International Trade of Albania. Gravity model

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Abstract

Today we live in a world where such economic globalization and technological developments have created many advantages but also shortcomings regarding social and economic development of different countries of the world. Since the beginning of the transition until the trade regime now, our country has undergone profound changes. Therefore, the aim of this paper is to see the major development steps of international trade in Albania over the years and look at the key factors that have contributed to it. The paper provides some theoretical and empirical considerations regarding trade development with the focus on export-imports in our country in relation to the Free Trade Agreements, as these have affected Albania's international trade. Specifically, it offers an application of the Gravity Model of Trade for Albanian case in relation to its 27 export/import countries. The findings from the model application result in stable trade flows for Albania.

Keywords: Import, Export, Gravity model of Trade

Introduction

We live today in a world where economic globalization and technological developments have created many advantages but also shortcomings regarding the social and economic development of different countries of the world. Reduction and overcoming of border barriers gave an impulse to the international division of labor and specialization in production and technological developments that enabled the replacement of the communications and transportation costs at the international level which in turn became the most important factors of the international trade.

Given the diverse nature of the world economies, some places have found more priority in this era of developments and some less, depending on a large number of economic and social factors.

At a global level, after two world wars, the international community's efforts to create more stability in the world are concentrated in the formation of structures or blocks promoting peace through development and preservation of the economic stability of the world. This global integration began with the creation of the IMF (International Monetary Fund) to ensure global monetary stability and it continued with the International Bank for Reconstruction and Development, later called the World Bank, which promoted the economic development of nations through the provision of loans for development.

This global trade system that we have today is a result of the undoubted success of the European Community, the change of the attitude towards the EU from the U.S., and the collapse of the communist system. Although this change has been worldwide, there are some exceptions of countries such as Cuba, North Korea, etc.

Albania as part of this globe, where does it stand as far as these winds of change are concerned? Liberalization policies that marked the start of the transition have caused significant changes in the economy including the foreign trade. Albania's foreign trade regime can be described more or less as liberal: no quotas and quantitative restrictions, no special licensing requirements, and with a simple regime of customs tariffs. Tariffs have a decreasing trend with rates comparable to some countries in the region (Xhepa and Agolli, 2003).

Albania, from a good example of a totally isolated country, became a country open to international trade, with the opportunity of regional markets exploitation, because studies show that foreign trade depends more by domestic supply constraints than by exterior ones. Albania has untapped potential in regional and international trade including EU countries (Xhepa and Agolli, 2003).

Albania's commitment under the WTO

Liberalization and facilitation of international trade is one of the current challenges of global economic development. With the development of trade emerged the need to form an organization to implement institutional various trade negotiations. This global integration began with the creation of the first agreement, which was GATT (General Agreement on Trade and Tariffs) and aimed at deeper liberalization of global trade and the creation of a unified framework for the regulation of trade between nations. GATT ceased to exist in 1995 and World Trade Organization (WTO) took his place. The main purpose of the WTO is to ensure that trade flows move freely with greater ease possibly taking into account the principles of non-discrimination and to avoid trade wars trading. WTO currently has about 153 members accounting for around 97% of world trade and over 30 other countries are negotiating for membership.

Albania joined the WTO in 2000. Albanian commitments under the WTO should be considered in three main areas:

Trade in goods (GATT) - reducing tariffs and other trade barriers, as well as focusing on specific sectors such as agriculture and industry.

Trade in services (GATS) - banks, transport companies, insurance companies, telecommunications firms that want to develop their activities abroad can now benefit from the same rate for a freer and equal trade because early it was applied only to trade in goods.

Intellectual Property (TRIPS) - these rates determine how to protect the commercial exchanges copyrights, factories' trademarks, and geographical names used to identify products.

Since accession of Albania in WTO, the Albanian economic growth has been one of the highest among the countries of the region coupled with a low inflation rate. During this period, GDP has grown by an average of 6% per year. One can trace the gradual reduction of the GDP in the agriculture sector from 24% in 2000, to 16% in 2008, associated with an increase in the construction sector from 8% to about 12.7% and GDP growth in the services sector by 53%. The contribution of industry to GDP has remained at the same levels, averaging about 8% of GDP.

In general terms, these positive developments in the markets of goods and services are reflected in the employment market. Employment grew and unemployment in recent years has gradually decreased at an average rate of about 0.7 percentage points per year, reaching 12.7% in 2008 from 16.8% in 2000. Salaries have been in line with performance inflation and unemployment. Average wages for the private sector (excluding agriculture) had a tendency average growth of about 9% per year.

Advantages of membership in the WTO are:

Albania began to open its markets to global trade and foreign investment.

Increases credibility to foreign investors that there will be no sudden changes of economic and trade policies, and encourages trade in goods and services. At the same time individuals and Albanian companies were given the opportunity to know the rules of the trade and be treated equally.

Albania has and will continue to improve national legislation to raise the level of international standards.

Through dispute resolution system that has affected this organization, Albania can protect investors, businessmen and Albanian goods from discrimination in world markets.

Free Trade Agreements are the product of a major intensification of international trade in goods and services. They are nothing but bilateral and multilateral agreements, which regulate international trade of products and services, and are based on the reduction of customs duties until their complete removal. Given that a Free Trade Agreement provides:

(i) a better implementation of market needs, particularly for goods and services

(ii) influence the price reduction,

(iii) increasing economic competition,

(iv) technological improvements boost domestic production to be competitive in open market,

(v) reduction of smuggling,

(vi) the mutual influences between different markets in different treatment conditions tariff

(vii) increased investment incentives and foreign manufacturing, negotiators free trade agreements have worked on the basis of principles following:

FTA process represents the orientation of trade and economic relations to:

- raising the standard of living;
- providing increased employment indicators;
- growing level of real income and effective demand;
- increased production and trade in goods, services and capital;
- enabling optimum use of internal revenues, in line with the sustainable development of economy.

Albania has signed agreements with several countries of the region, starting with Macedonia in 2002. Latter is also considered as one of the most important partners in connection with the trade volume as a result of the increase in imports and exports.

Industrial products are almost completely liberalized, while agricultural products are partly under the influence of custom estimates. Other bilateral agreements that can be mentioned are Romania, Moldova, Bulgaria, Croatia, Bosnia-Herzegovina, etc.. Meanwhile, these deals are characterized by several constraints, among the most important may be mentioned poor network connectivity of road infrastructure. But even agricultural products continue to appear with low export potential. Meanwhile, in 2006, the bilateral agreement was passed in a multilateral agreement within CEFTA, which is a free trade agreement in which eight countries of the Western Balkans region participate. Duty-free export quotas between CEFTA countries precede removal of taxes in general and have been implemented since 2004. Experts think that should be placed higher export quotas for products that present the greatest export potential, as eg medicinal plants. We can also mention the bilateral agreement between Albania and Turkey, signed on 21 December 2006, which entered into force in 2008. According to this agreement, customs duties will be completely removed for Albanian industrial products exported to Turkey, while customs duties for products imported from Turkey to Albania will be removed gradually over a five-year period.

Procedures necessary to start the implementation of the Stabilisation and Association Agreement unless signed by both parties (the Albanian side and relevant EU institutions also require its ratification by the parliaments of the 27 Member States of the EU). The ratification process is long and requires a period of 2-3 years. Given the time needed to fill procedures, the European Community and the Albanian side signed an interim agreement "Interim Agreement", whose implementation began on 1 December 2006 (referred to in Article 135 of the SAA). The Interim Agreement provides for the establishment of a free trade area between the two countries, for a transitional period of 10 years. Also, it provides the opening stages of the domestic market for EU exports. Both sides are committed to remove customs duties on goods originating from countries other parties or measures having equivalent effect, or to reduce customs tariffs scalable way up to their complete disappearance during a transitional period of five years, provided for in the agreement. This excludes only the goods included in the list of sensitive products, customs fees which will not change and, therefore, they are left out of the Agreement. SAA and the Interim Agreement as an integral part, allows the storage of some prohibitive measures in the free trade between the parties, with the aim of protecting domestic product to making it competitive in the community. In the principle of free movement of goods implies the movement of products originating in a country to another country without customs duties or measures with equivalent effect. The aim of this principle is the elimination of trade barriers between the parties, bringing the promotion of national products. Trade liberalization envisaged in the Interim Agreement goes beyond liberalization offered by parties with legal instruments biased, and also takes into account international agreements where the parties adhere.

Factors affecting international trade

Given that international trade can significantly affect the economy of a country, identification and monitoring of factors that influence it is important. Most significant influencing factors are:

- Inflation
- National Income
- State Restrictions
- Exchange Rates

Impact of Inflation

When the inflation rate in a country increases relative to its trading partners, its current account deficit is expected to decrease, ceteris paribus. Consumers and companies of this country are likely to buy more goods from abroad while exports will tend to decrease due to high inflation. One of the key components of the current account is the trade balance, which represents simply the difference between export and import of goods and services, factor income (interest and dividend payments) and transfer payments (aid, grants and gifts between countries). Large deficits in the current account indicates that the country is sending out large amounts of money to buy goods and services or to make payments than it collects for the same activities.

Impact of National Income

When the level of income of a country (national income) increases at a rate higher than that of other countries, its current account is expected to be reduced. As income increases so does the consumption of goods and services. A part of this increase in consumption will lead to increased demand for foreign goods.

The impact of government restrictions

The government of a country can prevent or restrict imports from other countries. By placing such restrictions, governments disrupt the flow of trade. Among the most common restrictions in trade are tariffs and quotas. Tariffs vary greatly from one country to another. Generally higher tariffs lead to higher current account balance of the country that applies if other countries do not respond in the same way, as often happens. In addition to tariffs, governments with an aim of restricting imports use a quotas or import ceilings by posing limits on the quantities imported. Trade restrictions protect jobs, but at a certain cost. Furthermore, trade restrictions protect some industries at the expense of others, because respective countries compete with other countries through putting the above mentioned restrictions on trade in their territories.

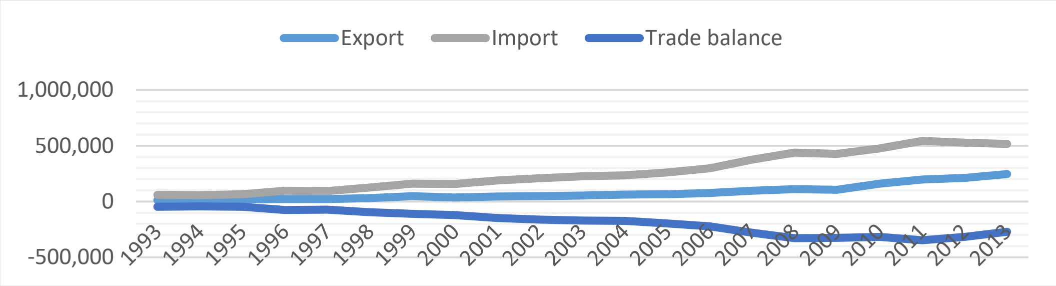
Impact of exchange rates

Each country's currency is valued in terms of other currencies through the use of exchange rates, so that currencies can be exchanged to facilitate international transactions. If the currency of a country begins to rise in value against other currencies value of the current account balance of the country must reduce, if all other factors remain unchanged. The strengthening of foreign currency country exports goods become more expensive for importing countries. As a result, demand for these goods will fall. A strong currency can cause a reduction in the trade balance of the country, while a weak currency against other currencies may cause the growth of trade balance.For multinationals with subsidiaries in foreign countries, exchange rate fluctuations affect the value of receipts from subsidiaries to the parent. When the country's currency is strong parent repatriated funds will be converted to less local currency.

Export Import Trends

Moving towards an open market economy and opening up to the goods and services trade, Albania's import flows grew considerably due to the lack of goods in the market, increased domestic demand and inability to produce domestically. Eventhough, exports have been increasing as well over this period, trade deficit has been deepening. Eventhough, there has been an increase in the growth rate, Albania still remains one of the poorest country in Europe with a considerable negative trade balance, inadequate infrastructure, and a financial system not responsive to the business needs, as well as unprepared private and public institutions to take the responsibilities in a new economic system the country has agreed to build. As seen in the Graph 1, trade balance has been detoreating further with a turning trend over 2011-2013.

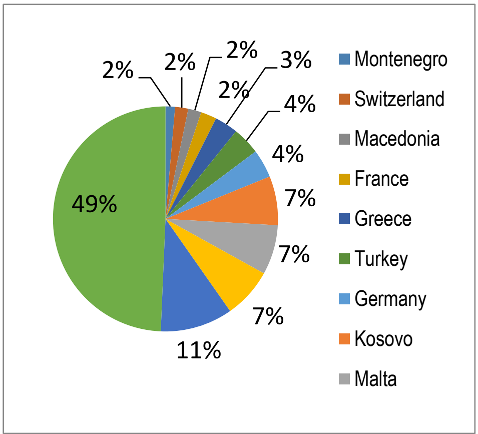
Graph 1. Trade of Goods in Albania during 1993-2013 (in mln ALL)



Source: INSTAT, Albania

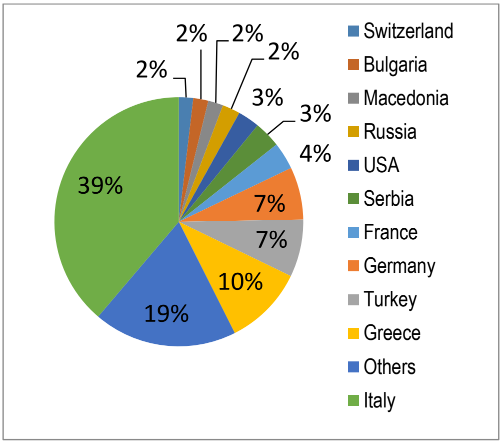
In 2013 Albania has exported about 246 billion ALL of goods, with a significant increase of 15 percent compared to the previous year, while imports recorded a value of 517 billion ALL representing a decrease of 2 percent compared to 2012. The trade deficit was about 271 billion ALL, representing a decrease of 14 percent compared to 2012. The rest of the trading countries have small shares of both exports and imports.

Graph 2. Export Destination for 2013



Source: INSTAT

Graph 3. Import Origin for 2013



Source: INSTAT

Impact Factors in Export/Import Ratio

During the recent years, eventhough exports has somehow increased, imports still are high reflecting still a negative trade balance. Domestic export has little weight and it is mainly represented by agriculture products, while industrial exports has lost their significance with the bankruptcy of state enterprises. Factors among those that have contributed to the low level of exports include:

Dominance of small production units in the agriculture sector lack of utilising this sector. These units have borrowing (loan) difficulties that could be used to expand their activities or acquiring the necessary production technology.

Lack of investment in equipment and modern production lines. Even if there were opportunities for such investments, lack of information about matching technology with production needs as well as lack of know-how would still be inhibiting factors.

Lack of adequate infrastructure necessary to acquire the raw materials and trade realization among regions. This has inhibited the development of tourism too.

Having realised the above mentioned factors would lead to the domestic high-tech production that would be competitive enough for the regional as well as European markets.

Exports Incentives

Export opportunities come with the identification of and government support to the crucial sectors that could compete in international markets. The strategy of export incentives is a process aiming at:

- Creating conditions for increasing competitive advantages
- Creating a culture that favours exports
- Creating exports' stakeholders networks

In Albania, there is an agency working for export incentives (ANE – Agjenci per Nxitjen e Eksporteve) focusing on:

Stimulating Albanian exports and domestic production by fostering competitiveness of the Albanian economy based on its comparative advantages. Sectorial strategies for export development requires assigning priorities for each sector and among sectors;

- Export growth can be achieved only through an effective public-private partnership; and,
- Implementation of such strategy is seen as a nationwide process.

Export-import trend has almost identified competitive industries such as shoe leather, textiles, cement, ceramics, and agro production. However, their fall is related to the lack of competitive advantage at the overall Albanian industries. Having competitive industries would make the Albanian economy more sustainable to the 2008 crises in addition to the opportunity of devalued Albanian currency that would make Albanian exports cheaper. However, this is not reflected in the Albanian trade due to the lack of adequate quality and quantity to export. Regarding the fasson industry that holds the largest share in exports, it seems to serve as a brake of holding the direct exports. For agriculture products there is lack of quality and food safety certifications, even with recent own attempt of businesses. Additionally, due to fragmentation and lack of financial supportive schemes, agriculture sector remains far from offering considerable contracts/deals to Western significant partners.

Another negative impact on exports has been due to the free trade agreement. This impact is not measured, but surely it is a negative factor because those products that can be exported are in competition with imports in the terms of symmetric trade regimes. However, the main problem is the lack of a clear scheme to foster the development of exports, such as agro-products and tourism. One of the issues of Albanian trade seems to be the lack of a model that would have preceded the trade liberalization, ordinary practices of EU accession countries.

Gravity Model

The main aim of this section is to make an economitric analysis of the factors that influence the albanian trade flows. One of the models used in such studies is the gravity model. Gravity model is an econometric model that is applied in international trade these last 50-60 years. This is a simple model to be applied, but the difficulty is the creation of the database that will be used for the study. The basic model of gravity explains the trade flows between two countries i and j as a function of two main components: economic measures of the two countries and the distance in Km between their economic centers.The assumption underlying this model is that the distance between two countries is one of the most important variables affecting bilateral trade, this assumption is confirmed in many studies. The increasing distance between countries tends to decrease the propensity to trade.Over time, other variables like economic mass, common borders, trade agreement, population, etc. that have improved the models results have been added.

The construction of this models is based on Anderson (2011) and Anderson and Wincoop(2003). The general form of the model is:

$$X_{ij} = \alpha_0 Y_i^{\alpha_1} Y_j^{\alpha 2} \sum_{n=1}^{N} (z_{ij}^{n})^{\alpha_n} \varepsilon_{ij}$$

Where X_{ij} represents the trade flows between country i(home country) and j(partner countries), $Y_i^{\alpha_1}\ Y_j^{\alpha 2}$ are country i's and country j's income and $\sum_{n=1}^{N} (z_{ij}^n)^{\alpha_n}$ represents the factors that positively or negatively affect the trade flows. Our estimated equation has a log-log form:

$$\ln X_{ij} = \alpha_0 + \alpha_1 \ln Y_i + \alpha_2 \ln Y_j + \sum_{n=1}^{N} \alpha_n \ln z_{ij}^n + \varepsilon_{ij}$$

Countries trade with one another various goods and services. Two main distinct countries can be identified:

Countries with similar incomes levels that trade with each other. This will present Linder Hypothesis in our model.

Countries with different incomes levels that trade with each other. This will present Heckscher-Ohlin Hypothesis.

Also countries are more prone to trade with neighbouring countries, with countries that have smaller distance or even have a common language. This is because it would have lower costs of transportation, packaging and communications. Likewise, as lower the tariffs and other trade barriers between countries as higher their trade will be. The variables that are included in our model are: GDPi, GDPj are respectively GDPi of home country and GDPj of partner country. Furthermore, the GDP per capita for each respective countries as well as the difference between these variables is also included. The difference of GDP per capita between home and partner countries (based on the sign of the coefficients) will be used to test the Linder Hypothesis (differentiated products, inter-industry and intersectoral trade) and Heckscher-Ohlin Hypothesis (difference in factor possession, intra-industry trade). The total population of the respective countries is also another economic mass variable.

In the model we have the distance variable, where the distance between countries and transportation costs are included. Furthermore, FTA and common border (if countries i and j share a common border) variables are included as qualitative variables. In the analysis we included 27 partner countries based on the volume of exports and imports of these countries with the home country. The analysis and the model includes data from 1993 until 2012 with 12 variables and 562 observations. The method used for estimation is the Ordinary Least Squares (OLS) method.

Empirical results

The case of imports

The analysis of the imports is done through three import equations where in the first one all variables are included. In this model, though the general model is significant not all of the variables are significant. Consequently some variables have been excluded from the model and the second equation, which is also generally significant, is taken. While observing the signs of the coefficients we can see the positive relationship between imports and common border, imports and sum of the country's population, and the inverse relationship between imports and the distance variable. Furthermore, obviously the sign of the lndifGDPij (the difference in GDP per capita betwwen home country and partner country) is negative which shows that the Linder hypothesis holds. However, having into consideration that the home country's (albania) main imports are from Italy and Greece this indicates a problem in the model. As a solution to this after excluding some outliers we have adopted the best equation model, equation 3.

Table 1. Empirical reslts for the case of imports

Variables	Equation 1	Equation 2	Equation 3
Intercept	13.62	14.20	12.45
lnGDPj	0.45		
lnGDPi	0.692		
Common border	0.58	0.481	0.537
sumPOPij	0.752	0.249	0.69
lndistance	-2.134	-3.02	-1.84

FTA	0.53		2.25
IndifGDPcij	0.62		0.61
IndifGDPij	2.13	-0.112	
InGDPcj		0.91	
InGDPci	-0.65	0.374	
R square	0.518	0.828	0.74
F-test	73.23	46.08	88.2
Sig.	0	0	0

The best equation model derived from this analysis is:

InIm= 12.45 + 0.537 common border + 0.69 sumPOPij – 1.84 Indistance +2.25 FTA +0.61 IndifGDPcij

The emprical results show that our import are sustainable.

The case of exports

The same path and method was adopted and applied for exports and the following table shows the empirical results for the three equations.

Table 2. Empirical reslts for the case of exports

Variables	Equation 1	Equation 2	Equation 3
Intercept	15.72	10.961	11.15
InGDPj	0.204	0.82	
InGDPi	0.851	0.12	
Common border	0.62	0.681	0.841
sumPOPij	0.95	0.91	0.922
Indistance	-5.34	-3.62	-2.62
FTA	-2.23		0.63
IndifGDPcij	0.203		
IndifGDPij		0.75	0.84
InGDPcj			
InGDPci			
R square	0.46	0.62	0.64
F-test	37.81	68.91	181.12
Sig.	0	0	0

The analysis of the exports is done through three export equations, like the case of imports, where in the first one all variables are included. In this model, though the general model is significant not all of the variables are significant. Consequently some variables have been excluded from the model and the second equation, which is also generally significant, is taken. While observing the signs of the coefficients we can see the positive relationship between exports and IndifGDPij, which in turn shows that the Heckscher-Ohlin Hypothesis holds. So, our home country exports more to the countries with different incomes. The third equation is estimated after we have excluded from the model some outliers that have affected our model.

The best equation model derived from this analysis is:

lnEx=11.15 + 0.841 Comman border + 0.0.922 sumPOPij -2.62 lndistance +0.63 FTA

+ 0.84 lndifGDPij

The empirical results, the signs of the coefficinets and the significance of the variables indicate that the home country imports and exports are sutainable.

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