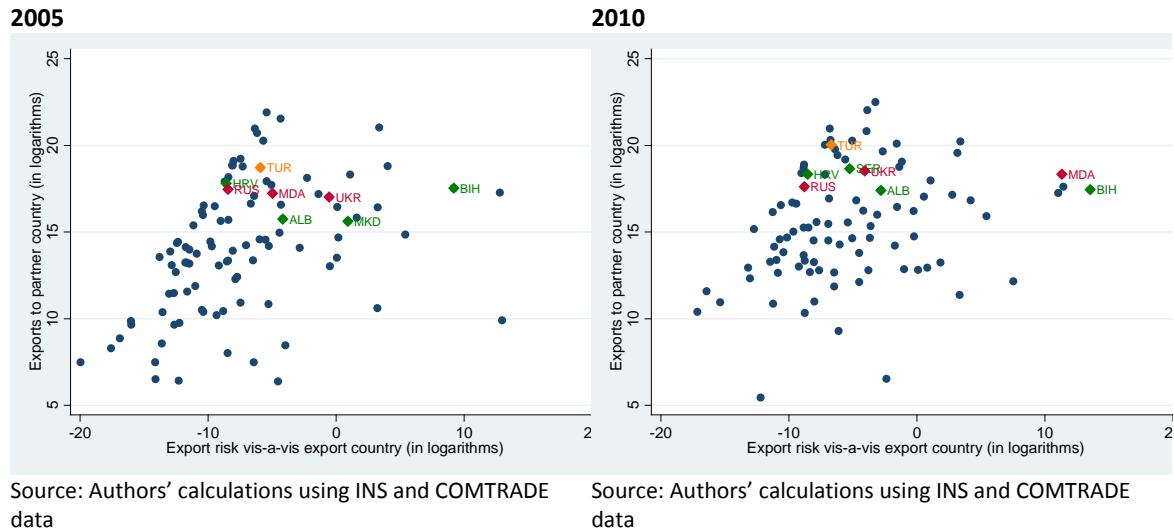
We calculate equation (2) for all export destinations of the West Region over the period 2005 to 2010. Sectors  $i$  are defined at the 2-digit HS 1988/92 level.

In a next step, we calculate a country  $b$ 's export risk at time  $t$  as follows:

$$risk_{bt} = \sum_{a=1}^N w_{bt,a} Var(x_{at}) \quad (3)$$

where  $w$  is the export share from country  $b$  to country  $a$  at time  $t$ .

**Figure 33. Export Risk in the West Region**

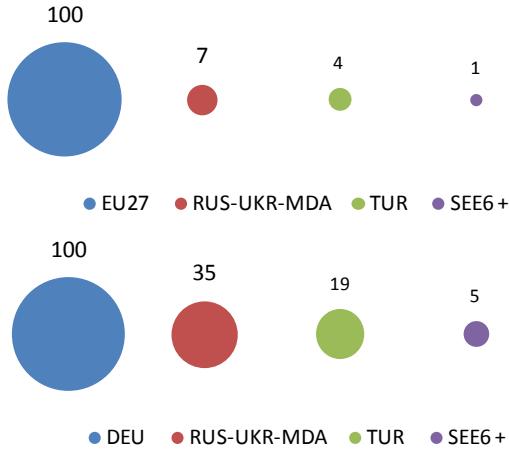


Source: Authors' calculations using INS and COMTRADE data

Source: Authors' calculations using INS and COMTRADE data

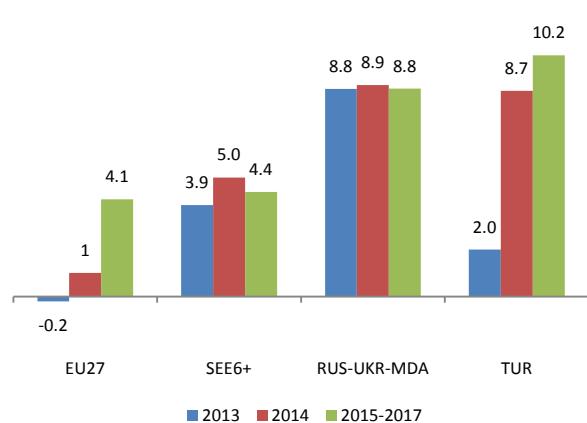
The second potential benefit of diversification is that it may allow the West Region to take greater advantage of the “pull effects” of growing markets. The evidence presented here and earlier in this note indicates that the West Region exporters received overall a positive “pull” effect from their geographical composition over the past half decade. The question is how much value and scope there is in moving further away from the EU. The first point to focus on is the relative size of the market opportunities. Figure 34 shows that the relative size of the potential destinations towards which the West Region could expand exports. In 2011, total imports from Russia-Ukraine-Moldova were US\$ 440 billion, US\$ 241 billion from Turkey, and US\$ 69 billion from the SEE6+ countries. That same year imports from the EU totaled US\$ 6 trillion and US\$ 1.3 trillion from Germany alone. The market in the EU as a whole is almost 14 times larger than the Russia-Ukraine-Moldova market combined and twenty times bigger than Turkey. This means that even at subdued growth in the EU, e.g. of as little as 1% each year, the additional market potential generated in the EU will be similar than the other three potential regions shown combined (US\$ 60 vs US\$ 63 billion). The second point is that the “pull” of import demand will be slower in some regions. Figure 35 suggests that import growth from the SEE6+ countries will converge to the EU and will be lower than the other destinations. By contrast, Turkey and the Russia-Ukraine-Moldova bloc is forecast to experience robust growth in imports in years to come.

**Figure 34. Import Demand for Selected Regions (2011)**



Source: UN-COMTRADE

**Figure 35. Import Demand Forecast - Selected Regions**



Source: IMF Global Economic Outlook, October 2012

Despite smaller size and slower growth for some locations, there are significant opportunities for some sectors in the new regions. Significant opportunities could stem from the animal and vegetable sector exports to the SEE6+ which are not negligible at over US\$ 20 million a year but represent less than 1% of imports from that specific bloc – especially to Croatia which represents about a third of imports to that area. Besides Croatia, the market for vegetables and animal product exports is worth more than US\$ 500 million in Serbia (US\$ 639 million) and Bosnia and Herzegovina (US\$ 885 million) and could be an important destination for this sector. Table 12 shows that tariff rates for the main agricultural products exported by the West Region are also significantly lower in the two countries of the SEE6+ for which data is available (Croatia and Bosnia and Herzegovina) than the world average and lower than in Moldova and Ukraine.

**Table 12. Tariffs faced by the West Region Exporters of Agri-Food Products in Selected Markets**

	World	Bosnia and Herzegovina	Croatia	Moldova	Ukraine	Russia
Other nuts, fresh or dried, whether or not shelled (HS 802)	17.9	0	0	10	-	-
Wheat (HS 1001)	15.3	2.5	-	10	6.7	-
Corn (HS 1005)	9.3	0	0	10	0	5
Rape or colza seeds, whether or not broken (HS 1205)	3.0	0	-	0	0	-
Sunflower seeds, whether or not broken (HS 1206)	5.3	0	0	10	6.7	5
Cane or beet sugar and chemically pure sucrose (HS 1701)	28.2	10	9	30	50	-
Wine of fresh grapes, including fortified wines (HS 2204)	23.1	-	-	-	-	20

Source: TRAINS (via WITS)

#### 4.4. Summary

This section reviews the main characteristics of the West Region's export market orientation. In summary, the following issues emerge:

- **The EU remains by far the most important destination market and its importance has not diminished over time.** The EU absorbs 90% of the exports of the West Region. However, there is a shift in destination markets within the EU. While traditionally the main export market was Italy, more recently the bulk of exports are directed to Germany, the Czech Republic, Slovakia and Hungary, which also accounted for almost 60% of export growth in 2009-2011. Italy is not the only market of declining importance for West Region exports. The share of exports towards France, Austria and the United Kingdom is also diminishing. We will show in Section 4, that the geographic reorientation of the West Region exports is associated with a shift in specialization, from textiles to automotive and to the participation of West Region exporters in international value chains.
- **The increasing specialization in exports towards Germany, the Czech Republic, Slovakia and Hungary has served the West Region well so far.** These destinations' import capacity is growing faster than world averages and the West Region is rapidly gaining market share in them - which suggest that the region remains competitive.
- **The lack of diversification could increase the region's vulnerability to external shocks, but diversification may be a less effective strategy to reduce risk than it was in the past.** If the main export destinations of West Romania exports experience a slowdown on import growth, the economic impact on the economy of the region may

be large. Diversification may reduce the risk of volatility in demand in two ways: through a portfolio approach and by allowing the West Region to take greater advantage of the “pull effects” of dynamic import markets. Lowering diversification through a portfolio approach assumes that demand is not closely correlated across destination markets. The report however finds that the correlation of import demand is high between the EU-27 and other European destinations, as there is a strong correlation in demand across most markets within the European region. This suggests that further diversification away from the EU to other destinations within Europe, to Russia or to Turkey is likely to have only limited benefits in terms of reducing risk. The second potential benefit of diversification is that it may allow the West Region to take greater advantage of the “pull effects” of growing markets. The evidence presented here indicates that the West Region exporters received overall a positive “pull” effect from their geographical composition over the past half-decade. Nevertheless, overall there is limited value and scope in moving further away from the EU. The market in the EU as a whole is almost 14 times larger than the Russia-Ukraine-Moldova market combined and twenty times bigger than Turkey. This means that even at subdued growth in the EU, the additional market potential generated in the EU will be similar than the other three potential regions shown combined.

- **It is difficult for the West Region to diversify destination markets in the short run.** Its reliance on international value chains in the automotive and apparel/footwear sector makes it difficult to diversify in terms of market destinations. The hierarchical structure of the automotive sector and the buyer-led nature of the textile value chains suggest that strategic decisions concerning West Romania exports in these sectors are made at the foreign headquarters of OEMs in the automotive sector and by downstream international buyer brands and retail chains in the apparel/footwear sector.
- **Nevertheless, scope for geographic diversification exists in currently less important sectors.** The agri-food industry, and especially the animal and vegetable sector, has the potential to expand in neighboring countries, including Serbia, Moldova and Ukraine. Focus groups discussions also suggest that there is potential to export software services. Unfortunately the data at hand do not cover exports of services, so that we could not document the potential in this sector with hard figures nor identify which markets could be targeted as a priority.
- **Firm level data further suggest that experimentation in terms of market entry does not constitute a problem in the West Region.** Exporters seem to be trying as hard as those in other regions to enter foreign markets. Market entries, though, are mostly targeted at destinations in the EU and this feature distinguishes the West Region from more diversified regions like Bucharest-Ilfov. Despite this preference for export markets inside the EU, entry into some non-EU destinations like Serbia, Moldova and Turkey is very dynamic - even more dynamic than entry into most EU countries. However, two issues play against increasing market diversification outside the EU: the

relative small size of export entries into non-EU destinations compared to entries into EU countries, and the fact that it is harder to sustain export spells outside the EU.

## 5. GROWING EXPORTS THROUGH PRODUCT EXTENSION AND UPGRADING

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### 5.1. Composition and Trends in Export Sectors and Products

The eleven most important export products in the West Region are related to the auto industry and confirm the dominance of the sector in total exports (Table 13). The top three export products, namely ignition wiring sets (14%), steering wheels (7.3%), and pneumatic tires (7%), represented a combined 28.3% of exports in 2011 and are very important in explaining the concentration level of the West Region's export sector. It is worth noting that with the exception of one product (motor vehicle parts) this list of eleven leading export products grew at double digit rates on average during the 2005-2011 period.

A more detailed look at Table 13 will reveal a group of products that are playing an important role in the West Region and at first sight would not be associated with the auto industry: Electric conductors (HS 854449 and HS 854441), numerical control panels (HS 853710), optical devices, appliances and instruments (HS 901380), and measuring and checking instruments (HS 903180). These products might be traditionally classified as part of the electronics sector but are largely manufactured by big multinational firms in the auto sector in the West Region and actually form part of modern electrical and computer systems in cars. These products have been among the most dynamic over the past six years (some even registering triple digit growth rates) and went from representing less than 3% of exports in 2005 to 8.6% in 2011. The relatively fast rise of this group of products (some were not even exported six years ago) might be signaling the evolution of the auto sector from less labor-intensive products like wire harnesses towards more sophisticated electronic products with higher value added.

Only seven products listed in Table 13 are not related to the auto sector. Contrary to the trends in the auto industry products shown above, the majority of the non-auto products experienced either single digit growth rates or a decline in absolute value between 2005 and 2011. Three of these products belong to the footwear sector- footwear with rubber soles (HS 640399 & HS 640391) and uppers and parts (HS 640610) – and either lost or struggled to maintain their share of total exports during this period, suggesting that exports from this sector are not growing fast enough to keep up with the very dynamic auto exports. The rest of the products in this list are from different industries and include coffee makers (HS 851671), industrial ovens (HS 841790), wooden furniture (HS 940360), among others.

**Table 13. Top 20 Exported Products in the West Region in 2011**

HS6 code	Product Name	% exports		Average annual growth rate			
		2005 5	2011	2005- 11	2005- 08	2008- 09	2009- 11
854430	Ignition wiring sets & other wiring sets of a kind	14.8	14.0	10.1	18.1	-31.6	25.6
870894	Steering wheels, steering columns and steering	0.7	7.3	63.7	82.1	1.7	76.9
401110	New pneumatic tyres, of rubber of a kind used o	5.9	7.0	14.5	15.9	-2.2	21.4
870899	Motor vehicle parts nes	3.7	2.8	6.1	19.2	7.0	-11.4
870829	Parts and accessories of bodies nes for motor v	1.1	2.5	27.1	42.5	-23.9	38.5
854449	Electric conductors, for a voltage not exceeding	0.1	2.4	111.0	303.3	-28.8	37.4
940190	Parts of seats other than those of heading No 9	1.5	2.0	16.7	26.2	-35.3	39.3
854441	Electric conductors, for a voltage not exceeding	1.4	1.8	16.3	-14.9	-50.0	183.4
853710	Banks, panels, including numerical control pan	0.4	1.7	42.0	42.9	75.1	26.5
901380	Optical devices, appliances and instruments, ne	0.0	1.4	313.5	-29.3	81.8	8,728. 5
903180	Measuring or checking instruments, appliances a	0.0	1.3	146.9	388.0	85.3	2.5
640610	Uppers and parts thereof (excl. stiffeners)	2.3	1.3	1.5	-2.7	-25.6	26.1
640399	Footwear with rubber... soles, leather uppers,	1.5	1.3	8.7	30.9	-54.3	26.8
841790	Parts of industrial or lab furnaces & ovens inc	0.0	1.3	1,307.1	16,927. 1	-7.4	30.3
640391	Footwear with rubber soles and leather upper	1.2	1.2	10.9	12.4	-38.0	45.2
841850	Other refrigerating or freezing chests, cabinets	1.2	1.2	11.0	21.6	-38.7	30.4
851671	Electro-thermic coffee or tea makers, domestic,	2.2	1.1	-0.5	-15.5	-40.6	64.9
940360	Furniture, wooden, nes	2.3	1.0	-2.8	-1.9	-27.6	11.0
870821	Safety seat belts for motor vehicles	2.4	1.0	-3.7	8.0	-23.4	-9.1
851220	Lighting or visual signalling equipment nes	0.0	1.0	99.2	205.2	14.6	38.5
<i>Top 20 products</i>		42.5	54.6	15.8	20.8	-19.1	30.1
<b>Total Exports</b>		<b>100</b>	<b>100</b>	<b>11.1</b>	<b>13.2</b>	<b>-19.4</b>	<b>26.8</b>

Source: INS

Table 14 provides evidence to the claim made in the previous section that the high export market concentration found in the West Region had a sectoral dimension. Table 13 shows the top three market destinations for the same top ten products shown in Table 13 (all belonging to the auto sector) and that represent 42.8% of total exports in 2011. As can be seen in the table below, the top three destinations for these products represent more than three quarter of exports with the exception of pneumatic tires (40.4%), motor vehicle parts (56.4%) and parts and accessories for motor vehicle bodies (70.6%). Also worth noting is that Germany is the most important market destination for seven of these products and the second most important destination for the remaining three and that its importance as an export destination ranges from a low of 19.6% of exports in motor vehicle parts to a high of 93.5% in optical devices and instruments. Hungary, Slovakia, and the Czech Republic are also a constant presence among the top 3 destinations for these products and only fail to make the list as a group in three products: motor vehicle parts, pneumatic tires, and optical devices and instruments.

**Table 14. Market Destinations for the West Region Top 10 Exports in 2011**

HS6 code	Product Name	Top 3 destinations			Total
854430	Ignition wiring sets & other wiring sets of a kind	DE [47.3 %]	CZ [19.2 %]	GB [9.8 %]	76.3
870894	Steering wheels, steering columns and steering	DE [70.1 %]	ES [5.5%]	SK [4.5%]	80.1
401110	New pneumatic tires, of rubber of a kind used o	DE [25.4%]	NL [7.7%]	FR [7.3%]	40.4
870899	Motor vehicle parts nes	SE [19.9%]	DE [19.6 %]	FR [17.0%]	56.4
870829	Parts and accessories of bodies nes for motor v	SK [27.9%]	DE [26.5%]	ES [16.3%]	70.6
854449	Electric conductors, for a voltage not exceedin	HU [57.9%]	DE [32.8%]	MD [2.9%]	93.6
940190	Parts of seats other than those of heading No 9	DE [61.9 %]	CZ [19.4%]	HU [6.2%]	87.4
854441	Electric conductors, for a voltage not exceeding	DE [34.2%]	HU [29.0%]	CZ [16.5%]	79.7
853710	Boards, panels, including numerical control pan	DE [80.9%]	CZ [6.2%]	BE [4.6 %]	91.7
901380	Optical devices, appliances and instruments, ne	DE [93.5%]	US [5.6%]	CN [0.7%]	99.8

Source: INS

Domestic firms have a different product export mix than the rest of exporters. Table 15 shows the top twenty products exported by domestic firms in the West Region and a quick comparison with Table 13 reveals the glaring absence of auto products among the top exports of domestic firms with the exception of two products (numerical control panels and lighting or visual signaling equipment). Nevertheless, the fact that none of the top five export products in the West Region appear in this list for domestic firms suggests that the core of the auto sector is dominated by foreign-owned firms. The majority of products in Table 15 belong to the agro-

food or footwear industries with some electrical machinery products also in the mix. Note, however, that the export value for the majority of these products has increased significantly in recent years and these twenty products as a whole almost quadrupled their export value between 2009 and 2011.

**Table 15. Top 20 Export Products by Domestic Firms**

HS6 code	Product Name	2005	2008	2009	2010	2011	% exp. 2011
853710	Boards, panels, including numerical control pan	2.7	0.1	0.2	70.3	79.6	10.6
851220	Lighting or visual signalling equipment nes	0.0	0.2	0.4	28.0	37.6	5.0
120600	Sunflower seeds		7.5	8.8	16.7	25.3	3.4
100590	Maize (excl. seed)		0.4	0.8	14.4	25.0	3.3
300490	Other medicaments of mixed or unmixed products,	0.0	0.3	0.1	5.4	24.6	3.3
120500	Rape or colza seeds		2.1	2.4	7.4	22.6	3.0
640610	Uppers and parts thereof (excl. stiffeners)	5.9	9.5	14.0	18.1	19.2	2.6
854390	Parts of electrical machines & apparatus having				10.8	19.1	2.5
940360	Furniture, wooden, nes	27.7	16.1	14.5	14.5	16.9	2.3
10410	Live sheep		9.3	10.1	12.5	13.4	1.8
440792	Beech (Fagus spp.) wood,sawn/chipped lengthwise	3.0	9.0	7.6	9.7	13.3	1.8
640510	Footwear, nes, with leather or composition leat	13.5	11.7	8.9	13.8	13.0	1.7
80232	Walnuts without shells, fresh or dried	11.4	7.7	7.8	10.1	12.8	1.7
640319	Sports footwear, with rubber, plastics, leather	3.2	0.0	10.1	14.4	12.5	1.7
10290	Live bovine animals, other than pure-bred breed	10.3	7.2	6.7	9.5	11.5	1.5
640340	Footwear, with a metal toe-cap, leather uppers		0.0	0.0	3.2	10.2	1.4
401091	Conveyor... belting, of vulcanized rubber of a				0.3	10.0	1.3
841410	Vacuum pumps		0.0	0.0	4.8	8.3	1.1
711210	Waste&scrap of gold,incl mtl clad w gold,excl s	2.8	6.0	6.1	5.8	8.2	1.1
640399	Footwear with rubber... soles, leather uppers,	0.1	2.9	3.3	4.1	6.7	0.9
	<i>Top 20 domestic products</i>	80.5	90.1	101.8	273.9	390.0	51.9

Source: INS

### Product Concentration

The export basket of the West Region is relatively concentrated in terms of products. Relative to the Bucharest-Ilfov and the Centre regions, the West region was twice as concentrated half a decade ago and remains so in 2011 (Figure 36). Product concentration in the West Region has increased slightly over the last six years and, among the four leading regions in Romania, only the North West Region was more concentrated in 2011. The latter has experienced a remarkable increase in product concentration due to exports from one leading firm in the ICT sector that resulted in the tripling of its concentration index between 2005 and 2011. As a result, in 2011, the North West Region ( $HHI=0.076$ ) was twice as concentrated in terms of products as the West Region ( $HHI=0.035$ ) and five times more concentrated than the Center Region ( $HHI = 0.014$ ).

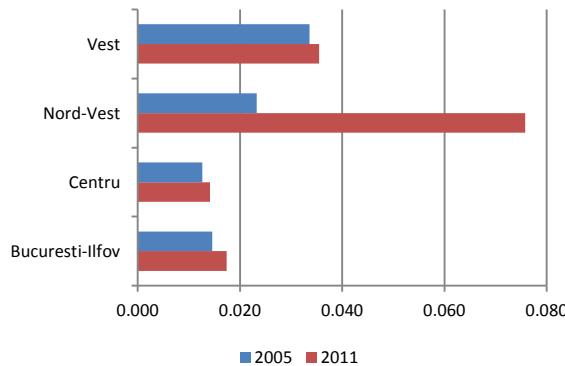
Figure 37 sheds additional light on the issue of export product concentration by plotting the share of total exports accounted for by the top ten export products in each region. Two key insights emerge. First, the relative importance of the top ten products in the West Region hardly changed between 2005 (40.6%) and 2011 (42.8%). In fact, only the North West Region drastically increased the share of exports from its top ten products over this period (from 37.4% to 49%), a result that mirrors the trend of the Herfindahl-Hirschman Index discussed in the previous paragraph. Second, differences in this concentration measure are mainly determined by the importance of the top three export products as the share of the rest of the top ten products is similar between regions. In 2011, the cumulative percentage of exports represented by the top 3 export products were 35.4% in the North West Region, 28.3% in the West Region, 15.3% in the Center Region, and 15.1% in Bucharest-Ilfov. In contrast, the contribution of the rest of the top ten products to total exports was very similar among regions.<sup>11</sup>

Finally, as we have shown in other sections of this report, these concentration tendencies also have a distinctive sectoral background in the West Region. Figure 38 shows the same concentration metric discussed in the previous paragraph broken down by sectors for the West Region. As it is clearly shown, the dominance of the top three export products is significantly higher in the auto sector (46.4%) than in the textiles/footwear (26.9%) and the rest of the export sector (27.4%).

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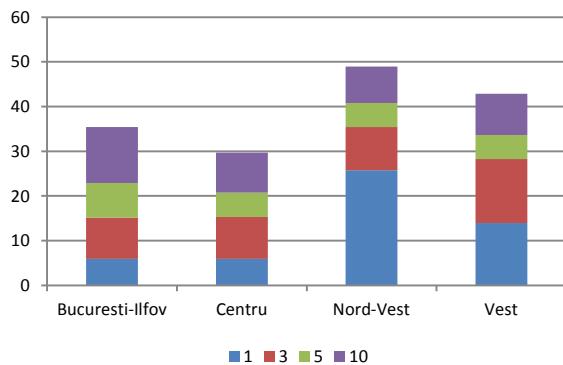
<sup>11</sup> The contribution of products 4&5 and products 6-10 in total exports by region was: 7.8% and 12.5% (Bucharest-Ilfov), 5.5% and 9% (Center), 5.4% and 8.2% (North-West), and 5.3% and 9.2% (West).

**Figure 36. Herfindahl-Hirschman Index of Export Product Concentration**



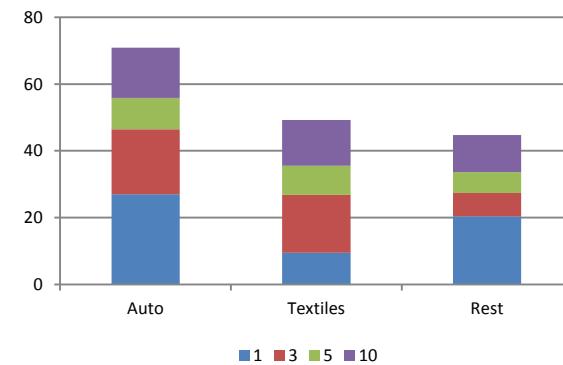
Source: Author's calculations using INS data

**Figure 37. Share of Total Exports by Top 10 Export Products**



Source: Author's calculations using INS data

**Figure 38. Share of Top 10 Exported Products by Sector in the West Region**



Source: Author's calculations using INS data

### Specialization

The modest change in export concentration of the West Region belies substantial structural change in the export basket at a sector level since the accession of Romania to the EU. In particular, in 2005 the textiles and apparel sector accounted for 27% of exports. The declined substantially since then, to reach 14% in 2011. They were replaced by the automotive sector, which grew rapidly and increased its share of total exports from 41.8% to 51.6% during the same period. The RCA analysis for exports from the West Region in 2011 reveals that the region is indeed relatively specialized in terms of exports. Not surprisingly, West Romania exports are more specialized than the ones for the country as a whole due to the smaller

extension of the territory. Looking at the list of top-20 HS-2 digit sectors in terms of RCA (Table 16), it emerges that exports from the region remain concentrated in relatively low skill, low sophistication products like the footwear, textile, rubber, wood, and agro industries or other basic manufactures. Mid-tech products come only at the 14th and 15th place of the ranking, with electrical machinery (HS 85).and vehicles (HS 87).

Separate analysis shows that the four counties of the West Region have a common comparative advantage in some primary goods, such as live animals, trees and other plants, edible vegetables and fruits. Exports from Arad, Hunedoara and Timis are also strong in HS sectors 82-85 which cover tools and articles of base metals, nuclear reactors, boilers, machinery and mechanical appliances and electrical machinery and equipment.

**Table 16. Evolution of Revealed Comparative Advantages in the West Region, 2005 and 2011**

HS2	HS 2-digit sector	% total exports		RCA	
		2005	2011	2005	2011
64	Footwear, gaiters and the like; parts of such	9.8	6.6	13.6	9.9
40	Rubber and articles thereof.	6.4	9.3	6.2	7.1
59	Impregnated, coated, cover/laminated textile f	0.0	0.7	0.2	6.2
94	Furniture; bedding, mattress, matt support, cu	4.7	5.4	3.6	5.0
67	Prepr feathers & down; arti flower; articles h	0.0	0.1	0.9	4.4
1	Live animals	0.3	0.5	2.4	3.9
41	Raw hides and skins (other than furskins) and	0.3	0.6	1.1	3.6
61	Art of apparel & clothing access, knitted or c	9.4	3.5	7.6	3.1
5	Products of animal origin, nes or included.	0.1	0.1	1.0	2.6
58	Special woven fab; tufted tex fab; lace; tapes	0.2	0.1	1.9	2.5
65	Headgear and parts thereof.	0.2	0.1	3.8	2.5
44	Wood and articles of wood; wood charcoal.	2.1	1.7	2.0	2.3
85	Electrical mchy equip parts thereof; sound rec	33.9	28.9	2.4	2.3
87	Vehicles	8.9	16.3	1.0	2.3
69	Ceramic products.	0.6	0.5	1.9	2.2
62	Art of apparel & clothing access, not knitted/	6.3	2.4	4.3	2.1
42	Articles of leather; saddlery/harness; travel	0.8	0.7	2.2	1.8
57	Carpets and other textile floor coverings.	0.0	0.1	0.0	1.6
76	Aluminium and articles thereof.	0.2	1.4	0.2	1.5
83	Miscellaneous articles of base metal.	0.5	0.5	1.2	1.4

Source: Authors' calculations based on INS data

## Growth Orientation

In previous sections we have shown that exports of auto products and related industries dominate the composition of the West Region's export basket and that the auto sector has been more dynamic than the apparel/footwear sector over the last six years. However, we have never established how important the auto sector is for export growth in the West Region. Table 17 shows that the auto sector was responsible for 62.5% of total export growth between 2005 and 2011 and that, surprisingly, the contributions of the apparel/footwear sector has been negative over the same period. Although the apparel/footwear sector accounted for 10% of export growth after 2009, this is merely a "rebound effect" and this sector's exports remain below the value achieved in 2008

**Table 17. Export growth decomposition by sectors, 2005-2011**

	<b>2005-2011</b>	<b>2005-2008</b>	<b>2008-2009</b>	<b>2009-2011</b>
Auto	62.8	52.4	24.9	54.3
Rest	38.0	56.4	60.6	35.3
Textiles / Footwear	-0.8	-8.9	14.4	10.3
<b>Total Export Growth</b>	<b>11.1</b>	<b>13.2</b>	<b>-19.4</b>	<b>26.8</b>

Source: Authors' calculations based on INS data

Table 18 shows the West Region's top 20 export products in 2011, the annualized growth rate of exports of those products in the region, and the growth rate of total imports over the same period. As can be seen comparing the last two columns, the top export products from the West Region are doing a remarkable job in international markets: the vast majority of them are gaining market share in the world - only six products failed to do so (highlighted in grey). Moreover, while only two out of thirteen products from the auto sector failed to gain world market share, more than half of the non-auto products in this list (four out of seven) lost market share over the same period suggesting that the good performance in international markets of the export products that belong to the auto sector is not easy to replicate in other sectors.

**Table 18. Growth Orientation of Auto Export Products**

HS6	Product name	Growth rate in West Reg.	World's Growth Rate
854430	Ignition wiring sets&oth wiring sets of a kind	10.1	8.6
870894	Steering wheels, steering columns and steering	63.7	17.2
401110	New pneumatic tyres, of rubber of a kind used o	14.5	12.0
870899	Motor vehicle parts nes	6.1	0.7
870829	Parts and accessories of bodies nes for motor v	27.1	5.3
854449	Electric conductors, for a voltage not exceedin	111	-39.1
940190	Parts of seats other than those of heading No 9	16.7	5.3
854441	Electric conductors,for a voltage not exceeding	16.3	19.5
853710	Boards, panels, including numerical control pan	42	12.8
901380	Optical devices, appliances and instruments, ne	313.5	7.0
903180	Measuring or checking instruments, appliances a	146.9	6.3
640610	Uppers and parts thereof (excl. stiffeners)	1.5	4.4
640399	Footwear with rubber... soles, leather uppers,	8.7	2.3
841790	Parts of industrial or lab furnaces & ovens inc	1,307.10	6.9
640391	Footwear with rubber... soles and leather upper	10.9	11.5
841850	Other refrigerating or freezing chests,cabinets	11	7.8
851671	Electro-thermic coffee or tea makers, domestic,	-0.5	13.1
940360	Furniture, wooden, nes	-2.8	1.7
870821	Safety seat belts for motor vehicles	-3.7	3.9
851220	Lighting or visual signalling equipment nes	99.2	11.3

Source: Authors' calculations based on INS data

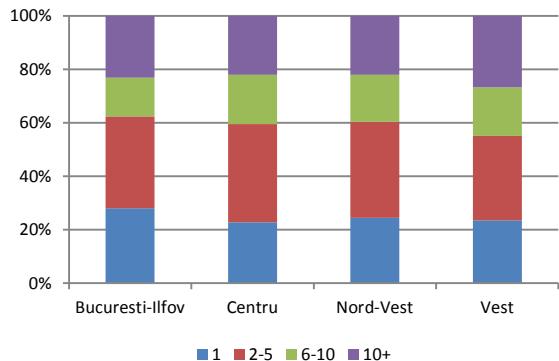
## 5.2. Is the concentration of products due to the strategies of few dominant exporters?

The aggregate picture presented in section 4.1 shows a clearly concentrated export basket. In this section we look at firm-level data to understand better the degree to which these outcomes are the result of corresponding strategies being pursued by a broad set of exporters or, instead, may be driven by specific sectors or types of firms.

As theory would predict, exports flows in the West Region are dominated by multi-product exporters with firms that export more than ten products accounting for 84.2% of total exports in 2011. Figure 40 shows that the importance of these biggest multi-product exporters (i.e. those exporting more than ten products) is higher in the West Region (84.2%) than in any of the comparator regions: North-West (66.7%), Center (65.1%) and Bucharest-Ilfov (59.7%).

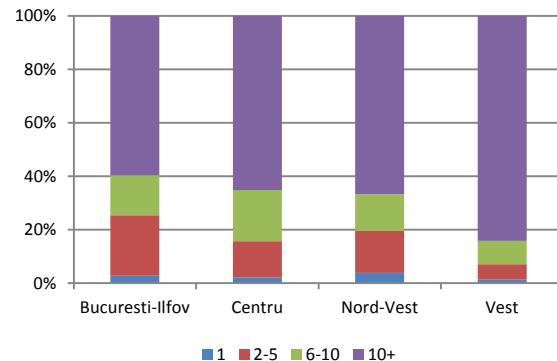
Because the percentage of exporters with more than ten export products is very similar across regions (Figure 39), this dominance of the biggest multi-product exporter group suggests that the differences among regions must be due to the relatively larger size of the West Region top exporters.

**Figure 39. Percentage of Firms by Number of Products Exported**



Source: Authors' calculations based on INS data

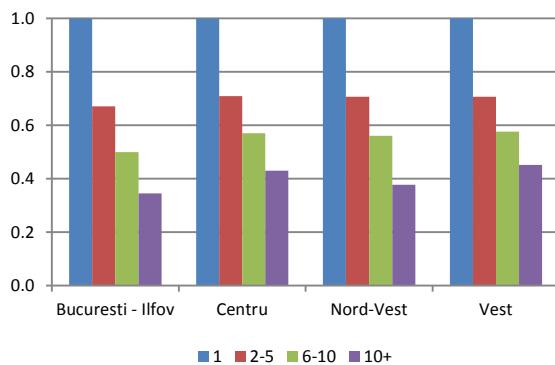
**Figure 40. Percentage of Total Exports by Number of Exported Products**



Source: Authors' calculations based on INS data

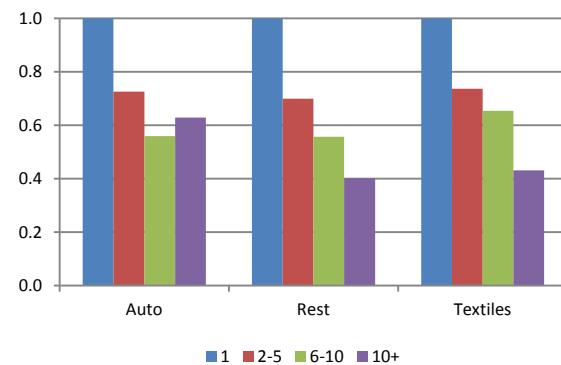
So why is the West Region one of the most concentrated if these multi-product exporters represent such a larger share of total exports? Figure 41 shows average concentration (measured by the HH Index) by firms grouped by the number of product exported. The results of Figure 41 suggest that firms that export more than ten products in the West Region are the least diversified in terms of products among all regions while Figure 42 shows that within the West Region exporters from the auto sector with more than ten export products have similar (and if anything less) levels of concentration than exporters that only export 6 to 10 products. Taken together, these two results suggest that multi-product exporters in the West Region - and in particular in the auto sector - are not that diversified despite exporting a significant number of products. The evidence suggest that in the case of these undiversified multi-product exporters, mostly foreign-owned firms from the auto sector, exporting more than 10 products does not guarantee less product concentration because their exports are highly concentrate in the top three or five products and the share of exports accounted by the 10th or 20th product is relatively small.

**Figure 41. Concentration Index by Firms According to Number of Products Exported (Regions)**



Source: Author's calculations using INS data

**Figure 42. Concentration Index by Firms According to # of Products Exported (Sectors in the West Region)**



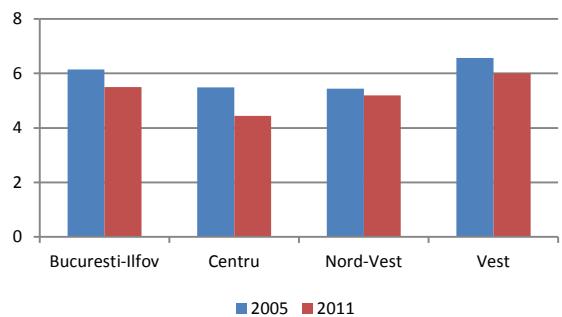
Source: Author's calculations using INS data

### Product Entry and Exit

Lack of dynamism in terms of adding new products to the regional export basket could also be affecting the concentration level in the West Region, so an analysis of the patterns of product entry and exit could shed additional light about this issue. The West Region is the best performer in terms of product entry.

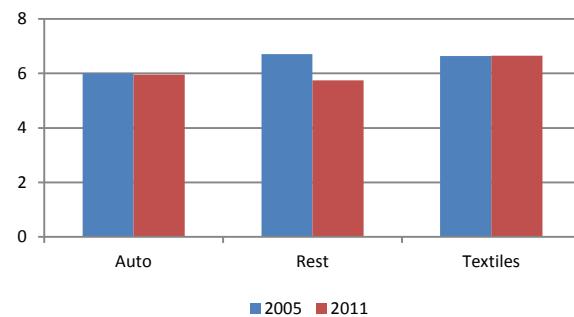
Figure 43 shows the average number of new products introduced on average by firms in all comparator regions. Two key issues emerge. First, although the differences among regions are not very significant, firms in the West Region are indeed the most dynamic in terms of adding new export products. Second, the average number of product entries is rather large in all regions. Although these averages are probably driven by large firms and the majority of firms do not introduce such a large number of products each year, this is still an impressive result. Figure 44 shows that firms in the auto sector, which a priori could be assumed not to be so dynamic, try to export the same number of new products each year than firms in the textiles/footwear sector and the rest of the economy.

**Figure 43. Average Number of New Products per Firm (Regions)**



Source: Author's calculations using INS data

**Figure 44. Average Number of New Products per Firm (Sectors in the West Region)**



Source: Author's calculations using INS data

Difficulties in maintaining these new export products could also be responsible for lack of diversification in the West Region even if this region boast the highest export product entry rate among comparators. Table 19 shows the survival rate of new products with each column representing an entry cohort (i.e. all new products that were exported for the first time in a given year) and each row representing the percentage of product lines from that cohort surviving up to the indicated year. The key result emerging from this table is that product entry is indeed a very risky activity across all regions with only a third of new export products surviving to the second year and only about a fifth to the third year. For instance, in the context of the West Region this means that of the six export products on average that are introduced to export markets only two are expected to survive to the second year and only one for a third year. Finally, because the survival rates are very similar across regions, we can reject the hypothesis that exporting firms in the West Region are less able to maintain new export products than other regions in Romania.

**Table 19. Survival Rates of Product Entries by Region, 2008-2011**

<b>Bucharest – Ilfov Region</b>				
year	2008	2009	2010	2011
2008	100			
2009	32	100		
2010	18	36	100	
2011	13	23	30	100
<b>Center Region</b>				
year	2008	2009	2010	2011
2008	100			
2009	32	100		
2010	21	36	100	
2011	16	24	35	100
<b>North – West Region</b>				
year	2008	2009	2010	2011
2008	100			
2009	34	100		
2010	21	39	100	
2011	16	25	39	100
<b>West Region</b>				
year	2008	2009	2010	2011
2008	100			
2009	35	100		
2010	22	35	100	
2011	16	24	37	100

Source: Authors' calculations based on INS data

### 5.3. What facilitates successful export entry?

In this section we will present some evidence concerning the factors that facilitate successful export entry in Romania. Three key issues emerge in this regard: the quality and sophistication of exports, exporters' upstream and downstream linkages with foreign firms, and the presence of wholesalers as foreign trade intermediaries in some specific sectors, and a local supply of quality services.

### Quality and sophistication of exports

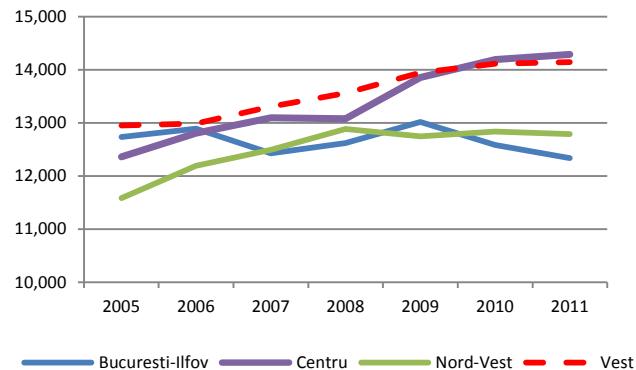
Export success is based on two pillars: productivity and quality. While any deficiencies in productivity vis-à-vis international competition can be offset by low wages, even modest deficiencies in quality can make a product unsellable in world markets (Sutton 2012). This view is confirmed by the findings of Iacovone and Javorcik (2012) who document quality upgrading taking place prior to products being introduced into export markets by Mexican producers.

Despite this minimum quality threshold needed to enter export markets, there are still large differences in the quality of exports across countries. One of the recent stylized facts of development is the finding that countries promoting exports of more “sophisticated” products grow faster (Hausmann, Hwang and Rodrik 2006). If “you become what you export” is indeed true, introducing measures facilitating export upgrading becomes a key policy issue. If exporting indeed requires achieving some minimum quality threshold, then factors affecting product quality should also facilitate export entry.

Unit values of Romanian exports have been steadily increasing over time. This is true for both Romanian and foreign-owned exporters. The Western region does not appear to be very different from the national trend in this respect. The increase in unit values is measured relative to the unit values of products exported by EU members (other than Romania) to the rest of the world.

The evolution of sophistication in Romania has been more than satisfactory over the last decade as the country managed to close the gap with countries like Poland or Slovakia but remains less sophisticated than other regional comparators like Hungary and the Czech Republic. The West Region also performed well in terms of export sophistication over the last five years – especially when compared to the leading export regions in Romania. Figure 45 shows the evolution of export sophistication from 2005 to 2011 and suggests that the West Region remains one of the most sophisticated regions in Romania next to the Center region. Furthermore, export sophistication growth has been steady even in the face of the 2009 crisis - unlike in the North-West and Bucharest-Ilfov regions.

**Figure 45. Sophistication Regions**



Source: Authors' calculations based on INS data

#### Linkages with multinational suppliers and buyers

If exporting requires achieving some minimum quality threshold, then factors affecting product quality should facilitate export entry. This view is supported by the results of our econometric analysis which suggest that the presence of multinational suppliers of intermediate inputs as well as interactions of local firms with multinational customers operating in Romania are an important element that facilitates export entry by Romanian firms (Table 20). Our results suggest a strong positive relationship between the presence of foreign affiliates in the upstream (supplying inputs) and downstream manufacturing industries and entry into exporting markets. This result is in line with other research showing the importance of high quality inputs for product upgrading and the role of multinational suppliers in the process. It is also consistent with the view that becoming a supplier to a multinational firm is the best training ground for achieving international quality and productivity standards. However, the same econometric evidence suggests that increased competition from multinational firms in the same industry makes it harder for a domestic producer to start exporting. One possible explanation for this result is that foreign-owned firms crowd out smaller local firms and leave very little space in the same industry.

**Table 20. Impact of FDI on entry into exporting<sup>12</sup>**

	(1) sustained entry	(2) (unsustained kept)	(3)	(4) sustained entry	(5) (unsustained dropped)	(6)
Log value added per emp.	0.00230 (1.47)	0.00206 (1.27)	0.00226 (1.57)	0.00283** (1.99)	0.00266* (1.82)	0.00290** (2.05)
Log capital per emp.	0.00789*** (5.20)	0.00768*** (5.03)	0.00794*** (4.61)	0.00685*** (5.34)	0.00666*** (5.07)	0.00701*** (4.22)
Log employment	0.0278*** (8.07)	0.0277*** (8.03)	0.0273*** (9.60)	0.0243*** (7.59)	0.0244*** (7.62)	0.0241*** (7.92)
Foreign share (own industry)	-0.0898* (-1.84)	-0.0826* (-1.77)		-0.138*** (-3.14)	-0.125*** (-3.11)	
Foreign share (upstream manufacturing)	0.478** (2.17)	0.474** (2.17)		0.414** (2.26)	0.431** (2.37)	
Foreign share (upstream services)	-0.522 (-1.31)	-0.403 (-1.03)		-0.545 (-1.60)	-0.480 (-1.52)	
Foreign share (downstream industry)	0.854* (1.92)	0.894** (2.12)		0.995*** (2.90)	0.926*** (2.71)	
Regional foreign share (own industry)	0.0161 (0.91)		0.00216 (0.11)	0.0189 (1.04)		-0.00437 (-0.26)
Regional foreign share (upstream manufacturing)	-0.00526 (-0.06)		0.0320 (0.36)	0.0289 (0.36)		0.0396 (0.49)
Regional foreign share (upstream services)	0.115 (0.87)		-0.0339 (-0.25)	0.0797 (0.53)		-0.0515 (-0.35)
Regional foreign share (downstream industry)	0.0450 (0.23)		0.240 (1.40)	-0.0619 (-0.34)		0.199 (1.30)
Observations	26802	26802	26802	22926	22926	22926
Adjusted R-squared	0.030	0.028	0.029	0.024	0.023	0.023

Source: Authors' calculations

<sup>12</sup> The table contains regressions of a dummy for sustained exporting on firm characteristics an own-sector, upstream and downstream FDI. Dummy for sustained exporting is equal to 1 if a firm exports in the given year and in the following year, it is zero otherwise. Both firm characteristics and FDI variables are lagged by one year. Only fully domestically-owned manufacturing firms are considered. Samples used for columns 1-3 differ from those used for columns 4-6 in the treatment of unsustained entries. In columns 1-3, all observations for a firm are dropped if it is a sustained exporter in the first year when it appears in the data, and also once a firm achieves sustained exporting, all its subsequent observations are dropped. Unsustained exports do not play a role here. In columns 4-6, all observations for a firm are dropped if it is an exporter (sustained or unsustained) in one or both of the first two years in which it is observed in the data, and also once a firm becomes exporter (sustained or unsustained), all its subsequent observations are dropped. Regressions in columns 1 and 4 include both country-level and regional FDI variables and dummies for each combination of region and year. Columns 2 and 5 focus only on country-level FDI variables, columns 3 and 6 only on regional FDI variables. Observations in all columns are defined on the firm-year level and include firm fixed effects. Errors in columns 1, 2, 4 and 5 are clustered on industry-year level, errors in columns 3 and 6 on industry-region-year level. t-statistics are in parentheses, \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

### Exporting through wholesalers

Firms can export either directly or through wholesalers. New exporters often use intermediaries, as it saves them the cost and effort that would need to be expanded to learn about foreign markets and export procedures and to find customers abroad. More experienced and sophisticated exporters prefer to deal directly with foreign customers. Although initiating such business relationships may be costly, direct interactions with foreign customers allow producers to tailor their products better to the needs of the market and are often associated with better margins and long-term relationships. Exporters often start out by supplying foreign markets through wholesalers but after a period of time they graduate to direct exporting. An increasing share of Romanian exports goes through wholesalers. In 2005, this was true of 7% of total exports from Romania. By 2011, the share reached 12%.

Intermediaries play the most prominent role in food and beverages, chemicals, and wood. They do not appear however to be important in sectors organized around buyer- or supplier-driven production networks, such as apparel, motor vehicles, electrical machinery, radio, TV and communications equipment. Table 21 presents evidence that export unit values (a proxy for quality) are higher for exports that use wholesalers. It however shows that the positive effect is driven by few non-buyer or supplier-driven sectors only: food & beverages, chemicals, plastics, wood and furniture.

This link is especially important for the West Region's domestic producers from lagging counties that tend to specialize in agro-food products like vegetables and wood. Anecdotal evidence from focus groups suggests that the small scale of some producers and lack of consolidation could be hampering further export growth in these sectors. Fostering better linkages with a wholesale market may therefore represent a solution in the short term.

**Table 21. Unit values of direct exports vs. exports through intermediaries<sup>13</sup>**

	exported through wholesale firm	Observations
All	0.0530** (-2.16)	362,822
Food products and beverages	0.199*** (-5.08)	69,672
Chemicals	0.244*** (-4.81)	66,255
Wood	0.173*** (-6.91)	73,622
Coke	-0.202 (-1.35)	61,631
Leather	-0.0870** (-2.23)	82,995
Basic metals	0.261*** (-4.41)	64,541
Furniture	0.0963** (-2.5)	86,979
Radio,TV, comm. eq.	-0.106 (-1.25)	67,043
Apparel	0.0257 (-0.42)	164,327
Machinery and eq.	0.0903** (-2.54)	83,941
Other transport eq.	-0.102 (-1.45)	64,010
Rubber and plastic	0.175*** (-4.87)	74,007
Electrical machinery	0.0236 (-0.6)	77,728
Motor vehicles	-0.233** (-2.34)	77,696

Source: Authors' calculations

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<sup>13</sup> The table contains regressions of the logarithm of unit values on a dummy for exports by intermediary exporters defined as exporters whose primary sector of activity is wholesale (code 51 in NACE rev. 1.1). Only manufacturing and wholesale firms are included. The regressions are run separately for several 2-digit NACE (rev. 1.1) industries. Observations are assigned industries not based on the exporting firm but based on the exported product, where each product is linked to the most frequent industry among the firms which export the product. Observations are defined on firm-product-destination-year level and include product-destination-year fixed effects. Standard errors are clustered on firm level. t-statistics are in parentheses, \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

### Access to quality services

Another important factor for successful export entry concerns access to inputs: both physical inputs as well as services inputs. In a country with an open trade regime, such as Romania, producers can access duty free a wide range of parts, components and other intermediate inputs manufactured in the European Union (EU). However, it has been shown across a range of countries that importing firms tend to be larger and more sophisticated than firms relying on domestically produced intermediates. This suggests that gathering information about availability of inputs abroad and starting business relationships with foreign producers is costly and thus only more profitable firms are able to afford the fixed cost associated with importing inputs. Therefore, quality of domestically produced inputs matters.

Even more important is the quality of locally supplied services. Services are an essential input into all manufacturing activities, and their tradability across international borders is limited. While physical inputs can almost always be imported, local producers are usually at the mercy of the local services providers. Research on exporters from the Czech Republic (Arnold et al. 2011) has produced evidence suggesting a positive relationship between liberalization in services sectors and the productivity of downstream manufacturing firms. These results are consistent with services sector liberalization, particularly FDI inflows into the sector, being associated with improved availability, range and reliability of services, which in turn contribute to improved performance of manufacturing firms using services as inputs. The magnitude of the estimated effect was economically meaningful: a one-standard-deviation increase in foreign presence in services industries is associated with a 7.7% increase in the productivity of manufacturing firms relying on services inputs.<sup>14</sup>

In summary, international evidence suggests that product quality is a key element for successful export entry. We have shown that linkages with multinational firms in upstream and downstream industries are associated with better prospects for export entry in Romania. This is in line with the argument that access to better inputs produced by multinational in upstream sectors and interactions with foreign customers in downstream industries can help firms boost their product quality and productivity. Additionally, in some sectors like agro-foods and wood, the use of wholesaler as intermediaries of foreign trade is linked to improved quality and successful entry. Finally, the quality of locally supplied inputs and services are also likely to improve chances of a successful export entry for firms in the West Region.

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<sup>14</sup> In order to interpret the size of the estimated coefficients, the authors have also undertaken the following hypothetical exercise. They assumed that the level of services liberalization in the Czech Republic at the end of their time frame (2003), as measured by the EBRD indices, were to drop to the level of Romania, which has made considerably less progress in liberalizing its services sectors according to the EBRD. In this case, their model would predict an average decrease in the productivity of downstream manufacturing sectors of 7.7%.

## **5.4. Summary**

**West Romania exports are clearly based on a very concentrated export basket, dominated by the automotive sector and foreign owned firms.** The top three export products, namely ignition wiring sets (14%), steering wheels (7.3%), and pneumatic tires (7%), represented a combined 28.3% of exports in 2011 and are very important in explaining the concentration level of the West Region's export sector. As discussed in Section 3, these exports are dominated by foreign owned firms. Moreover, concentration is increasing over time as exports of these products are growing at higher rates than the rest of the export basket of the region.

**The concentration of the export basket reflects corresponding strategies at the firm level.** Even multi-product exporters in the West Region - and in particular in the auto sector - are not very diversified, despite exporting a significant number of products. The evidence suggest that most firms exporting more than 10 products are highly concentrated in their top three or five products, while the share of exports accounted by the 10th or 20th product is relatively small.

**Domestic firms have a different product export mix than partially or fully foreign owned exporters.** None of the top five export products in the West Region is a top export for domestic owned firms, confirming that the core of the auto sector is dominated by foreign-owned firms. The two top exports for domestic exporters are boards and panels and lighting and visual signaling equipment. However, the rest of the top exports by domestic owned firms are from the agro-food and footwear industries. It is noteworthy that the export value for the majority of these products has increased significantly in recent years – the export value almost quadrupled between 2009 and 2011.

**Overall, West Region exports are concentrated in relatively low-skill, low-sophistication industries like footwear, textile, rubber, wood, and agro industries or other basic manufactures.** Mid-tech industries come only at the 14th and 15th place of the ranking, with electrical machinery (HS 85).and vehicles (HS 87). Separate analysis shows that the four counties of the West Region have a common comparative advantage in some primary goods, such as live animals, trees and other plants, edible vegetables and fruits. Exports from Arad, Hunedoara and Timis are also strong in HS sectors 82-85 which cover tools and articles of base metals, nuclear reactors, boilers, machinery and mechanical appliances and electrical machinery and equipment.

**Yet, there is lot of experimentation in exporting new products but survival into exporting is low.** Exporting new products is a very risky activity. Only a third of new export products survive to the second year and only about a fifth to the third year in Romania. In the West Region this means that out of the six export products that are introduced on average to export markets by firms from the region, only two are likely to survive to the second year and only one for a third year. However, evidence suggests that low survival rates are common across Romania, and not idiosyncratic to the West Region.

**Export entry and survival could be enhanced by better quality and sophistication of exports.** While any deficiencies in productivity vis-à-vis international competition can be offset by low wages, even modest deficiencies in quality can make a product unsellable in world markets. Moreover, of the recent stylized facts of development is the finding that countries promoting exports of more “sophisticated” products grow faster. If “you become what you export”, introducing measures facilitating export upgrading becomes a key policy issue. Factors affecting product quality should therefore facilitate export entry.

**West Region exporters are doing well in terms of quality and sophistication compared to other regions in Romania.** Unit values of exporters from West Romania have been steadily increasing over time. This is true for both domestic and foreign-owned exporters. While in terms of quality the West Region has performed on a par with other parts of the country, it remains – along with the Centre region – one of the regions with the most sophisticated exports in Romania. Furthermore, export sophistication growth has been steady even in the face of the 2009 crisis - unlike in the North-West and Bucharest-Ilfov regions.

**In Romania and in the West Region linkages with foreign suppliers and buyers also facilitate export entry.** A strong positive relationship exists between the presence of foreign affiliates in the upstream (supplying inputs) and downstream manufacturing industries and entry into exporting markets. This result is in line with other research showing the importance of high quality inputs for product upgrading and the role of multinational suppliers in the process.

**However, the same econometric evidence suggests that increased competition from multinational firms in the same industry makes it harder for a domestic producer to start exporting.** One possible explanation for this result is that foreign-owned firms, which are remarkably large in the West Region, crowd out smaller local firms and leave very little space in the same industry.

**Less controversial is the link between successful export entry and the presence of wholesalers.** While experienced and sophisticated exporters prefer to deal directly with foreign customers, new exporters often use intermediaries. It saves them the cost and effort that would need to be expanded to learn about foreign markets and export procedures and to find customers abroad. Intermediaries play the most prominent role in food and beverages, chemicals, plastics, and wood. They do not appear to be important in sectors organized around buyer- or supplier-driven production networks, such as apparel, furniture or motor vehicles, electrical machinery, radio, TV and communications equipment. Strengthening the link with wholesalers may therefore be especially important for the West Region’s domestic producers from lagging counties that tend to specialize in agro-food products like vegetables and wood: anecdotal evidence from focus groups suggests that the small scale of some producers and lack of consolidation could be hampering further export growth in these sectors.

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