

Exports – trends and impacts on Romania’s economic growth process

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Abstract. *In the post-crisis period when domestic consumer demand had slumped, Romania and other European Union countries have tried to promote exports as an important engine of economic growth. In order to achieve this, some countries allowed a significant depreciation of their national currency so as to increase competitiveness, others turned to internal devaluations, to improvements of the exported product’s technological intensity, to diversification of export destinations, etc., depending on the pre-crisis (initial) structural conditions from which they had started. Our study aims to investigate how Romanian exports have changed in recent years, as well as the factors, both internal and external, that influence Romania’s export capacity, with the purpose of achieving economic recovery.*

Keywords: export-led growth, imports, labour productivity, external demand, trade.

JEL Classification: E20, E32, E52, E60, E62, E65, H12, H61, H62.

Introduction

After 2008, on the basis of a slump in domestic demand, many European Union countries, and not only them, have tried to support an *export-led growth* model that would compensate the inevitable decline in internal demand. The latter was brought upon by several factors, among them:

- a stop in the flow of foreign direct investment and portfolio investment;
- a decrease in credit and financial deleveraging in the banking system, plus a NPL rate surge (Spain, Romania);
- a decline in the price of some assets which had skyrocketed in the previous period (e.g. real estate);
- a sharp increase in unemployment in most countries (Greece, Spain, Portugal);
- the fiscal consolidations measures adopted by governments in order to diminish budget deficits within the parameters established by the EU through the Treaty of Maastricht and/or meet compliance targets set by financial assistance programs contracted with international financial institutions (IMF, World Bank, etc.).

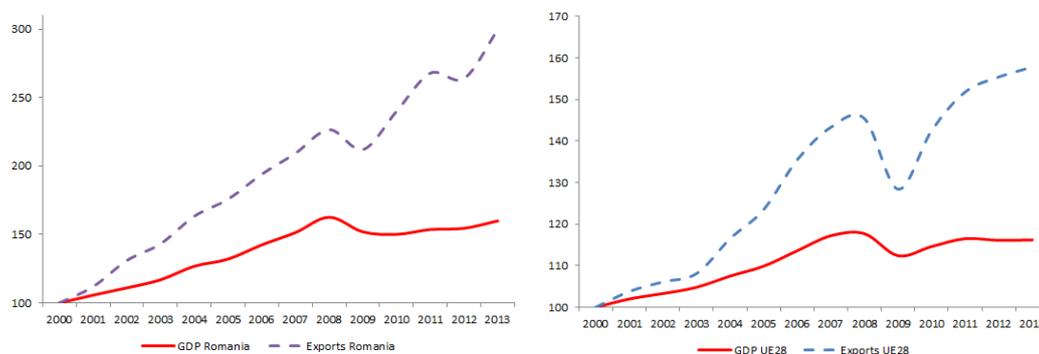
As shown in *Figure 1*, both in Romania's case, as well as in the case of the 28 member states of the EU, the export growth rate was much higher than that of the GDP after 2008.

In general, countries outside the Eurozone, with their own monetary and foreign exchange policies, accepted a nominal depreciation of their national currency with the purpose of gaining a surplus of cost competitiveness of the exported goods and services and tried to diversify their export destinations, especially to Asia's emerging countries.

Moreover, another aspect that has been improved refers to the structure of the exported goods, with a larger share for goods of a higher technological intensity in total exported goods. Our analysis focuses on Romania, in whose case *high-tech* and *medium high-tech* types of goods have become predominant in the structure of goods by technological intensity.

On the other hand, several countries within the European Economic and Monetary Union, which lack the exchange rate tool, achieved competitiveness by depreciation in real terms of their national currencies (*domestic devaluation*), which helped in increasing export of goods and services.

Figure 1. Evolution of GDP and export for Romania and the EU28 (Y2000=100)



Source: Eurostat.

The present study consists of *three parts*. Firstly, the literature regarding the connection between export and economic growth is presented, as well as the export structure's role in engaging other non-exporting sectors, with particular attention on developing countries.

The second part describes evolutions of Romania's export both from the nominal point of view, as well as from a structural perspective, in the sense of its modifications function of the exported goods' technological intensity; the classification used is that of the National Prognosis Commission: *high-tech* (HT), *medium high-tech* (MHT), *medium low-tech* (MLT), and *low-tech* (LT) categories of goods.

Lastly, the third part of this study offers some recommendations for governmental and/or trade policies with the aim of maximising the benefits created by the increase in Romania's export on the overall economy.

1. Export and economic growth. A literature analysis

The study into the contribution of export to economic growth is not new, it being discussed in literature starting with the theories of the 19th century classic economists, like *Adam Smith* and *David Ricardo*, who highlighted the importance of international trade in the process of economic growth, and the fact that specialising in producing mostly those goods for which a national economy holds a comparative/competitive advantage may result in productivity gains.

Regarding literature, there are many significant studies that offer a useful background for the analysis of the link between export and economic growth (Feenstra, 1990; Grossman and Helpman, 1990; Rivera-Batiz and Romer, 1991; Baldwin and Forslid, 1996).

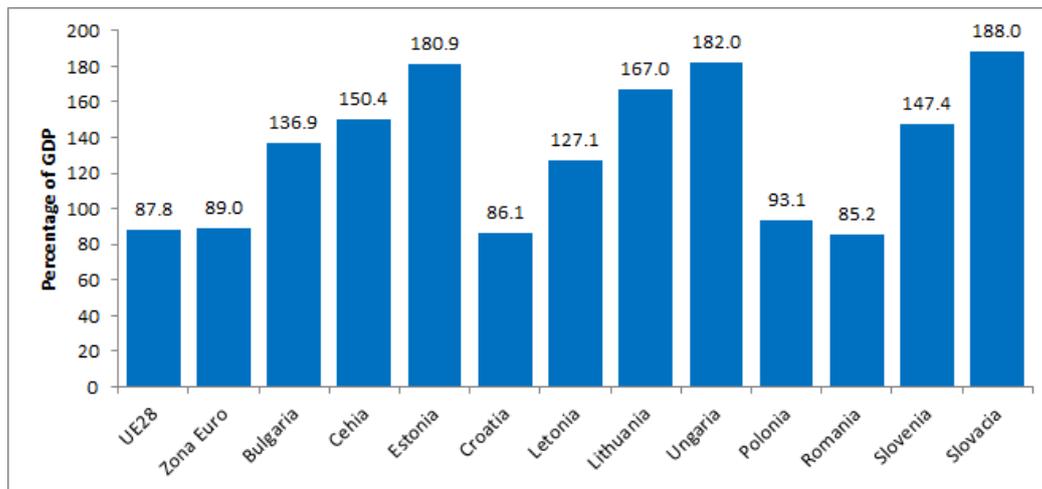
These studies are based on the idea that at economy level, an increase in exports accrues total factor productivity thanks to their positive impact on economies of scale, the fact that they generate other externalities, such as technology transfer, improvement in workers' abilities and management capabilities, production capacity growth of an economy (Dreger and Herzer, 2011).

A large part of the literature is based on the analysis of the *export-led growth hypothesis* (ELGH). This hypothesis argues that promoting and increasing export represents one of the best methods to achieve economic growth; a country's economic expansion may be created not only by increasing endowment with capital and labour factors, but also through export stimulus, which may result in positive externalities from opening to the global market, especially in regard to the reallocation of resources to the more efficient and truly competitive sectors, economies of scale or effects on the workforce professional training (Medina-Smith, 2000).

If we were to analyse the trade openness of Central and Eastern Europe countries, we would notice that Romania has the lowest degree of economy openness (share of the export and import aggregate in GDP) out of the region's EU member countries (see Figure 2).

According to Eurostat, Romania's export amounts up to 40% of its GDP, while import represents about 45%. However, when comparing to other countries, it is advisable to take into consideration that Romania's surface is much larger (also its larger population), which renders a higher importance to domestic trade than to foreign trade. Nevertheless, in the case of Poland, which is larger than Romania, the degree of openness is higher by approximately 8 percentage points.

Figure 2. Economy openness degree in various EU countries (2012)



Source: Own computations based on Eurostat data.

It is considered that there are several explanations that validate ELGH and the reasons why a relatively good export performance is crucial for a country to achieve sustainable economic growth both from the demand perspective, as well as from the offer perspective.

The argument on *the demand side* is that usually the geographic size of the internal market limits the volume of products manufactured and sold by local businesses and that export opens domestic industries to the global market, leading to a potential increase in demand for the goods produced. This increase in size of the potential market can consequently bring about a rise in company earnings, whereas the internal market was too small for a company to achieve an optimal scale.

Economies of scale can result from an increased usage of resources due to export demand, which in turn leads to a greater variety of products and productivity gains (McCann, 2007). On the other hand, a greater openness to the global market may result in exposure of domestic companies to foreign companies and competition, may encourage local innovation, may ease technological advancement, and at an aggregate level, the economy may benefit from knowledge externalities, factors that lead to technological upgrade and efficiency gains in production and in managerial practices (McCann, 2007; Gorg and Strobl, 2005).

Moreover, it has been acknowledged that exports provide the economy with the necessary foreign currency for the import of the goods that cannot be manufactured by local businesses, especially capital goods or new technologies. The latter can be used for a possible reorientation of domestic production towards more competitive industries that can better fuel growth.

Specialisation towards the more productive export industries and dismissal of the more inefficient sectors concurrently enhance human capital by increasing the general level of ability of a country's workforce.

However, it is assumed that a country should not make external trade a purpose of its own and, evidently, a national economy cannot have growth just by simple export stimulus, but rather export composition and concentration degree are more important. Thus, the structure of a country's export basket is an important ELGH endorsement factor.

In most cases export structure is analysed through the perspective of the *Heckscher-Ohlin theory*. This theory supposes that all considered countries have identical production technology, the sole difference being the level of endowment with the labour factor and the capital factor. As consequence to the varied proportions with which each country is endowed, one can determine the specific basket of goods that each country manufactures.

It is considered that countries that manufacture more technological intensive goods also have a relatively higher *capital-labour ratio*. Moreover, another possibility is that in these countries the level of the human capital is high, which is highlighted by a higher *qualified workforce-unqualified workforce ratio*. These assumptions usually apply to developed countries. On the other hand, less developed countries are generally dominated by a lower *capital-labour ratio*, as well as a lower *qualified-unqualified workforce ratio*, which means that goods manufactured in these countries are more workforce intensive and with a lower degree of technological sophistication. Generally, it can be supposed that countries will have a tendency to export goods whose production makes use of resources that have a relatively high offer and, at the same time, to import goods that require usage of resources that are rare at national level (McCann, 2007).

Furthermore, from the perspective of the export-led economic growth hypothesis and the positive effects generated by an intensification in foreign trade, *Edwards* (1991) – completing the significant contribution made by *Lewis* (1955) – states that developing countries that manage to integrate into the commercial flows of the global economy will have an advantage in their absorption capacity of the technological innovations coming from developed countries.

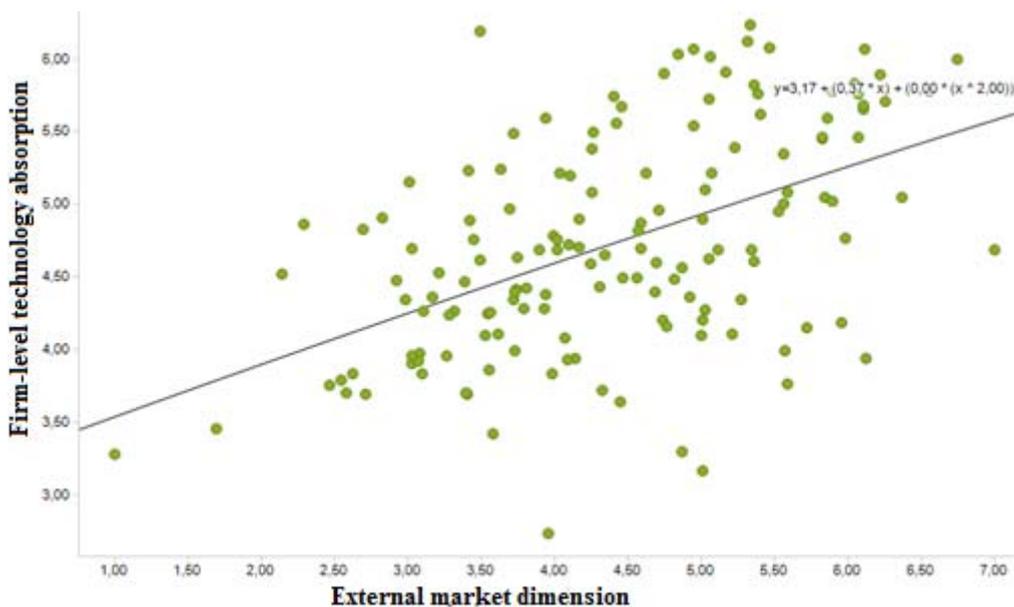
The latter characteristic can be associated with a *learning-by-looking* type of process (Galimberti, 2009), where contact with new goods and technologies increase innovation absorption efficiency. This idea is present in the models designed by *Edwards* (1989), also *Grossman and Helpman* (1991), and *Feder* (1983) uses *Lewis's* (1955) model as a starting point and analyses the existence of potential effects of the positive externalities brought upon the overall economy as a result of an increased openness of the internal production and local companies to the global market.

Another study that analyses the benefits of an economy open to foreign markets and trade liberalisation is Thirlwal's (2000), who identified two types of gains: *static* and *dynamic*.

Static gains are considered advantages obtained through resource reallocation from less productive sectors to higher productive ones, leading to specialisation – static gains are directly correlated to the comparative advantage theory of the classic economist David Ricardo. In the case of *dynamic gains*, international trade is associated with increased investment and productivity growth rate acceleration based on the emergence of economies of scale, the manifestation of *learning-by-doing* effects, and also as a consequence to the acquisition of new knowledge from outside the country, especially due to foreign direct investment (FDI) entry.

As shown in Figure 3, which works with World Economic Forum data (2013), there is an evident positive direct relationship between external market size and technology absorption degree at company level and, generally, the correlation is also maintained in the case of the relationship between external market size and foreign direct investment that lead to a technology transfer toward the attracting country.

Figure 3. *The relationship between external market size and technology absorption degree at company level*



Source: World Economic Forum (WEF), The Global Competitiveness Report 2013-2014.

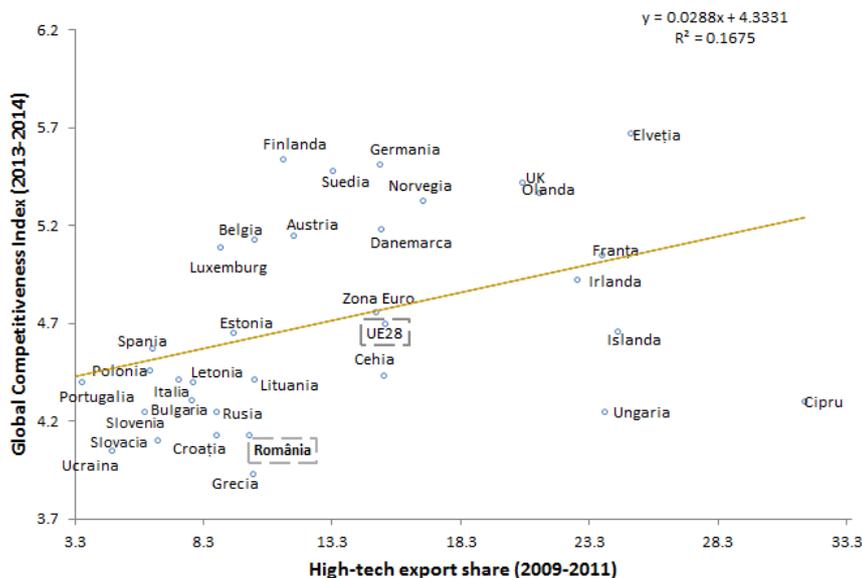
Note: all countries with available data were taken into consideration. *External market size* is defined according to WEF methodology, as natural logarithm of the total exported goods and services at purchasing power parity, normalised on a scale from 1 to 7. *Technology absorption degree at company level* is expressed on a 1 to 7 scale, depending on the answer given to the question “To what extent the company adopts new technologies?” (1 = not at all; 7 = adopts aggressively).

Thirlwal (2000) also states that the effect of trade liberalisation on economic growth tends to emerge mostly from efficiency improvement and export stimulation, which have strong positive effects both on demand, as well as on offer in an economy. Thus, even if trade liberalisation does not necessarily imply an increase in export – this requires other factors too, including additional production capacities and external promoting networks for local companies – in practice there seems to be a strong correlation between the two.

A baseline study of the connection between export and growth is that of *Giles and Williams* (2000), authors that probed into more than 150 empirical studies on this subject, concluding that there is no evident agreement among researchers regarding exterior-oriented growth, even if there are many studies in which exports have a positive effect, statistically significant, on economic growth.

Moreover, other studies can be mentioned, studies that focus on the issue of export composition; in this case the ones most worth mentioning from literature are the works of Fosu (1990), Funke and Ruhwedel (2001), Crespo-Cuaresma and Worz (2005), and Herzer et al. (2006). It can be noticed that at global level, the more competitive countries also have a relatively higher share of high-tech goods in total export (see Figure 4 below).

Figure 4. Share of high-tech (HT) exports and competitiveness index



Source: own computations on World Bank and World Economic Forum data, 2013.

Another study worth mentioning from literature is the one written by *Foster* (2006), who tested the existence of thresholds in the relationship between export and growth on a sample consisting of several African countries, thresholds determined by initial GDP per capita level, export share in GDP and export growth.

In general, his findings suggest that there is a significant connection between export growth rate and economic growth rate and that a country does not have to necessarily be

relatively developed in terms of initial income or to have a relatively large export base in order for this relationship to be valid. The results also suggest the presence of decreasing scale returns for export (Galimberti, 2009).

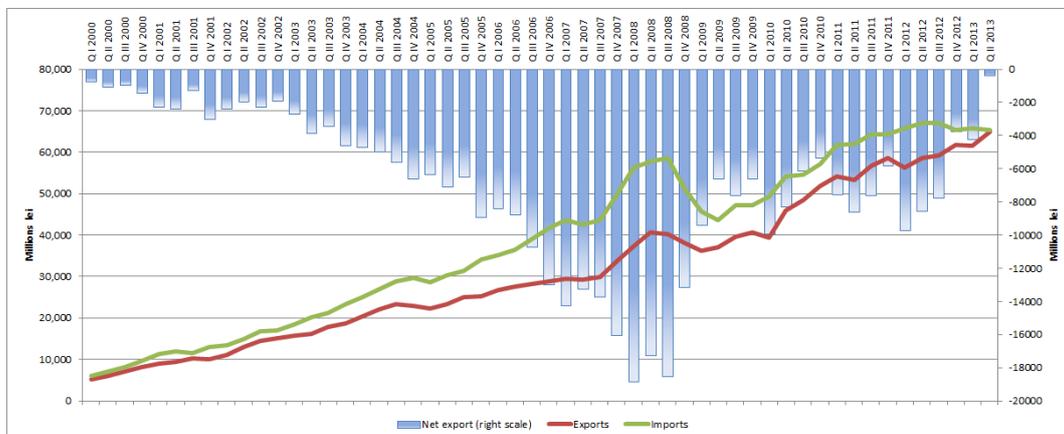
2. Recent evolution of Romania's export and its structure

After 2008, as shown in *Figure 5*, Romania's export had a positive dynamic, superior to import, which significantly reduced the trade deficit, which in 2008 peaked at 70.3 billion lei (approximately 19 billion euro) or 13.6% of GDP. According to NBR (2013), in the first two quarters of 2013, Romania's trade balance was in deficit with about 1.4 billion euro.

This improvement of the trade balance situation was brought about by a number of factors, among which we can mention:

- nominal depreciation of the national currency (between 2008 and 2012, the Romanian leu depreciated in nominal terms with approximately 20% against the euro);
- diversification of export destinations (an increase in exports of goods to non-EU countries, less affected by recession);
- relative increase of exported goods' competitiveness in terms of level of sophistication (high-tech and medium high-tech goods are predominant in the export basket when compared to 2008).

Figure 5. Evolution of export, import and net export (2000Q1-2013Q2)



Source: Romanian National Statistics Institute, 2013.

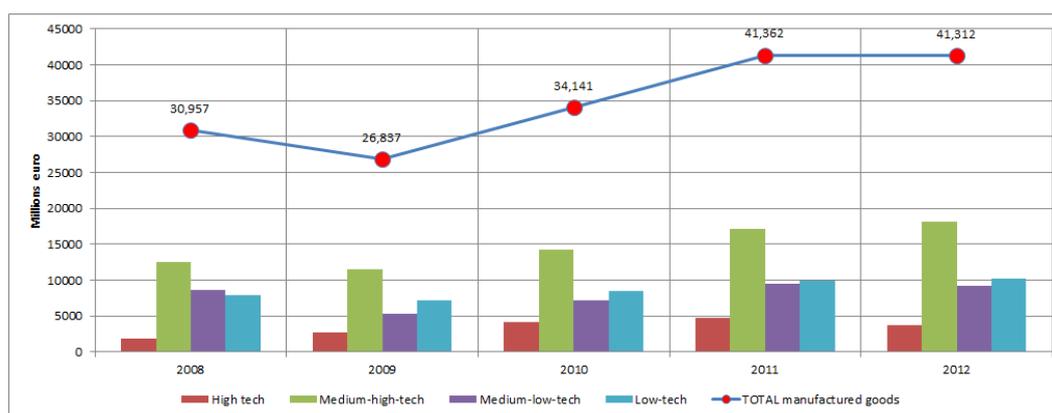
In this article we mainly focused on the analysis of export structure change in regard with the level of sophistication for the time period 2008-2012, 2012 being the last year with available data. According to the *Romanian National Prognosis Commission*, the exports division into categories of products classified by technological intensity level is the following:

Table 1. Product classification, by technological intensity level

Category name	Subcomponents
High-Tech	<ul style="list-style-type: none"> • Computers, electronic and optical products; • Basic pharmaceutical products and pharmaceutical compounds;
Medium High-Tech	<ul style="list-style-type: none"> • Chemicals and chemical products; • Machinery and equipment n.e.c.; • Electrical equipment; • Motor vehicles, trailers and semi-trailers; • Other means of transport;
Medium Low-Tech	<ul style="list-style-type: none"> • Coke oven products; • Goods from crude oil processing; • Rubber and plastics goods; • Other non-metallic mineral products; • Metallurgy industry products; • Metal construction industry products and metal products (except machinery and equipment);
Low-Tech	<ul style="list-style-type: none"> • Food; • Beverages; • Tobacco products; • Textile industry products; • Clothing; • Leather and leather products; • Processed wood products (except furniture), plaited straw and other vegetal materials products; • Paper and paper products; • Furniture; • Other manufactured goods n.e.c.

Source: own processing based on Romanian National Prognosis Commission data.

In total, exports of manufactured goods have increased in 2012 compared to 2008 with 10.35 billion euro, from 31 billion euro to 41.3 billion euro. Moreover, more than half of this growth comes from exports of medium high-tech (+5.63 billion euro) and high-tech (+1.75 billion euro) goods, as shown in Figure 6, found below.

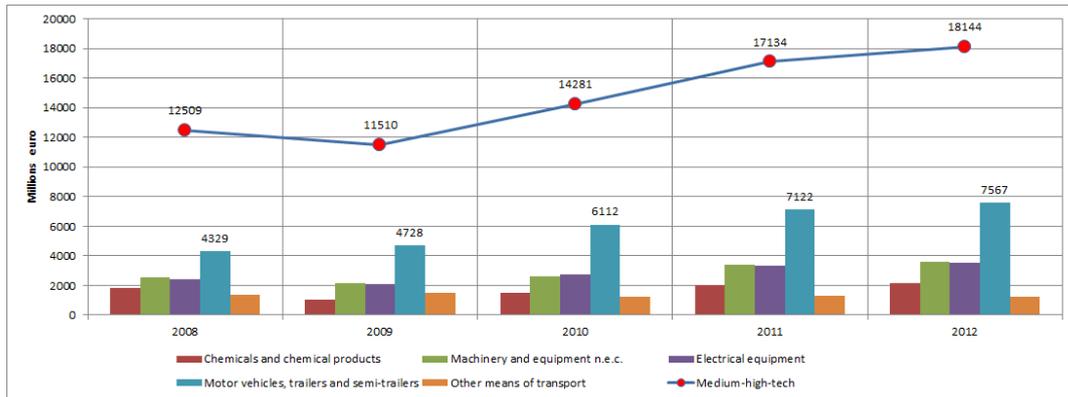
Figure 6. Export evolution in 2008-2012

Source: own processing based on Romanian National Prognosis Commission data.

High-tech and medium high-tech categories of goods cumulatively accounted for 46.5% of total exported manufactured goods in 2008, this share rising to 52.8% in 2012. In a structural representation of these groups (Figure 7), significant growths can be observed within this period for the following categories: *Computers, electronic and optical*

products (+ 1 billion euro), *Machinery and equipment n.e.c.* (+ 1 billion euro), *Electrical equipment* (+ 1.1 billion euro).

Figure 7. Evolution of medium high-tech exports in 2008-2012

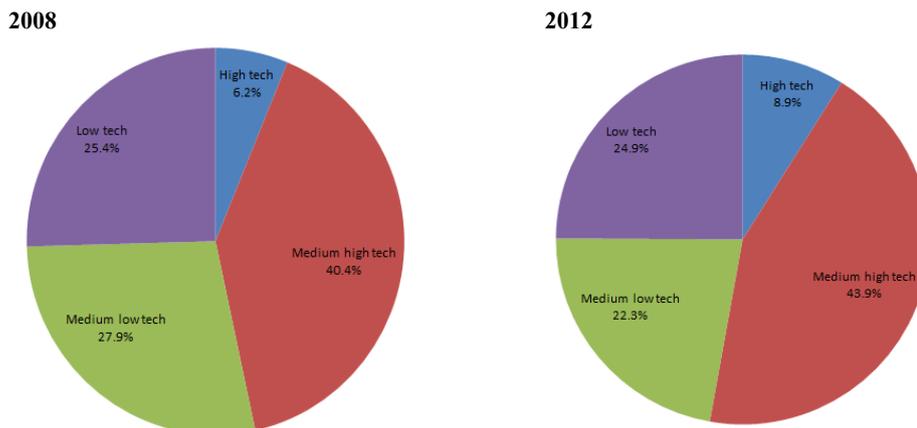


Source: own processing based on Romanian National Prognosis Commission data.

At the same time, exports of **medium low-tech** products increased by 0.55 billion euro, while **low-tech** ones rose by 2.4 billion euro. Significant growths were registered by the *Rubber and plastics goods* (+ 1 billion euro) and *Food* (+ 0.79 billion euro) categories.

This structural change of Romania's export during 2008-2012, from medium low-tech and low-tech goods toward a larger share for high-tech and medium high-tech products, includes some elements that render the effects of the continuous increase in export weak over the general economic growth.

Figure 8. Export structure by level of technological intensity



Source: own processing based on Romanian National Prognosis Commission data

On the one hand, this structural change contributes positively to GDP growth, there are foreign currency inflows into the country and Romania's products become more competitive on foreign markets. On the other hand, this growth is achieved in sectors of

activity that are not necessarily workforce intensive and are more open to process innovation (see sectors mentioned above) – for example, improvement of production processes through usage of a new technological flow that results in a greater quality of manufactured products, but also leads to a diminishment in employee number. The result is that this growth fails to engage the economy in terms of production chains expansion of local suppliers, employment increase or additional tax revenues.

In general, it is observed that in Romania the export performance registered in recent years can mostly be accounted to the foreign direct investments attracted in the pre-crisis period, especially during 2004-2008 and particularly in the motor industry or transport equipment industry, investments that improved work productivity through technology and know-how transfer, increased workforce qualification, accrued product competitiveness on foreign markets, and generated additional tax revenues for local and central authorities.

3. Conclusions

After 2008, amidst domestic demand contraction, several countries within and outside the European Union have tried to support an *export-led growth* model which would compensate the inevitable restriction of domestic demand.

In order to achieve this, some countries permitted a significant depreciation of their national currencies in order to increase competitiveness, others turned to internal devaluation, improvement of technological intensity of exported goods, diversification of export destinations, etc., depending on the pre-crisis (initial) structural conditions from which they started.

In general, it is observed that in Romania the export performance registered in recent years can mostly be accounted to the foreign direct investments attracted in the pre-crisis period, especially during 2004-2008 and particularly in the motor industry or transport equipment industry, investments that improved work productivity through technology and know-how transfer, increased workforce qualification, accrued product competitiveness on foreign markets, and generated additional tax revenues for local and central authorities.

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