
Romanian Foreign Trade Dependency and Stability

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ABSTRACT

The Romanian foreign trade was significantly changed after 1990. The privatization, economic restructuring and EU accession had an impact not only on the size and foreign trade diversity but also on the structure and commerce routes. Moreover, Romania's Integration in the European Union on January 1st, 2007, eliminates the trade barriers between member countries, increasing the trade relations within the region and facilitating the expansion of intra-industry trade.

This paper aims to analyze the level and structure of foreign trade in Romania after 1989 by analyzing the dependency and the stability indicators. The Grubel Lloyd index is computed by type of ownership of firm's capital and specific activity of companies – export of high-tech products, inward processing transactions, etc.

The main conclusion is that Romania should keep a right balance between dependency on EU single market and developing trade relations with other non-EU countries where it can have either an exceeding trade balance or comparative advantages based on high-tech exports.

Keywords: *foreign trade, export sustainability, FDI, high-tech products, Grubel Lloyd index*

1. INTRODUCTION

It is well known that both export and import may play a crucial role in economic development of a state. Any country needs exports for both macroeconomic (smart growth) and microeconomic (employment) reasons. Trade growth is much more volatile than GDP growth and is merely related to companies' turnover and profitability in export-oriented ones. The merchandise export is deeply correlated with the economic structure changing and innovation at companies' level. Exports driving companies continuously innovate and improve their goods and services to maintain a proper level of market share.

As source of growth, exports also grant employment reshaping and jobs structure renewing, based on global import demand. The contribution of

exports to total employment in the EU was around 10.3% on average between 2000 and 2007 (Sousa et al., 2012) and increased to 14% in 2011 (*i.e.* 31.2 million jobs) (Rueda-Cantuche J-M., Nuno Sousa N., 2016). Acting both on supply and demand side each additional €1 billion of extra EU-exports supports around 14 thousand additional jobs across the EU, mainly high-skilled and on average better paid. Moreover, on long term, 1% increase in the openness of the economy (ratio of imports to value added) leads to an increase of 0.6% in labor productivity in the following year in EU (EC, 2007).

On the other hand, imports generally reflect the weakness of the state in achieving its needs itself and makes them dependent of foreign countries' growth and export potential. In some cases, the high level of dependency on import creates higher volatility of positive effects on country well-being, especially on long run. If we consider the overall impact of increased foreign trade on quality of life the effects are mixed, both favorable and unfavorable, on both short and long run (Sirgy et al., 2007; Manzella, 2013).

The Romanian foreign trade was significantly changed after 1990. The privatization, economic restructuring and EU accession impacted not only the size and export diversity but also the structure and commerce routes in and out single market. (Zaman & Vasile, 2003, 2005; Zaman, 2014; Chirca, 2014; Banica & Vasile, 2017).

In Romania, in 2011 for example, 1415 thousand jobs were supported by EU exports to the rest of the world, with 63% higher than in 1995 (at EU 27 average increase was of 67%), but mainly based on low skilled jobs (84% in 1995 and 74% in 2009). The high skilled export-supported jobs represented only 4% and, respectively 8%. The spill over employment effect (as share of jobs in Romania driven by the extra-EU export of the other Member States was of only 10% in 1995 and 13% in 2011, lower than EU-28 average (17% in 2011), Poland (25%), Hungary (20%) or Czech Republic (30%, respectively) (Rueda-Cantuche and Nuno Sousa, 2016).

In defining the pattern of trade, the phenomenon of migration has also to be considered, as an export diversification factor and potential export growth of traditional products. In countries where Romanian immigrants are established as European workers, they develop small businesses, which creates a local demand for Romanian products. Thus, the development of commercial routes and specialization on product groups specific to the country of origin of the respective persons takes place, which induce the demand for Romanian products abroad. Therefore, homogeneous communities of migrants generate specific entrepreneurship, characterized by:

- products and services specific to the country of origin,
- temporal distribution of demand, dependent on the specific consumption patterns of migrant workers,
- allows for the development and adaptation of the host community's,

increasing the demand for products from the migrants' countries of origin.

The aim of this paper is to analyze the characteristics and evolution of foreign trade in Romania after 1989. Moreover, there are studied the dependency and stability indicators of foreign trade in order to define new strategies and policies for future economic development of Romania.

2. MAIN COORDINATES OF ROMANIA'S FOREIGN TRADE AFTER 1989

Political changes in 1989 have influenced, in an irreversible manner, the Romanian external trade, marking the starting point of the market economy approach. The privatisation process and decreasing of company's size through reorganisation reduces the export potential and made difficult the external market preserving, mainly in the globalised economy with no more regional market orientation (i.e. former Comecon). After 1989, the national exports started to fall constantly, until 1992 when it represented around 43% of the level registered in 1989. A certain recovery has been recorded in the coming years but without reaching the 1989 level; In 1998, Romania exported goods of 7400 million euro, 1% more than in 1997. In 1999, exports were 7977 million euro, increasing with 7,8% as against previous year. In fact, excepting 2009, exports increased year by year, reaching in 2016 a level of 57389 million euro.

Imports also recorded a strong reduction right after 1989, while starting with year 1992 it significantly increased, exceeding the level of 1989 substantially. In 2016, Romania imported goods of € 67344 million.

It is a remarkable evolution in terms of value of external trade relations, as imports were 10.7 times greater in 2016, while exports were 16.4 times greater than 1989.

Throughout the analyzed period (1989-2016), the balance of external trade was negative. For the first years of transition, this fact was explicable by the need of modern technology in almost all economic sectors and also by the demand for final goods from the population. For the next few years the external trade deficit was only a reflection of the inability to expand and conquer external markets based on national products by Romanian capital and the continuous increase of consumption of imported goods on national level.

Share of export and import in GDP

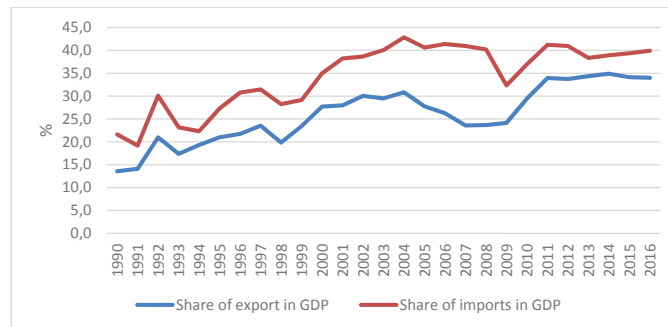


Figure 1

Source: NIS, TEMPO online database, <http://statistici.insse.ro/shop/>

During 1989 - 2007, the Romanian economy has undergone a multidimensional reform, through the massive restructuring of the economy, the transition from centralized to market economy, the privatization of state owned enterprises, the need to ensure the functionality of the new structures. These changes in the economic approach have taken place in parallel with the redefinition of external trade relations, through the increased opening of the European single market mainly starting with pre-accession process to the EU. Thus, the greatest share of imports in GDP was registered in 2004 (pre-accession to the EU, opening the EU market without customs duties) while the lowest share was recorded in 1991. About exports, the highest share in GDP was recorded in 2014, after Romania's completely recovery after the financial and economic crises.

After Romania's accession in 2007, a new stage of trade relations adjusting on the EU-single market took place. The volume of trade with EU Member States has been significantly influenced in a positive sense, by both opening new markets for export and import, and intensifying the traditional relations. Thus, if in 1989 only 45.2% of Romania's exports were oriented to European countries; in 2016, the export with EU member states reached over 75% of the total national export. In the case of imports, the dependency of the EU region is even more pronounced, increasing by 77% in 2016 compared to 30% as it was in 1989.

The degree of opening of the economy has reached the highest level in 2013, after which it has begun to stay below 75%, mainly due to the Romania's efforts to increase foreign trade and extra-EU diversified relations. In 2009, against the backdrop of the economic crisis, it was 60%, although gross domestic product fell sharply, and national exports remained at the same level as a share of GDP. This evolution shows the high dependency of the Romania's GDP

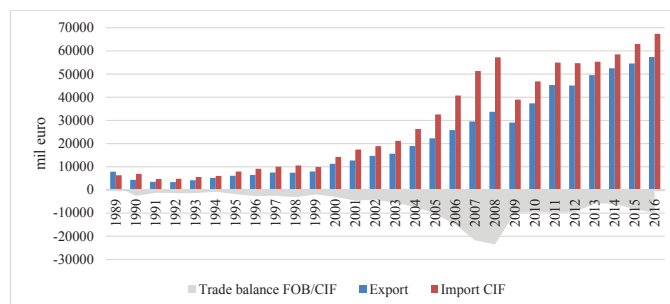
on the export performance and EU area, respectively. Recovery of post-crisis exports was possible based on past FDIs in the modernization and development of production capacities. On the other hand, the recovery of imports was based on the increase in consumption of the population as response to lower domestic offer and bankruptcy of many domestic firms.

2.1. External trade balance

External trade balance is a good indicator for evaluating the stability and growth prospects in terms of economic competitiveness on international markets. After 1989, Romania's external trade recorded an average annual growth as against previous year of 109.1% for exports and 110.5% for imports.

Romania's foreign trade

Figure 2



Source: NIS, TEMPO online database, <http://statistici.insse.ro/shop/>

After a positive trade balance in 1989 (1536 mil euro), starting with 1990 the imports were greater than exports. The trade deficit has increased steadily, from € 2568 million in 1990 to a maximum of € 23515 million in 2008, the year before the economic and financial crisis that affected most of the world's economies. Since 2009, the trade deficit has registered a reduction in value terms, so in 2016 it was of € 9358 million. This deficit reduction was primarily driven by a sharp and major drop in imports amid the crisis.

It is worth mentioning that in 2009 imports decreased by 32% compared to the previous year, while exports decreased by only 14%, which is why we can say that the effects of the crisis were felt more strongly in Romania's trading partners activity, reflecting the export volatility and scarcity of long-term export relations.

2.2. External trade structure

In 1989, the first 10 exported goods were the products of the factories still in operation and producing goods for export: fuels and mineral oils;

machinery and mechanical appliances; cast iron, iron, steel; automotive, tractors and other terrestrial vehicles; furniture; articles of clothing; fertilizers. These goods accounted for 70.0% of Romania's exports in 1989, reaching 46% in 2016.

Main exported goods by Romania in 1989 and 2016

Table 1

1989 Top export (CN2)	% in export 1989	% in export 2016	2016 Top export (CN2)	% in export 2016	% in export 1989
CN 27 - Mineral fuels	17.9	3.6	85 - Electrical machinery and equipment	18.4	2.4
CN84 - Machinery and mechanical appliances	12.3	11.0	87 - Vehicles	15.4	8.5
CN 72 - Iron and steel	9.2	2.2	84 - Machinery and mechanical appliances	11.0	12.3
CN 87 - Vehicles	8.5	15.4	94 - Furniture	4.1	4.9
CN 94 - Furniture	4.9	4.1	10 - Cereals	3.7	0.5
CN 62 - Clothing accessories	4.1	3.6	27 - Mineral fuels	3.6	17.9
CN 31 - Fertilizers	3.9	0.1	62 - Clothing accessories	3.6	4.1
CN 86 - Railway locomotives	3.7	0.3	40 - Rubber	3.5	0.9
CN 73 - Articles of iron or steel	2.8	2.8	44 - Wood	2.9	2.6
CN 44 - Wood	2.6	2.9	73 - Articles of iron or steel	2.8	2.8
Top 10 exported goods in 1989 (% in total export)	70.0	46.0	Top 10 exported goods in 2016 (% in total export)	69.0	56.9

Note: For the complete description of Combined Nomenclature chapters, see Annex 1.

Source: Authors' computations based on TEMPO online database, NIS

Romania's exports of goods did not change significantly during the analyzed period, but the three categories not found in the top 10 products exported in 2016 (iron and steel, fertilizers and railway locomotives) were replaced by goods representing mainly raw materials and semi-finished products with very low added value (cereals, rubber, electrical machinery and equipment). This sharply qualitative change in the supply of goods from average to lower added value on export, has led to a reduction of Romania's competitiveness towards external partners and to the mitigation of the image created by 1989, of an economy in full swing and development on industrial bases.

In terms of import, in 1989 the top 10 products imported were also raw materials, used in the domestic production, such as ores, cereals, cotton, products of chemical industry and others.

Main imported goods by Romania in 1989 and 2016

Table 2

1989 Top import (CN2)	% in export 1989	% in export 2016	2016 Top import (CN2)	% in import 2016	% in import 1989
27 - Mineral fuels	46.0	5.7	85 - Electrical machinery and equipment	15.6	3.5
84 - Machinery and mechanical appliances	12.9	12.5	84 - Machinery and mechanical appliances	12.5	12.9
87 - Vehicles	5.7	9.5	87 - Vehicles	9.5	5.7
85 - Electrical machinery and equipment	3.5	15.6	27 - Mineral fuels	5.7	46.0
26 - Ores	3.2	0.3	39 - Plastics	5.5	0.2
72 - Iron and steel	2.3	3.0	30 - Pharmaceutical products	4.1	1.1
25 - Salt	2.1	0.2	73 - Products of iron or steel	3.0	1.0
90 - Optical instruments	1.9	0.6	72 - Iron or steel	3.0	2.3
52 - Cotton	1.5	2.1	90 - Optical instruments	2.1	1.5
38 - Chemical products	1.3	1.4	40 - Rubber	1.8	0.6
Top 10 imported goods in 1989 (% in total import)	80.4	50.9	Top 10 imported goods in 2016 (% in total import)	62.7	74.9

Note: For the complete description of Combined Nomenclature chapters, see Annex 1.

Source: Authors' computations based on TEMPO online database, NIS

In 2016, compared to 1989, there was an important change in the structure of top 10 imported products, by increasing the share of finished products (pharmaceutical products, products of iron or steel) and reducing the raw materials share in total imports. By analyzing the top of both imports and exports, it can be concluded that in 1989 some of the raw materials were imported for production purposes (for example, import of chemical products to produce and export fertilizers or import of cotton to export clothes and clothing accessories); in 2016 most of imported products are semi-finished or finished goods, stimulating the consumption and to a smaller extent, the national production.

In 2016, main deficits were recorded in case of machinery and mechanical appliances (€ -2121.7 mil.), pharmaceutical products (€ -2030.4 mil.) and mineral fuels (€ -1719.5 mil.). The most important positive trade balances were recorded in case of vehicles (€ +2460 mil.), furniture (€ +1521.0 mil.), cereals (€ +1505.1 mil.) or wood and articles of wood (€ +1012.6 mil.). Manufacture of motor vehicles, trailers and semi-trailers is the main exporting industry in Romania. There are many FDI companies involved in this sector; moreover, there have been developed satellite companies, in general small and medium firms, which provide materials and semi-finished goods for bigger producers. This is an efficient business model, assuring both the development of small national businesses on regional level and comparative advantages for foreign companies.

2.3. The geography of Romania's export

Romanian external trade has an asymmetric territorial distribution, mainly oriented to EU single market after accession in 2007. This was not the case in 1989, when exports to the current EU countries (EU28) accounted for only 45.2% of total national exports. This share has grown steadily over the 26 years under review, reaching over 75% in 2016. With an average annual growth rate of 111.4%, intra-EU exports of goods contribute with more than 25% to increasing gross domestic product, from 6% as they contributed in 1990.

Imports of goods from the EU28 Member States also followed the export trend, their share in total national imports increasing from 30% in 1989 to 77.1% in 2016. Having almost the same annual growth rate (114.4%), imports of goods contribute with 29% to gross domestic product, up from 8% as in 1990.

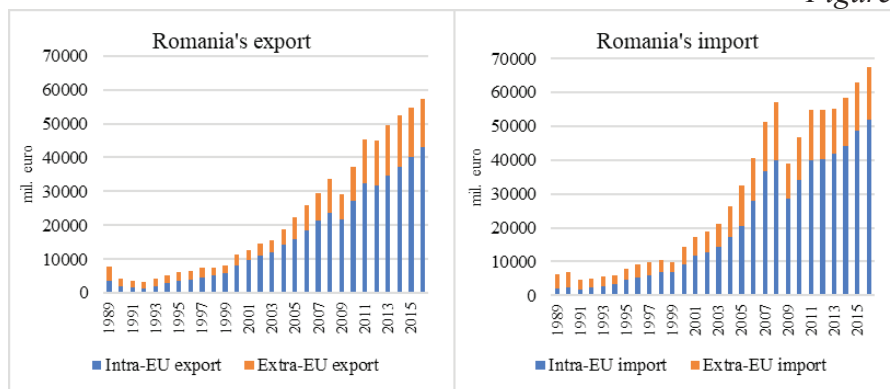
The higher import value of goods compared with export value over the analyzed period generated a negative inflow of the trade balance of -4% in 2016, on gross domestic product, down from -1.6% in 1990.

The coverage of imports by exports increased for the intra-EU trade from 79.1% in 1990 (the first year with trade deficit after 1989, when the coverage rate was 187.1%) to 86.5% in 2016, with a peak reached in 1994, of 97.3%. After the economic and financial crisis, this indicator registered a relative stability, varying slightly between 82.2% and 88.2%. The degree of openness calculated as the ratio of the sum of total imports and exports to GDP to the European market has steadily increased from 24.0% in 1990 to a maximum of 54.8% in 2016.

Simultaneously with the development of economic relations with the EU28, trade with states from extra-EU territory has experienced a drastic reduction, with more than 50% as a share in the total exports and imports. In 1989 trade with non-European countries accounted for 54.8% of total exports and 70.0% of total imports, while in 2016 the share of extra-EU trade in Romania's total external trade was only 25% for exports and 23% for imports.

Romania's Intra-EU and Extra-EU trade in goods, 1989-2016

Figure 3



Source: NIS, TEMPO online database, <http://statistici.insse.ro/shop/>, Eurostat Comext database

However, the coverage of extra-EU imports with exports from the same geographical area, decreased from 97.3% in 1989 to 93.0% in 2016. During 2013-2015, the trade balance of the extra-EU trade balance of Romania was positive. This balancing of the extra-EU trade flows could not compensate the commercial deficit registered by Romania in case of trade the European countries. Thus, the degree of extra-EU trade openness registered constant annual reductions, reaching only 17.2% in 2016. With an average growth rate in the last 26 years of only 106.6% and with a reduced share in total national export, the extra-EU exports are not able to support the national economy in terms of competitiveness and sustainability.

2.4. Dynamics of export trade relations: traditional partners vs new destinations

Data analyses made on trade volume by partner's countries of Romania have proved that, from the point of view of the intra-EU exports, there are 5 traditional markets; for over 20 years, half of the exports are oriented to Germany, Italy, France, Hungary and the United Kingdom. In 1989 these partners accounted for 30% of total exports, while in 2016 they represented 49.9%.

As far as the extra-EU exports are concerned, there is a relative stability Turkey, Russian Federation, United States of America, Serbia and China being in the list of 20 partner countries during the analyzed period. These countries registered a falling down share in total extra-EU exports, from 36.3% in 1989 to 8.7% in 2016. During the analyzed period, the extra-EU trade decreased as a share in total exports from 54.8% in 1989 to 24.9% in 2016.

Main Romania's partner countries on export in 1989 and 2016

Table 3

1989 Top partner countries	% in export 1989	% in export 2016	2016 Top partner countries	% in export 2016	% in export 1989
Russian Federation	22.8	1.7	Germany	21.5	12.0
Germany	12.0	21.5	Italy	11.6	9.6
Italy	9.6	11.6	France	7.2	2.4
USA	5.5	1.7	Hungary	5.2	2.7
China	3.4	1.1	United Kingdom	4.3	2.4
Czech Republic	3.1	2.6	Bulgaria	3.2	1.7
Poland	3.0	2.9	Turkey	3.2	3.0
Iran	3.0	0.6	Spain	3.0	0.5
Turkey	3.0	3.2	Poland	2.9	3.0
Hungary	2.7	5.2	Czech Republic	2.6	3.1
Top 10 partners in 1989 (% in total export)	68.1	52.1	Top 10 partners in 2016 (% in total export)	64.8	40.4

Source: Authors' computations based on TEMPO online database, NIS

Although trade with the Russian Federation has regressed over the last 25 years, primarily due to the ban imposed on EU's agriculture products, it remains one of the important partner country for Romania's export. Thus, from the first place held in 1989 as a trading partner (22.8% of total exports of Romania, with € 1779.5 mil.), in 2016 we find the Russian Federation on the 15th place, representing only 1.7% (€ 969.9 mil.) of the total Romania's export.

There have been deteriorations in trade relations also with some Asian countries such as China (from 3.4% in 1989 to 1.1% in 2016) or Iran (from 3.0% to 0.6%).

Main Romania's partner countries on import in 1989 and 2016

Table 4

1989 Top partner countries	% in import 1989	% in import 2016	2016 Top partner countries	% in import 2016	% in import 1989
Russian Federation	33.7	2.9	Germany	20.5	10.2
Iran	12.9	0.2	Italy	10.3	0.7
Germany	10.2	10.5	Hungary	7.5	3.5
Czech Republic	4.9	2.8	France	5.5	0.6
Poland	4.3	5.1	Poland	5.1	4.3
China	4.1	5.1	China	5.1	4.1
Hungary	3.5	7.5	Netherlands	4.1	0.6
Bulgaria	2.7	3.1	Turkey	3.8	0.6
USA	2.2	0.9	Austria	3.6	0.7
Serbia	1.9	0.7	Bulgaria	3.1	2.7
Top 10 partners in 1991 (% in total import)	80.4	38.8	Top 10 partners in 2016 (% in total import)	68.6	28.0

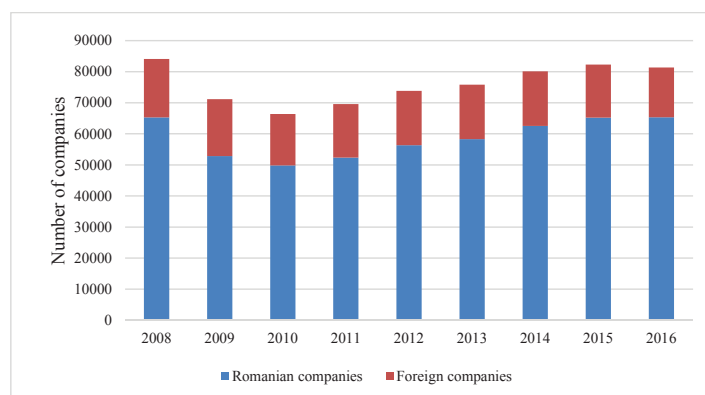
Source: Authors' computations based on TEMPO online database, NIS

A significant deterioration in trade relations on the import flow was recorded in the case of the Russian Federation, imports from this country shrinking from 33.7% in 1989 to 2.9% in 2016. In the period under review, Romania significantly reduced imports from the countries like Iran (12.9% of total imports in 1989) and developed external relations with partners on European market. The trade with EU increased, especially after accession to the EU, accounting for 77.1% of total imports, from 30.0% in 1989. The advantages obtained by the lack of import customs duties and the on-going process of integration into the European structures, as well as the international political disturbances, have led to this geographic redistribution of Romania's trade relations. In parallel with the development of new economic relationships and opening to new markets, trade transactions with older partners must be preserved and strengthened to reaffirm their competitive position on the global property market.

Companies' distribution to foreign trade by capital ownership is dominated mainly by foreign capital. The number of foreign-owned firms (FDI) in Romania increased constantly after Romania's accession to the EU.

Number of Romanian and foreign companies with foreign trade activity

Figure 4



Note: Foreign companies include mixt capital (foreign and Romanian) and entirely foreign capital companies. Romanian companies refer to entirely Romanian capital companies
Source: Authors' computations based on NIS data

In 2016, more than 59% of the export (in terms of value) and over 53% of the import have been carried out by companies with foreign capital, which shows a very high dependency of the national foreign trade on capital from other countries. The share of companies with Romanian capital is, on average, 14% of national exports throughout the analyzed period, with a decrease trend

compared to the period preceding the economic and financial crisis. Mixed capital firms account for about 31% of Romania's total exports, with a slight downward trend from year to year.

The increased role of the Romanian owned companies in sustainable export should be a national level priority, supported by technology transfer funding (i.e. through structural funds). But during last years, the export dynamic shows a different picture. Except food industry, with an increased share of domestic owned companies' exports from 39% in 2015 to 45% in 2016 in total industry and manufacture of wood and furniture products from 64% to 66%, in all other domains Romanian companies lost their position on export markets (as average, on total manufacturing, from 22% to 18%). So, the low level of exports from Romanian companies, of only Euro 1.7 billion in 2016 cannot lead to the growth of a significant part of the economy, i.e. 46% of the total turnover at national level (ZF&PIAROM, 2018).

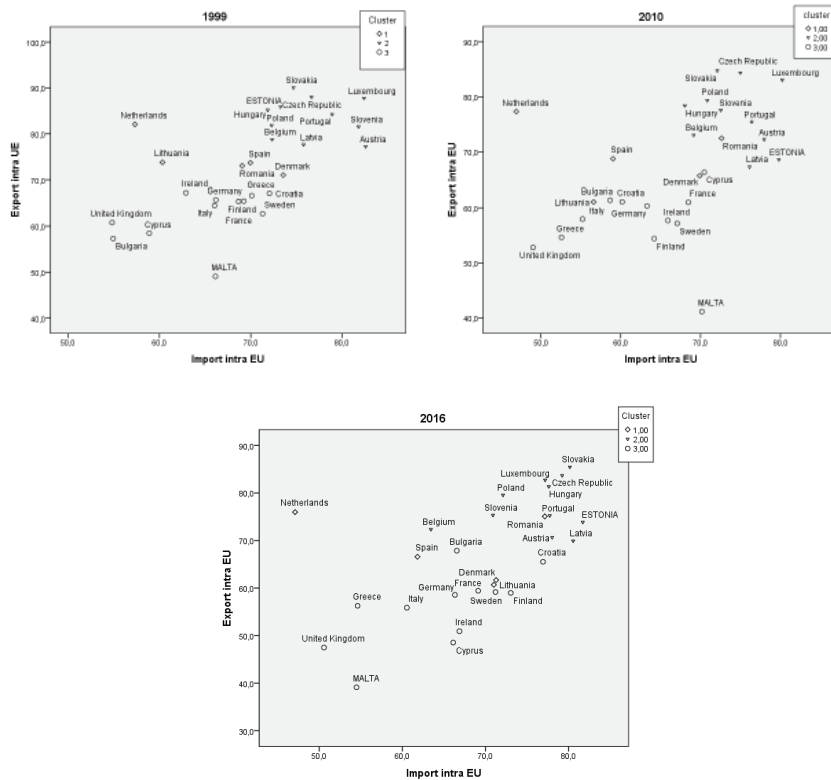
3. THE DEPENDENCY RATIO

Our previous descriptive analysis of Romanian foreign trade reveals a low level of both extra-EU exports and imports compared to the levels of intra-EU exports and imports. This reduced share in total national foreign trade should be considered with caution in terms of foreign trade overall sustainability, of competitiveness and foreign trade market volatility generated by the evolution of social and economic situation (crisis, political events etc.). To determine the Romanian position compared to other EU countries in terms of EU-dependency ratios of both exports and imports, is was made a classification of countries by intra-EU export and Intra-EU imports. Using hierarchical and non-hierarchical classification methods (Ward Method and k Means Clustering Method) three homogenous clusters are obtained:

- Countries with very high intra-EU foreign trade relations: more than 70% of imports are intra-EU and more than 80% of Exports are intra-EU: Luxemburg, Austria, Portugal, Belgium, Slovenia, Latvia, Poland, Hungary, Estonia, Czech Republic, Slovakia.
- Countries with medium intra-EU exports: between 70% and 80% of intra-EU exports: Spain, Denmark, Netherlands, Lithuania, Romania
- Countries with lowest intra-EU foreign trade relations: less than 70% of Imports and Exports with Intra-EU trade partners: Ireland, Germany, United Kingdom, France, Finland, Italy, Bulgaria, Cyprus, Malta, Sweden, Croatia, Greece

EU countries by dependency ratios for import and export, 1999, 2010 and 2016

Figure 5



Source: Own computations based on Eurostat database

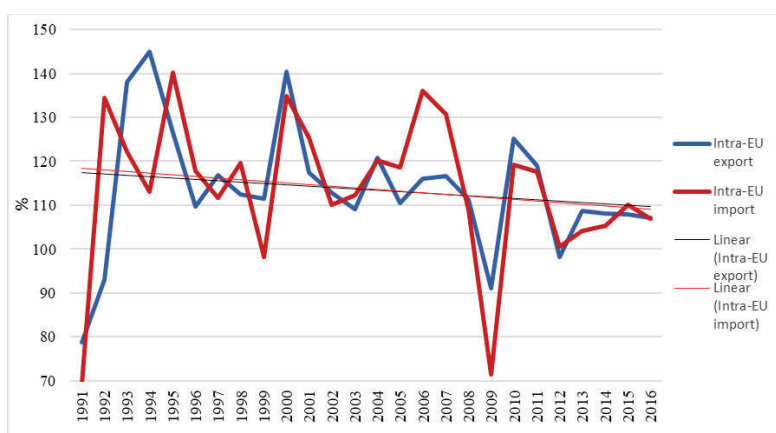
By representing these clusters on 2010 and 2016 data, some countries changed their position significantly in terms of partners countries for foreign trade. Malta, United Kingdom and Greece decreased their trade relations with EU for both Export and Import in 2010 and 2016 compared to 1999. Croatia and Cyprus had an oscillatory evolution of trade relations. For example, Cyprus increased the share of both intra-EU exports and imports in 2010 compared to 1999 (from 60% to 70% of Intra-EU imports and exports) and then decreased the share of intra-EU exports in 2016 compared to 2010 (from 70% to 50%).

Romania's foreign trade have experienced a strong orientation towards the EU member states, both in terms of imports and exports. In 1999, Romania had the share of both Intra-EU exports and imports of about 70%, while in 2016 this share increased to almost 80%. This tendency can lead in

time to the fragility of the export activity. Excepting 2009, it was registered a long-term trend of decreasing intra-EU trade dynamics, Romania, as many of the EU countries, have tried to increase the diversification of trade relations in extra-EU area. This was mainly the response to the effects of the crisis and the high volatility of trade relations during the crisis in the EU; the need to rebalancing the markets (intra vs extra-EU) was also a reason for exporter's behaviour who target increased advantages in bilateral trade relations.

Romania's Intra-EU exports and imports dynamics, as against previous year (%)

Figure 6



Source: Own computations based on NIS database

From the accession to the EU in 2007, the Romanian economy did not compete effectively on the European market and intra-EU trade contributed to the deepening of total trade deficit. In recent years, the coverage of imports by exports was over 4/5 (82% in 2013). While some former communist states registered positive trade balances in the last decade in intra-EU trade (Czech Republic, Hungary, Poland, Slovenia, Slovakia), Romania recorded the greatest deficit from the European states former Comecon members. The EU is the main export market and a source of imports equally important for most of the EU members. Romania would need a stable fiscal framework, otherwise exporters' competitiveness might fail to contribute to improving the national trade balance.

After 1989, exports have recorded a slight increase over intra-EU imports. The trade growth, in combination with a small share of exports to GDP, indicates the important potential of the economy to get higher profits

from export and to diminish the balance deficit. Once the customs duties have been eliminated, the annual rate of imports from intra-EU countries has surpassed the increase of intra-EU exports. After 2008, the rate felt and reversed, meaning that the increase rate of intra-EU exports has surpassed the increase rate of imports, and seems to be maintain since then.

There are some important factors to consider in improving export activity of companies in Romania, such as:

- Investment in technological transfer to improve the goods' quality and for products diversification;
- a supportive production credit system for small and medium enterprises for turnover growth;
- infrastructure development, to facilitate the export activity from logistic point of view (transport infrastructure, etc.),
- a simplified and stable fiscal legislation
- supporting small and medium enterprises in their efforts to expanding export markets.

4. INTRA-INDUSTRY AND INTER-INDUSTRY, TRADE BY TYPE OF CAPITAL

Intra-industry trade may be defined as simultaneous export and import of goods and services of the same sector. Inter-industry trade is defined as net exports or imports of an industry. Meanwhile, intra-industry trade is defined as the value of exports of the industry, which is exactly matched by the imports of the same industry. Even if literature of economics offers many alternatives for measurement of intra-industry trade (Balassa, 1966, Balassa & Bauwens, 1987), Grubel-Lloyd approach is generally used. They introduced this concept in 1971 to calculate intra-industry trade values of 9 OECD-member by using the trade data of 1968-1969 (Grubel and Lloyd, 1975).

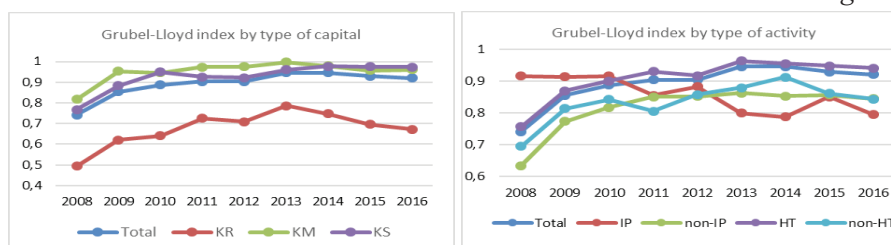
Given the export X_i and the import M_i of good I, the G-L index is defined as:

$$GL_i = \frac{(X_i + Y_i) - |X_i - Y_i|}{X_i + Y_i} = 1 - \frac{|X_i - Y_i|}{X_i + Y_i} \in [0,1]$$

If $GL_i = 1$, there is only intra-industry trade which means that the country exports the same quantity of good I as it imports. Conversely, if $GL_i = 0$, there is no intra-industry trade meaning that the country either only imports or only exports the good i.

Grubel-Lloyd index for Romanian foreign trade in goods, 2008-2016

Figure 7



Note: KR=Romanian capital, KM=Mixed capital, KS=Foreign capital, IP=Companies performing inward processing activities in Romania, non-IP=Companies which do not perform inward processing activities, HT=Companies performing foreign trade transactions with high-tech products, non-HT=Companies which do not import/export high-tech goods.

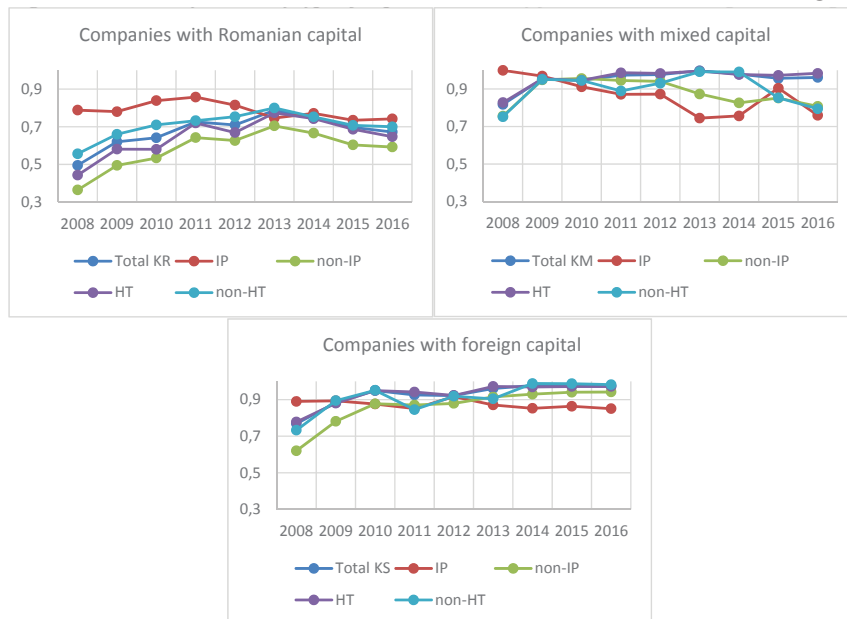
Source: Own computations based on NIS database

Companies with Romanian capital are mainly oriented in exporting goods from different industries than in importing goods. This is linked with their need to find the specific external markets where high processed products can be better valued than on domestic markets. These companies need to import goods which cannot be found on national market in order to produce their own goods, on a higher quality, which best meet the demands of external beneficiaries and provide comparative advantages on the external markets

On the contrary, mixed capital and foreign capital companies are mainly oriented in exporting and importing goods of the same industries which indicates a high degree of specialization of their activities in Romania. They import semi-finished goods from one industry in order to obtain the final products but from the same industry as the imported ones, benefitting from the (still) low level paid labor force. Moreover, the national consumption of imported/final goods is stimulated by distribution of multinational enterprises companies through local small and medium business.

Grubel Lloyd index by type of capital and activity for Romanian Foreign trade in goods

Figure 8



Note: KR=Romanian capital, KM=Mixed capital, KS=Foreign capital, IP=Companies performing inward processing activities in Romania, non-IP=Companies which do not perform inward processing activities, HT=Companies performing foreign trade transactions with high-tech products, non-HT=Companies which do not import/export high-tech goods.

Source: Own computations based on NIS database

The more competitive a product is, the higher GL index is registered. From the analyses performed, in case of high-tech products traded on Romanian market, the index is very close to 1 for firms with foreign and mixed capital. This indicates a small added value gained by the final product following activities on Romanian market, the contribution to global chain being limited to reduced costs for companies with employment and raw resources.

The country-specific determinants such as the average level of economic development, average market size, geographic distance or economic integration, have a direct impact on intra-industry trade. Its intensity is also depending on similarities in economic development and market size among partners.

Differences in economic development among trading partners, which represent differences in capital abundance, have a positive effect on the intensity of intra-industry trade in vertically differentiated products -

simultaneous import and export of a quality differentiated good (M. Andresen, 2003). This is highlighted in our study by the Grubel Lloyd index computed in case of high-tech goods traded by foreign capital, whose value is very close to 1. High-tech products traded by foreign-owned companies does not necessarily represent development of high-intensity industry if the products are not entirely produced in Romania, but mainly processed under inward processing procedure and the added value is very low.

About horizontal intra-industry trade – variety of goods of the same quality, this can have a negative relationship with product differentiation (the number of product categories within an industry) (M. Andresen, 2003). The Romanian markets follows the model of horizontally differentiated intra-industry trade, characterized by monopolistic competition, which comprises many small firms competing based on their variety, which represents a low market concentration.

Inter-industry trade is to some extent more pronounced in case of Romanian companies, for all traded goods, including high-tech. It means these companies produce the whole product or a great part of it on national territory, the added value in this case being important. But Romanian companies are small and numerous, their efforts being deconcentrated, therefore their efficiency (productivity, openness to external markets) is low.

5. CONCLUSIONS

Until 1989, Romania followed a national pattern of foreign trade, with sustainable trade routes, having partners in ex-soviet countries, China, America, the Arab states, and with few countries in the EU. After 1990, Romania's foreign trade have experienced a strong orientation towards the EU, both in terms of imports and exports. In 2016 over three quarters of external trade transactions were performed with partners from EU. In the absence of a sustainable export through the domestic capital production, mainly due to economic restructuring and fragile (new/renewed) trade relations, the main export activity had a strong conjectural character, which over time have led to the fragility of the export activity.

After Romania's accession in 2007, a new stage of trade relations adjusting on the EU-single market took place, the volume of trade with member states being significantly determined by both opening new markets for export and import and intensifying the traditional relations. The degree of opening of the economy has reached the highest level in 2013, after which it was below 75%, mainly due to the Romania's efforts to increase foreign trade and extra-UE diversified relations.

Romania's exports of goods did not change significantly during the analyzed period, but new goods representing raw materials and semi-finished

products with very low added value (cereals, rubber, electrical machinery and equipment) replaced some finished products (i.e. fertilizers) that Romania exported in 1989. This sharply qualitative change in the supply of goods from average to lower added value on export, has led to a reduction of Romania's competitiveness towards external partners.

On the imports side, there was an important change in the structure of top 10 imported products, by increasing the share of finished products (pharmaceutical products, products of iron or steel) while reducing the raw materials' share in total imports.

Data analyses made on trade volume by partner's countries of Romania have proved that, from the point of view of the intra-EU exports, there are 5 traditional markets; for over 20 years, half of the exports was oriented to Germany, Italy, France, Hungary and the United Kingdom.

Foreign trade in Romania is mainly performed by foreign-owned firms. The GL index, computed for the whole foreign trade with all member countries, by type of ownership, revealed that Romanian capital is mainly oriented to exports of goods from different industries than in importing goods. On the contrary, foreign-owned companies are mainly oriented in exporting and importing goods of the same industries which indicates a high degree of specialization of their activities in Romania.

The consumers' satisfaction is mainly based on goods quality, and this is directly linked with technology included or used in production of the goods. Without considering the nature or the usefulness of products, meaning food, beverages, intermediate industrial products, goods from IT sector, etc., technology is extremely important in all economic sector's development. Without technology, Romania's domestic sector became an exporter of raw materials while foreign capital produce, with cheaper qualified labor force as compared with other countries, goods for export with cost-comparative advantage. To overcome this disadvantage of the domestic capital, either a reorientation of exports to new markets or a diversification of national supply would be necessary, which drives the need to stimulate domestic firms to create and produce sustainable goods for the domestic and international markets. As innovation and research activity is more specific to other EU countries, more developed on this sector, imports of technology from these countries would be better to be continued. For exports, cooperation activities have to be initiated with more partners from countries outside the EU.

Romanian foreign trade performance on EU single market is rather limited by comparative disadvantages that are continuing to adjust our export with EU member states. Therefore, the main coordinates for an improved national export strategy would consist of:

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- preserving trade relations supported by traditional advantages;
 - a minimum threshold in balance trade for indispensable imports;
 - reconsidering national technological potential for diversifying exports of goods and services, with a higher trade efficiency - over average value-added rate than the actual one at national level;
 - supporting domestic capital development for high tech through structural funds – based on technological transfer to businesses.

Romania's economic relations must not remain highly dependent on the EU market. Given the Brexit phenomenon, stability needs to be ensured for the future on traditional trade networks with the UK. We stress that Brexit must serve as a catalyst for renewing the Romanian foreign trade strategy and policies by keeping a right balance between dependency on EU single market as member of EU and developing trade relations on medium and long term with other countries, where Romania can have either an exceeding trade balance or comparative advantages based on high tech exports.

The comparative advantages of foreign companies based on reduced cost of labor force start to diminish in importance, and FDI companies' relocation perspective should be considered. The national investments efforts should be mainly oriented in technological transfer, infrastructure development and education. Because of massive migration of qualified personnel, currently the employees are the most important production factor of companies, which are forced to increase the salaries and improve working condition in order to prevent their leaving abroad, and/or employment to other competitors on the national market. Despite the reduced cost of labor force compared with other European countries, Romania misses high and medium-high qualified workers, and on a short term this will make the difference in foreign investors decision when choosing the country to invest.

References

1. **Balassa, B.**, 1966, *Tariff reductions and trade in manufactures among the industrial countries*. American Economic Review 56: 466–473.
2. **Balassa, B.** and **L. Bauwens**, 1987, *Intra-industry specialisation in a multicountry and multi-industry framework*. Economic Journal 97: 923–939.
3. **Balassa, B.** and **L. Bauwens**, 1988, *The determinants of intra-European trade in manufactured goods*. European Economic Review 32: 1421–1437.
4. **Banica E., Vasile V.**, 2017, *Foreign trade impact on employment efficiency- an analysis using R*, Romanian Statistical Review no 4/2017, p 111-127, http://www.revistadestatistica.ro/wp-content/uploads/2017/04/2017_tipar_A09.pdf
5. Chirca C, 2014, *Romania 14 ani de transformari economice 2000-2013*, BNR, www.bnr.ro/files/d/Evenimente/2014-diverse/.../R20140407CC.pdf
6. EC, 2007, *Communication from the Commission - Raising productivity growth: key messages from the European Competitiveness Report 2007* {SEC(2007)1444} /^{*} COM/2007/0666 final */. EN. Brussels, 31.10.2007. COM(2007) 666 final. <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52007DC0666>

-
7. **Grubel, H.G. and P.J. Lloyd**, 1975, *Intra-Industry Trade, the Theory and Measurement of International Trade in Differentiated Products*. London: MacMillan.
 8. **Manzella J**, 2013, *Are Imports Really Bad for the Economy and Jobs?*, Global Impact, April 2013
 9. **Rueda-Cantuche J-M., Nuno Sousa N.**, 2016, *EU Exports to The World: Overview of Effects on Employment and Income*, DG TRADE Chief Economist Note, No 1/2016. http://trade.ec.europa.eu/doclib/docs/2016/february/tradoc_154244.pdf
 10. **Sirgy M J., Lee D-J, Miller C, Littlefield E.J., Atay E.G.**, 2007, *The Impact of Imports and Exports on a Country's Quality of Life*, *Social Indicators Research*, September 2007, Volume 83, Issue 2, pp 245–281
 11. **Sousa N., Rueda-Cantuche J. M., Arto I, Andreoni V.**, 2012, *Extra-EU exports and employment*, DG TRADE Chief Economist Note, No 2, 2012. http://trade.ec.europa.eu/doclib/docs/2012/may/tradoc_149511.%2024.05.2012.pdf
 12. **Subasat T.**, 2002, *Does Export Promotion Increase Economic Growth? Some Cross-Section Evidence*, *Development Policy Review*, 2002, 20 (3): 333-349 http://onlinelibrary.wiley.com/doi/10.1111/1467-7679.00175/epdf?r3_referer=wol&tracking_action=preview_click&show_checkout=1&purchase_site_license=LICENSE_DENIED_NO_CUSTOMER
 13. **Saaed A.A.J., Hussain M.A.**, 2015, *Impact of Exports and Imports on Economic Growth: Evidence from Tunisia*, *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)* 6(1):13-21
 14. **Tremblay R.**, 1990, *The "export-import" effect and economic growth*, *North American Review of Economics and Finance*, Volume 1, Issue 2, Autumn 1990, Pages 241-252
 15. **Zaman Gh., Vasile V. (coord)**, 2003, 2005, *Evolutii structurale ale exportului romanesc*, Vol I, II, III <http://www.worldcat.org/title/evolutii-structurale-ale-exportului-in-romania/oclc/61716131/editions?referer=di&editionsView=true>
 16. **Zaman Gh.**, 2014, *Impact of foreign trade on Romania's economic sustainability during the pre- and post-accession periods*, *Procedia Economics and Finance* Volume 8, 2014, Pages 747-754, <https://www.sciencedirect.com/science/article/pii/S2212567114001531>
 17. Ziarul financiar & PIAROM (2018), *Capitalul privat românesc 2017 - ediția a III-a*, <http://edition.pagesuite.com/html5/reader/production/default.aspx?pubname=&edid=4c283cbf-d3eb-4c59-8dd4-c1170811a0c4>
 18. Ziarul Financiar, <http://www.zf.ro/auto/razvan-iorgu-cbre-romania-pregatirea-forței-de-munca-reprezintă-criteriul-principal-pentru-care-vom-fi-aleși-sau-eliminați-de-pe-harta-investițiilor-17102361>
 19. **Andresen Martin A.**, 2003, *Empirical intra-industry trade: what we know and what we need to know*, Department of Geography, University of British Columbia#217–1984 West Mall, Vancouver, BC V6T 1Z2 Canada and Institute for Canadian Urban Research Studies Simon Fraser University, 8888 University Drive Burnaby, BC V5A 1S6 Canada September 2003

Annex 1

Detailed description of Chapters from Combined Nomenclature mentioned in the study

Chapter 10 - Cereals
Chapter 26 - Ores, slag and ash
Chapter 27 - Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes
Chapter 29 - Organic chemicals
Chapter 30 - Pharmaceutical products
Chapter 31 - Fertilisers
Chapter 38 - Miscellaneous chemical products
Chapter 39 - Plastics and articles thereof
Chapter 40 - Rubber and articles thereof
Chapter 44 - Wood and articles of wood; wood charcoal
Chapter 52 - Cotton
Chapter 62 - Articles of apparel and clothing accessories, not knitted or crocheted
Chapter 72 - Iron and steel
Chapter 73 - Articles of iron or steel
Chapter 76 - Aluminium and articles thereof
Chapter 84 - Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof
Chapter 85 - Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles
Chapter 86 - Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electromechanical) traffic signalling equipment of all kinds
Chapter 87 - Vehicles other than railway or tramway rolling stock, and parts and accessories thereof
Chapter 90 - Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof
Chapter 94 - Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified or included; illuminated signs, illuminated nameplates and the like; prefabricated buildings