Master's Degree in International Development Policy

Trade and Industrial Development in

Globalization for Andean Countries:

A case study in Automobile Industry for 2000-2011

February, 2014

Program in International Development Policy

Graduate School of International Studies

Seoul National University

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Trade and Industrial Development in Globalization for Andean Countries:

A case study in Automobile Industry for 2000-2011

A thesis presented

by

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A dissertation submitted in partial fulfillment
of the requirements for the degree of Master
of International Development Policy

Graduate School of International Studies
Seoul National University
Seoul, Korea

February 2014

The Graduate School of International Studies

Seoul National University

THESIS ACCEPTANCE CERTIFICATE

The undersigned, appointed by

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Have examined the thesis entitled

**Trade and Industrial Development in Globalization for Andean Countries:
A case study in Automobile Industry for 2000-2011**

Presented by **David Eduardo Rodriguez Baldeon**

Candidate for the degree of Master of International Studies, and hereby certify
that the examined thesis is worthy of acceptance:

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Abstract

The industrial development and the policies utilized in promoting rapid industrialization processes are parts of a promising study area. As a matter of fact, globalization and new international governance structure have redefined the role of state and policy-making process, changing production relations of local companies particularly for the sectoral leaders, their supply chains, and productive specialization.

As a result the lead producers in different industrial sectors are now able to have easier access to cheap import supplies, and promote homologation processes with headquarters in transnational firms. The effects on local firms are reflected in decrease in demand of local inputs and debilitating the position of medium and small companies, creating a different structure for each industrial sector. This current phenomenon provides the justification to analyze each industrial sector by itself.

The Andean countries are no exception to this problematic situation, which is also creating incentives to increase the willingness of the government´s policy makers into the industrial development. Therefore this comparative research aims to analyze the export performance as an indicator of the development of the automobile industrial sector in Andean countries. Selection of this sector is based on different aspects, like the lack of empirical studies in the Andean region related with the effects of their policies over productive sectors, the governments' prioritization of the sector, moreover after the Complementation Agreement for the sector signed in 1999, and the increasing importance into the economy of the automobile industry.

In addition, another important issue during the last decade is the different focus of the studied countries in their trade policies. In general, Colombia and Peru have taken policies of trade openness and facilitation, whereas Ecuador and Venezuela adopt trade restrictive policies by increasing import tariffs and quotas. The result of the analysis in this paper points out that although Ecuador has successfully implemented its trade

policy by expanding its trade relations for the automotive sector and reducing the trade deficit, some specific characteristics in its structure may harm the industry's sustainability. Another important factor to note is that Peru has liberalized its trade, initiating bus export.

On the other hand, Colombia initially experienced higher loss in the sector due to the trade restrictions by its main regional partners. However, this situation has eventually forced the industry to diversify its customers in the region and other parts of the world. On the contrary, Venezuela which is the main market in the region presents a decrease in export and import, resulting in an isolation of automotive sector in the region.

Therefore, the following research has seven chapters. The first is introduction; the second contains the literature review about the topic and their conclusions made by specialized scholars, and the third, which addresses the methodology applied to obtain the results. Since the fourth chapter the document contains the empirical results, thus this chapter shows the direct and indirect policies applied during the study period reflected in the export performance, the fifth contains the comparison results among selected countries, and the sixth describes possible variables shaping the results. The conclusions retrieved are resumed in the seventh chapter.

Key Words: Trade, Industrial Development, Automobile, Andean, Colombia, Ecuador, Peru, Venezuela.

Student ID: 2012-24123

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Tables and Figures

Abbreviations

AFTA	Americas Free Trade Agreement
ALBA	Alianza Bolivariana para América
AEC	Economic Complementary Agreement
CAN`	Andean Community
CAVANEZ	Automobile Chamber of Venezuela
CINAE	Automobile Industry Chamber of Ecuador
FTA	Free Trade Agreement
GDP	Gross National Product
GSTP	Global System of Trade Preferences
INTAL	Integration Institute for Latin America and Caribbean
IMF	International Monetary Fund
LAIA	Latin American Integration Association
MERCOSUR	South American Common Market
OPEC	Organization of the Petroleum Exporting Countries
UNIDO	United Nations Industrial Development Organization
SRI	Servicio de Rentas Internas de Ecuador
WITS	World International Trade Service
WTO	World Trade Organization

INTRODUCTION

The concept of industrial development and another policies that could be used to promote rapid industrialization processes, as shown the cases of East Asian countries, constitutes a promising study area. In this context, Rodrik (2007; 44) indicates the field "is one of the most misunderstood areas of government policy…depending on the circumstances and institutional capabilities". The similar view is shared by Katz (2000), adding that the literature available fails to provide feasible explanations for the incentives to produce determine goods and services due to the "structural heterogeneity" among different industrial sectors.

Figure 1
Value Added in Manufacture goods as percentage of GDP in East Asia and South American (1960 – 2010)
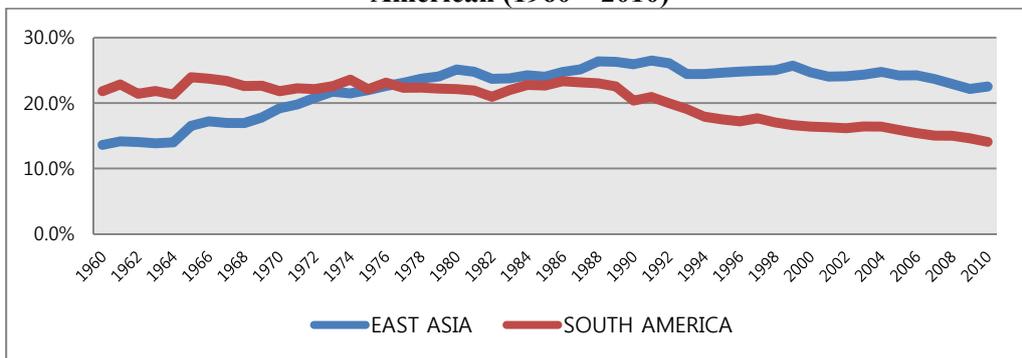
Source: World Bank

The recent History of the industrial development policies started in the 60s and the 70s, when developing economies located in East Asia and South America aimed at adopting rapid industrialization models to promote their economies. The first group located in Asia focused on export substitution, and the second group in Latin America based on import substitution. The differences in the heart of each strategy had led to different results. East Asian countries have achieved rapid growth and higher industrialization whereas Latin American countries had to experience relatively low growth rates.

The difference in the results can be explained by the increase in the competitiveness in different sectors declared as development priority, as Chen and Tang (1987) conclude for Taiwan, the export-oriented firms have higher efficiency levels than firms producing manufactured goods for local market.

Combining these results with the previous work of different authors, remarks the importance of the "carrot and stick"[1] policies applied in Asia (Kohli, 2004), concluding in the past the Latin American countries failed in applying the "stick" and overprotected sectors with low competitiveness. Nowadays, the globalization and market openness can be seen as a "punishment" or "stick" for those sectors which cannot compete (Rodrik, 2007; 40).

During the 1980s, Latin American countries were confronted with different consequences derived from the debt crisis. In order to finance the industrialization model applied in previous decades, the countries hired foreign liabilities. Then the interest rates increased, forcing them to design and implement reforms in the 90s, with the objective to promote the macroeconomic equilibrium. Another important change to note is that during the 1990s, the globalization process was pushed forward by the cost reduction in transportation sector and some improvements in communications. These factors combined with the global tariff reduction driven by WTO after Uruguay round in 1994, significantly facilitated the region's trade relations with the world.

Moreover, the trade facilitation, in turn, changed domestic production relations of local companies, particularly of the sectoral leaders with other suppliers located in other countries. The supply chains, and productive specialization changed, increasing the access to cheap import supplies and homologation process with headquarters in transnational firms, reducing the demand of local inputs and debilitating the position of medium and small firms.

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[1] The carrot and stick policies consist in complementary sets designed by policy makers in order to provide incentives or "carrots" to desirable actions and achievements, meanwhile, the "stick" is referred to all the policies designed to avoid certain undesirable outcomes into productive sectors.

In this context, a guiding question for this research is to look for the effects of the industrial policies on trade performance by analysing the case of automotive sector in Latin American countries. These sectors have received considered protection and certainly performed better than other manufactory industries (Katz and Stumpo, 2001).

The difference in trade policies applied by the selected countries should be noted, particularly the difference in the focus of openness policy of Peru and Colombia since their signing FTA agreements in 2006. Venezuela and Ecuador have taken different trade policies. They tried to enhance the protection of key industries in order to achieve industrial development. However it is clear that the application of industrial policies have been acquiring new relevance through the decade passing by, therefore the analysis of the results and its comparison are considered as important to understand the outcome of the applied policies.

LITERATURE REVIEW

The globalization process has been accelerated by the improvements in transport of goods and communications technologies, changing the patterns of trade, modifying the understanding of the global productive relations in two different ways. The first way is associated with the type of producer, driving a "*fragmentation process*". For example, for bigger enterprises globalization can create opportunities to expand international markets and increase their global competitiveness position. In the second way, medium and small firms are facing an increase in the level of vulnerability with international competitors. (Lall, Albaladejo & Zhang, 2004).

Therefore, the intervention of the state into the economy is justified where market failures are present. The industrial policy aims must not differ from this reality, in correcting asymmetric information, credit imperfections, labour market adjustments, number of firms, entry barriers, and some others. The imperfections work together shaping the (under) performance of industrial productivity and development. (Rodrik, 2007; Peres & Primi, 2009).

Therefore, this train of thought in the state policies was promoted by international organizations after "Washington Consensus" in the 1990s, in order to look for the liberalization of markets. The framework of the Consensus facilitates the Uruguay Round agreements and the creation of the World Trade Organization creation in 1996, with the aim of reducing de tariff and non-tariff barriers

The new framework promotes changes in the production structure. Under this statement, UNIDO (2003; 4) indicates that:

> "international economic environment has been marked by profound, rapid and complex changes that have affected the modes of production, distribution, trade and organization in all industries... nevertheless makes it

imperative for them to upgrade their economic, financial, regulatory and social environment, their production systems and their industrial base so as to facilitate access to the international market and improve the prospects for export of their products".

The table 1 summarizes the most important changes in the state objectives during globalization period, dividing the changes into three groups: the first is at the governance level, which means there should restrained the state participation into the economy; the second contains measures related with market liberty, quality standards, and location; and the third is based on the changes in firm production, which should be more flexible, focused on services and more specialized. All the arguments supporting these changes were based on lessons learned from the state failures in the past as actor enhancing the industrial development due to misallocations of resources (Kohli, 2004),

Table 1
New Pattern of Industrial Competitiveness

Former pattern	New pattern
At governance level:	
From interventionism	To laissez-Faire
From the State as actor	To the State as facilitating partner
From the State as operator	To the State as helper
From the State as owner	To the private owner
At market level:	
From protection	To liberalization
From natural standars	To international standarization
From subcontracting based on capacity	To subcontracting based on skills
From the geographically centred market	To the area market
At enterprise level	
From economies of scale	To economies of flexibility
From production of tangibles	To production of intangibles
From integration	To fragmentation

Source: UNIDO

On the other hand, the structuralist school represented by Peres and Primi (2009; 20) recognizes that the "state intervention in the economy derives on the recognition of both the State and the market as different and necessary institutions affecting production and distribution process in socio-economic systems", this defines the role of

public policy as "ex-ante coordination mechanism that, given the uncertainty of future scenarios and the non-deterministic nature of technical change, calls for efficacy rather than efficiency in public policy action". The state intervention is justified, and it tries to correct the failures produced by the absence of adjustment mechanism to distribute the improvements of technological improvements to all the agents in determine industries.

In addition to the justification for state intervention, Katz (2000) in considering the heterogeneity within each industrial sector explains that since firms have different strategies and cumulative learning paths those shaped the different market structures and sectoral performance. He also concludes with the globalization paradox, which is when industrial leaders are using more advance technology in their production change reaching global productivity levels, while less intensively use local knowledge and equipment.

In this context Peres (2005), points out that most of Latin American countries have concentrated their efforts in adopting policies that aim at improving the competitiveness of sectors in which they already have competitive advantages in order to look for more participation in trade using static comparative advantages; simultaneously, support new industries to better involve in international trade and attract more foreign direct investments. For these purposes, the governments had given fiscal incentives, changed related regulations, and created specialized production factors.

Addressing the issue related about the effectiveness of the policy, Rodrik (2007) summarizes the empirical work of different scholars about the subject, reaching the conclusion that there are significant results showing the correlations between industrial policies and poor performance in the relevant industrial sectors. He shows some empirical evidence not only based on the development of East Asia countries, but also on the increase in productivity in Latin American countries during the period of import substitution implementation.

Therefore, the most important study field in this subject must be dedicated to the understanding of the effects of different industrial policies through ex-post evaluations, (Katz, 2000), especially when the contrast between different study cases can show different factors triggering the performance of the policies applied in different countries, (Kohli, 2004). Consequently this research seeks to use the qualitative approach recommended by other authors in the field.

METHODOLOGY

The research is based on the comparison of trade performance within automotive sector across selected Andean countries. Then the paper addresses the direct and indirect applied policies, their effects on the export, and the mechanism that shaped the export trends affecting the performance and the competitiveness in Andean, regional and world markets. Furthermore, the analysis explains main reasons why the sector can or cannot compete with other automobile producers.

Regarding the researching period considered, the Complementation Agreement in Automobile industry signed in November, 1999 has provided the framework to promote the industry in Andean Region, making valuable the research, especially to measure the effects over trade patterns in the subsequent years to the agreement.

Additionally, the time division concern with the comparison with the performance in trade was made considering the customs union promoted in the agreement previously named, was broke since 2006, after the FTA era in which Colombia and Peru were involved.

A. Research Questions

The objective of this research is to contribute with the discussion about the role of the state and the market to enhance industrial development under globalization in Andean Countries, by analysing the trade policies implemented by the governments of Colombia, Ecuador, Peru and Venezuela. Another objective is to look for the effects over industrialization development by considering the positive aspects and the shortcomings of the implemented policies.

The first question to answer in this research is related with changes in modern world where the integration patterns have created international institutions that regulated the government interventions, as in such case whether the State can still lead the industrial development.

Analysing the results in studied countries by focusing on comparing the free trade policies used by certain states with those used by developmental states is for seeking the answer to the question "Which type of policy had developed the chosen sectors better?". The last question, explores the relevant variables that provide explanations for the performance in automotive sector, analysing the macro variables and sectoral variables that promoted the results obtained. In this context the question is which are the effects of the applied policies in the automobile sector?.

B. Structure of the Analysis

The structure of the analysis to answer the research questions and fulfil the objectives of the research topic is based on the comparison of the export performance between countries. The exports are selected referring to the main conclusion addressed by Frankel and Romer (1999) about the relation of the type of exports with economic growth. Within this context, the thesis following on is divided into three sections that will be explained in the following paragraphs.

The first chapter aims at addressing the analysis of the Andean market structure, describing the main achievements for each country, then continuing with the analysis of each country, analysing the relevance to the export and the description of partners, trends and products and the causes that shaped the performance. Another important objective of this chapter is describing the government intervention and discovers the importance of the industrial development policies in the recent decade.

The second chapter is the comparative analysis between each country, and the evaluation of the trade relations with their partners through a comparative table. The vertical analysis contains the selected countries based on the division of the study in two periods. The first part of the decade characterized by minimal state intervention and relative stability in the trade policy when the policy in the sector has similar among the studied countries, and the second half of decade when the industry is faced with

more active trade policy into the region due to the FTA policies implemented by some members of the Andean region.

The horizontal analysis containing the results influenced by markets destiny is divided in three main groups: the first includes the results of the Andean region to describe the intra-regional trade, the second is the region which resumes the trade with other Latin American and Caribbean countries, and the third region contains the results for world partners located outside the region.

The comparison section is also split up into different parts considering exports and imports divided by total share, of the proportions of the total value separated by final vehicles, other vehicles and parts and components. The bottom of the table contemplates the analysis of the trade deficit for the two time periods and the share of the total analysed countries of the automobile exports and imports.

The third chapter targets the description of the few main variables that can explain or affect the performance of the automotive sector in Andean countries, without trying to be a direct evaluation of cause-effect relation. These variables could be economic, social and political, hence provide a context analysis instead of any evaluation criteria focused in the macro and sectoral level analysis.

C. Importance of Automotive sector and country selection

The Andean Community was created in 1969 after the "Agreement of Cartagena". The original members were Bolivia, Colombia, Chile, Ecuador and Peru; later, in 1974, Venezuela requested to join. Chile left the Agreement in 1979. The objective of the agreement was to enhance industrial production and intensify regional trade.

After the crisis in the 1980s, the reforms made to the policy set in Andean countries had for objective reduce the protection of the local industries and promote the access to other markets. The policy makers relied on static comparative advantages, to seek for export promotion, but the results moving towards higher-technology products were

relatively slow. Based on these facts, Ecuador and Venezuela have been considered as the slowest reformists within the Andean Community. (Cordero,2005).

Furthermore, in 1995, Bolivia, Colombia, Ecuador and Venezuela implemented the "Common External Tariff", under which they adopted protective trade policies, particularly a protective tariff system with four different tariff levels: 5%, 10%, 15% and 20%. Peru, having decided to suspend the trade liberalization program in 1992, was also reincorporated into the program in 1997, (Comunidad Andina de Naciones, 2013). In 2006, the members coordinated the common tariff schedule until Peru and Colombia agreed a FTA with the United States, therefore Venezuela decided to leave the group.

Despite this complex mechanism of tariff coordination, Colombia, Ecuador and Venezuela declared the automobile industry as their main priority to reach industrial development, and signed a complementary agreement within Andean Community framework. The agreement implements a protective tariff policy for the sector with three different tariff categories. The first group is automobiles for less than 16 people where the tariff is 35%; the second category is for buses and other vehicles which are subject to 15%, and 10% and 15% tariff rates for Colombia, Ecuador and Venezuela, respectively; and the third category is for all other vehicles not included in the first two categories with tariffs of 15%, 10% and 15% for Colombia, Ecuador and Venezuela, in that order. (INTAL, 2003).

As a result of these policies, the trade structure of the members of the Andean Community became more concentrated and less diversified. The products which have been beneficiated are diesel (4.6%), medicines (3.5%), automobiles for passengers (3.4%), oilseed cakes (3.1%) and polyethylene (1.9%). Within the partnership,

Colombia and Ecuador were seen as automobiles providers for other members, as their competitiveness within the community qualified them as rising stars.[2] (Cordero, 2005).

Therefore, with this background information in mind, the relevance of the sector is based on two aspects. One is based on the importance and, for instance, the qualification as priority of the sector for three Andean countries. The other is the recognition of the link between the sector and other industries in relation to inputs utilized in the production of products like glass, iron, plastics, fabrics, rubber, and post–sale services and maintenance of automobiles (Narayan, 2004).

To sum up, the selected countries for the research are Colombia, Ecuador, Venezuela and Peru. The first three countries were selected as the main automobile producers in the region while the last country is utilized as a counter case regarding the priority of the sector in the trade policy agenda.

D. Data Sources

There are two quantitative data sources used in this research. The first main data source utilized for export comparison is the United Nations Commodity Trade Statistics Data Base – UNCOMTRADE, retrieved by World International Trade Service – WITS, using the Standard International Trade Classification (SITC Rev4). Another data source used to explain the automotive sector is the Guide to Industry and Foreign Trade Classifications for International Surveys U.S by the Bureau of Economic Analysis, The Code 78 is exclusively used to represent the automobile industry. The data to describe the different variables affecting industry performance are taken from World Bank database, International Monetary Fund and World Trade Organization.

The qualitative data sources are provided by different on-line newspapers, the Ministries of Trade of Colombia, Ecuador, Peru and Venezuela, automobile

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[2] Rising star refers to products whose export has grown into markets where the demand for such products has also increased, reflecting the dynamism of the market.

associations and others related sources. The main constraint in the research is the lack of previous research and documents addressing the problem related to the domestic data sources.

AUTOMOTIVE SECTOR IN ANDEAN COUNTRIES

In the 1990s, the policy making authorities in Andean countries declared the development of the automotive sector was one of their main policy objectives. Therefore, the most important protection of the industrial sectors inside the Andean Free Trade Zone was implemented towards this industry, by the application of a 35% Ad-Valorem tariff in automobile imports from outside countries, and the prohibition of used car trade among the members of the Complementation Agreement. The agreement was signed by Colombia, Ecuador and Venezuela.

Thus, the effect on the sector was the creation and the promotion of intra-industry trade. Therefore, the following chapter attempts to describe the export performance and analyze the factors that affected the performance in the industry for each selected country.

A. Andean Market Structure

The set up of the local market has been shaped by regional agreements, local demand, income, imports, exports and other factors. Therefore, the first points to analyze will be local demand, export and imports. Other factors, despite their probable importance, will not be taken into account for this research.

The regional trade framework allowed the implementation of three different strategies for automobile producers. The first consists of the closure of plants in the region (Fiat and Nissan) and focusing on imports from third countries, The second is to focus on the assembly in just one country as a regional provider for the entire region (Renault) using the free trade area benefits. The third to fragment the assembly lines for different models in different countries (General Motors) increasing the economies of scale (Instituto de Integracion de America Latina, 2003).

Figure 2
Share of demand of Automobiles Units in 2011
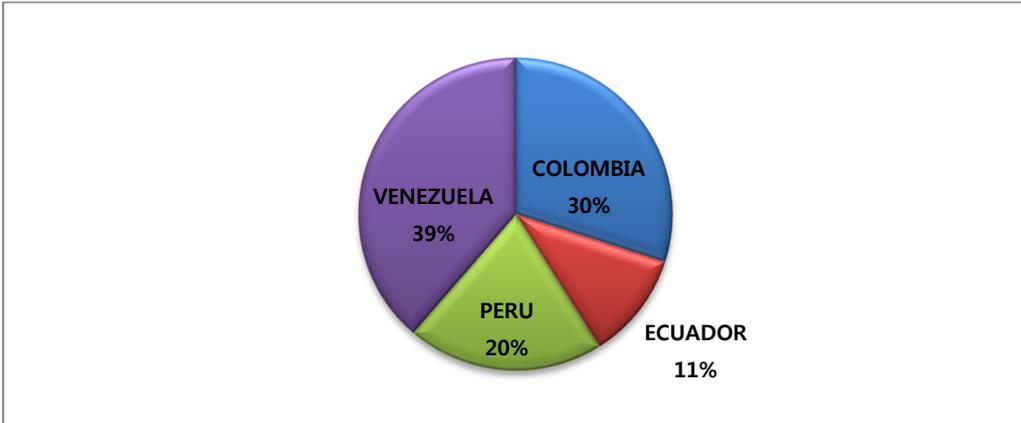
Source: ProExport Colombia, Pro-Ecuador, BBVA Peru and CAVENEZ.

In demand terms, Venezuela has the higher automobile requirement. Its statistics for 2011 indicates that the demand was around 480.000 units each year. Colombia is the second largest consumer with 325.000 units, then Peru with 210.000 units and finally Ecuador with a local demand of 120.000 units. The total is more than one million units each year, constituting an important market for international companies.

Table 2
Automotive sectoral Trade Trends Period 2000 - 2011

| Country	Export		Import	
	Average Share	Average Growth	Average Share	Average Growth
COLOMBIA	2.0%	25.8%	7.6%	25.5%
ECUADOR	1.6%	49.7%	11.0%	37.3%
PERU	0.1%	32.6%	7.2%	24.6%
VENEZUELA	0.8%	-5.4%	9.4%	14.7%

Source: UNCOMTRADE

The trade trends in the sector show that imports are more relevant than the exports. The country with the highest share of imports is Ecuador with an average of 11%, showing

also the highest import growth rate in the sector.[3] The second is Venezuela, but in contrast this country presents the lowest growth in imports. The import trends for Colombia and Peru are relatively similar according to the results in table 2.

Nevertheless, the export of automobiles represents a small share of the total exports, with Colombia and Ecuador being the largest exporters. On the other hand, the country with the highest exports growth in the sector is Ecuador (49.7%), followed by Peru (32.6%) and Colombia (25.8%). Meanwhile, Venezuelan exports registered an average decrease of 5.4% per year, due to several economic factors and policies applied during the decade, harming the performance of the sector.

Figure 3
Export of Automobile in millions of USD
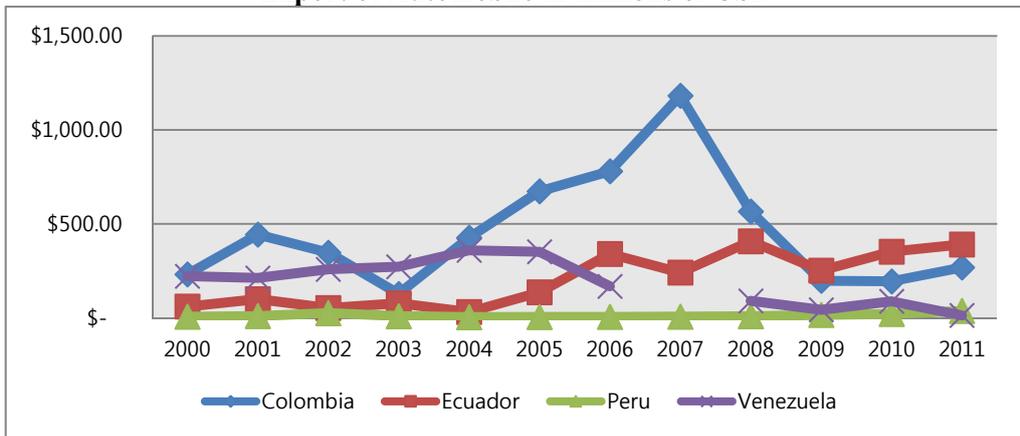
Source: UNCOMTRADE

Historically, Venezuela used to be the largest exporter until 2004, when it was replaced by Colombia, which in turn was replaced by Ecuador since 2009. The growth trend of Colombia is known for its high volatility. The record of their lowest valley was in 2003,

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[3] One of the main reasons for the increase in the demand of automobile sector in Ecuador is due to the financial crisis in 2000, when many banks went to bankruptcy forcing to the authorities to change the official currency towards U.S. dollar. In the change the monetary assets and deposits lost value, changing the patterns of consumption of the Ecuadorians, increasing the demand in physical goods, like real state and automobiles.

with USD 127.8 million. In the next four years this amount grew by more than 8 times, until it reached USD 1182.27 million, and then falling sharply in 2009 to USD 194.6 million.

On the other hand, Ecuador has been characterized by sustained export growth in the sector since 2005. In 2000 the country recorded a value of USD 60.2 million and reached its peak of USD 407.7 million in 2008, representing growth of 6 times the initial value during the study period and becoming the largest exporter of the analysed countries. As a result of the international financial crisis, the amount was reduced by approximately USD 251.7 million; however there has been a gradual recovery to reach USD 390.5 million in 2011.

Furthermore, the vehicle production in Peru is not significant for the total amount of exports. Conversely, the export growth trend in the sector may be relevant. By 2000, the total amount of exports was USD 6.5 million, which increased significantly in 2011 to USD 37.3 million with a positive growth trend since 2004. On the other hand, Venezuela has an opposite trend; since the beginning of the decade the country was the largest exporter of automotive Andean countries, amounting to USD 392 million in 2000. However, this amount has declined since 2005 to USD 21.3 million.

B. Colombian Export Performance

The automotive sector in Colombia is considered by authorities as one of the main industrial sectors in terms of development priorities.[4] The production is based on assembly lines whose owners are international brands that attend mostly to domestic and regional markets. The most important companies are Sociedad de Fabricacion de Automotores S.A. (SOFASA) responsible for Renault from France, General Motors COLMOTORES with General Motors from United States and Compania Colombiana

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[4] Colombian policy makers have built up two documents, the first promoting FDI attractiveness by Pro-Export Colombia and the second elaborated by the Ministry of Industries which contains a Business Plan for automobile sector and its strategic planning.

Automotriz CCA with Mazda from Japan. The local producers have 40% of the local market, whilst the rest are imported mainly from Mexico, United States, Japan, Korea and Ecuador.

Nowadays, the sector generates 4% of the industrial GDP and is concentrated in assembly of light vehicles, buses, motorcycles, auto parts and other components, generating 24,783 jobs. The local authorities also forecast an increase in local demand of around 500.000 vehicles due to the increase of middle class at medium term[5]. Most of the demand will be satisfied by foreign imports due to the appreciation of local currency, general tariff reductions and Free Trade Agreements signed recently. (PROEXPORT Colombia, 2012).

Figure 4
Share of Colombian local Market by type of vehicle in year 2011
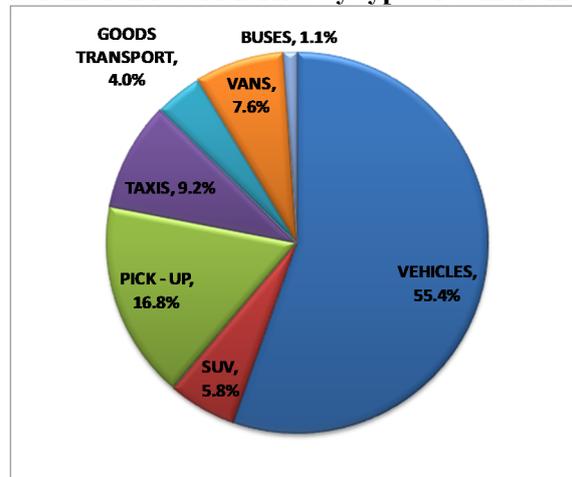
Source: Comite de la Industria Automotriz Colombiana

These factors are also reflected in the sector's exports trend, as in 2007 the industry reached the highest level of export of the region. The most important partner during the period 2000 – 2011 was Venezuela with 62% of the total share, whilst Ecuador was the second with 30.6% of the total. This means that Colombian exports are highly

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[5] For the year 2011 the total demand of vehicles was 324.570 units,

concentrated in the region because these countries have common boarders, Andean FTA, trade relations, etc.

If we analyze the export by product, the "Motor vehicles for the transport of persons" is the most important commodity for the industry, with a share of 62% during the period. The most important peak in exports was year 2007, USD 759.5 million. The second most valuable export is "Motor vehicles for the transport of goods, n.e.s." with a share of 30.6%. Also, in terms of export destination, there is little product diversification in the sector, whilst sales are vulnerable to external shocks.

Figure 5
Top 5 Colombian Exports destination in Automotive sector in million of USD
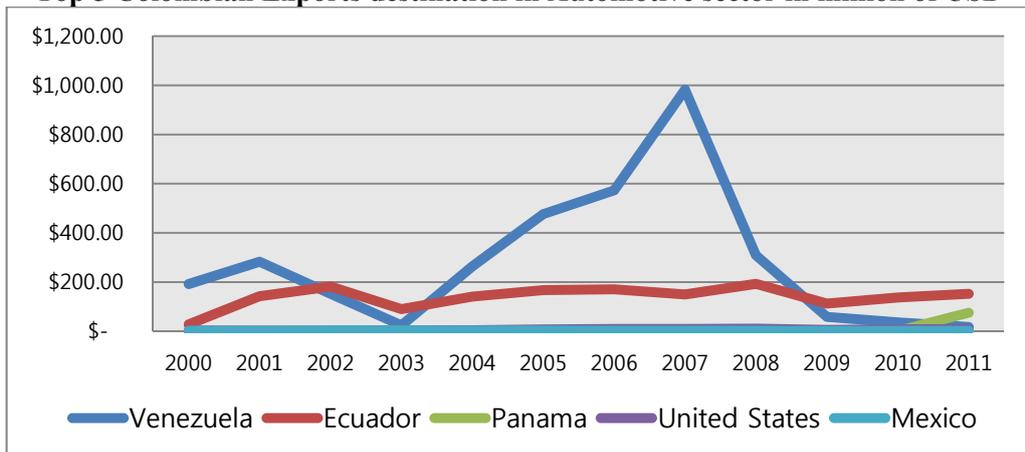
Source: UNCOMTRADE

Other important export products are "Other parts and accessories" with a share of 17%. This category contains the auto parts that can be used as inputs for road vehicles or can be replacements used in maintenance of cars. During the last part of the decade the share increased from 12% in 2007 to 47% in 2009, and the average growth rate during all periods was 26%.

The data results show that the dependency of Colombian exports, specifically based on Venezuelan demand, had been the main factor that affected the poor export

performance after 2007. Therefore, understanding the reasons of this phenomenon can explain the significant impact of different policies adopted by governments.

Undoubtedly, the financial crisis caused by the housing bubble in the United States had global repercussions affecting the growth of all countries. It also had consequences for Colombian exports in the automotive sector. The first country to reduce imports was Venezuela in 2007, with a negative growth rate of 68%, reducing the amount of exports to USD 531 million for the sector of "Motor vehicles for the transport of persons".

Figure 6
Top 5 Colombian Exports products in Automotive sector in millions of USD
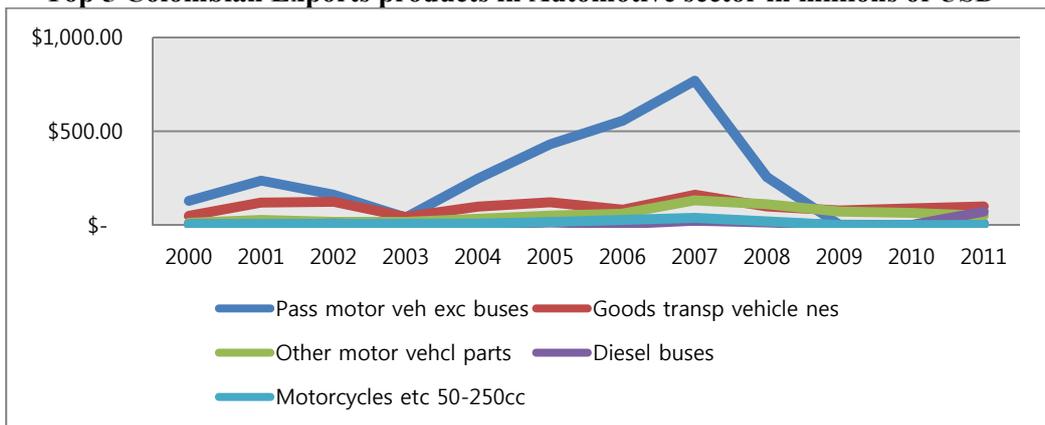

Source: UNCOMTRADE

For the next year, the decrease trend in the demand of this product from Venezuela remains, amounting to USD 0.11 million, which means a negative growth of 99.9%, essentially meaning a dramatic drop in passenger vehicle exports. The main reason for this was a shift in Venezuelan trade policy, imposing a reduction of import quotas for vehicles in 2008. In 2007 the total sales were 491 thousand units in total and the imported cars share was 68.4%. The quota imposed by the government in 2008 was 220 thousand cars, of which only 8% was assigned to Colombia, representing 18,000 units (Globo Vision, 2008 Portafolio, 2008).

The same happened with exports of this type of vehicle from Ecuador, where exports declined from USD 74.5 million in 2008 to USD 0.01 million in 2009. Since 2009 this country has been applying restrictive policies to their imports, especially in parts and components, whilst local sales have increased due to increased taxes related to automobile consumption.

Figure 7
Colombian Exports of Motor vehicles for the transport of goods, n.e.s total, to Venezuela and Ecuador in millions of USD
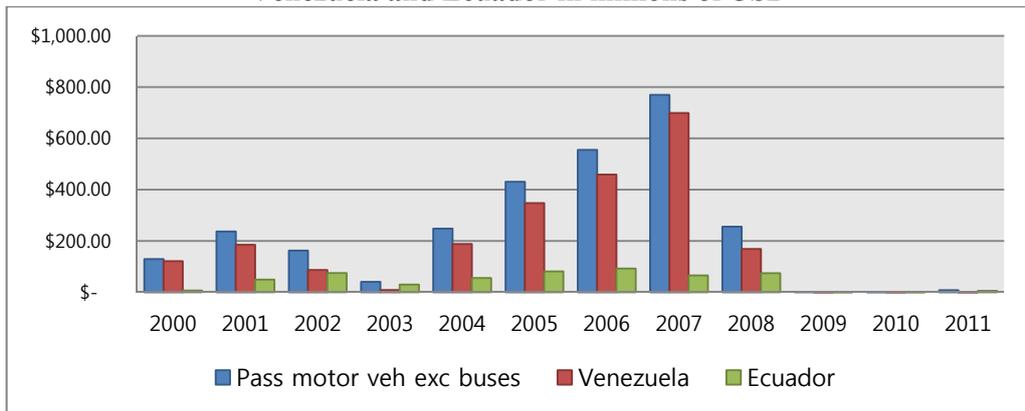
Source: UNCOMTRADE

C. Ecuadorian Export Performance

The Ecuadorian automotive industry is a significant source of revenue for the state, collecting about USD 400 million per year in taxes. In addition it is an important source of employing 25,000 people, of which 30% work in the area of vehicle assembly. The total number of cars registered in 2011 by the SRI[6] is around two million units, while it is estimated that the Ecuadorian consumer renews their vehicle every six years (PROECUADOR, 2011).

Regarding the automobile industry, Ecuador has three major car assembly factories. The oldest of them is AYMESA. Inc. whose main production line is for KIA from

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[6] Acronyms in spanish for the Tax Collector Institution in Ecuador

Korea with the model SUV Sportage. From the 2011, this company is also responsible for assembling vehicles for HYUNDAI, also from Korea, but only the line of goods transport vehicles.

The other important company is Omnibus BB, which produces more automobiles in Ecuador. They are responsible for General Motors products, specifically the brands Chevrolet and Suzuki. The last important plant is MARESA S.A. who is in charge of the production of the Japanese brand Mazda. These three companies have their main factories and local input suppliers around Quito, although nowadays, Ambato has been increasing their importance in the sector, especially for manufacturing passenger transport vehicles for the local market but also for regional consumers.

Figure 8
Automobile Production in Ecuadorian Market in number of Units
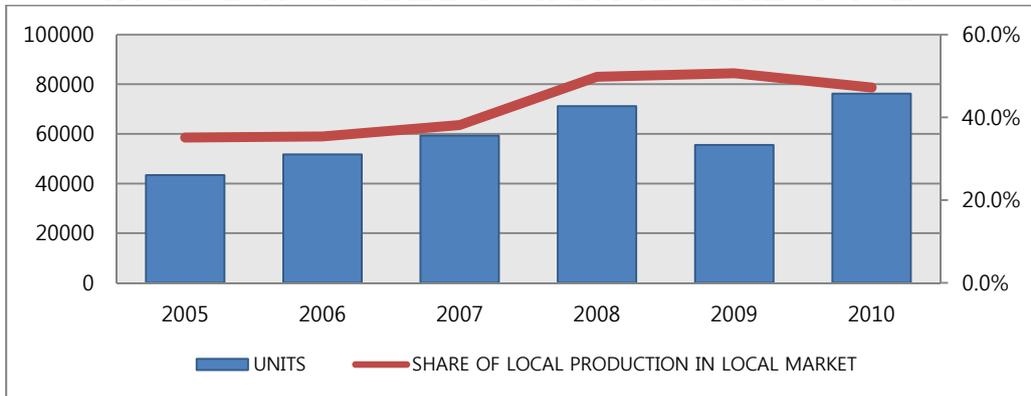
Source: Camara de la Industria Automotriz Ecuatoriana, CINAE

The number of units produced every year is around 80 thousand, and the sector has a clear trend to increase these figures. In 2005, the share of local consumption was around 35% which also reflects the importance and relevance of exports for the sector. The share of local consumption of automobile units had increased in the last few years and now accounts for nearly 50% of the total production for 2010, demonstrating the importance of local consumption for the business, even with the increase in some taxes for imported luxury cars.

The level of export in the Ecuadorian automobile industry has shown an increasing trend which is the most consistent during the study period. The export value grew constantly, especially since 2004 when export sales went from USD 31.1 million to USD 390.5 million in 2011, making Ecuador the export leader in the Andean region. The growth rate of the period is 1155.6%, which is a share of 54.4% of the total exports in the analysed countries.

Figure 9
Top 5 Ecuadorian Exports destination in Automotive sector in million of USD
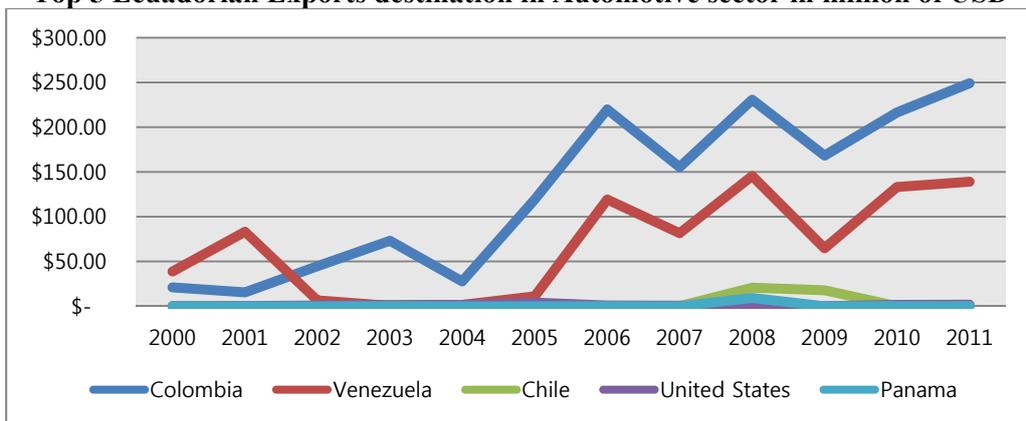

Source: UNCOMTRADE

The main export destinations are Colombia and Venezuela. During the period the shares were 63.1% and 33.8% respectively, showing the same trend of concentration as well. The general trend also indicates an increase in the exports to these countries. Other important partner countries are Chile and the United States.

However in contrast with Colombia, the automobile industry in Ecuador is mainly dominated by the production of "Motor vehicles for the transport of goods, n.e.s." with a period share around 46%. The export record was achieved in 2006 with a value of USD 234.2 million. If we compare this value with the one obtained in 2004, USD 2.4 million, this represents 100 times more value in just two years. Paradoxically the main destiny of this type of product is Colombia, with a share of 68.5%, which is the reason

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for the increase in figures since 2005, when the growth rate increased 331% in just one year.

The second sector with significant performance was "Motor vehicles for the transport of persons, n.e.s." with a share of 45.7%, which since 2004 has an increasing trend in their export values. The main destination markets are Colombia and Venezuela as well, with shares of 63.9% and 35.6% respectively. The highest peak for the item for consumption was in 2010, with a value of USD 179.9 million, which represented 51% of the total exports during that year.

Figure 10
Top 5 Ecuadorian Export products in Automotive sector in million of USD
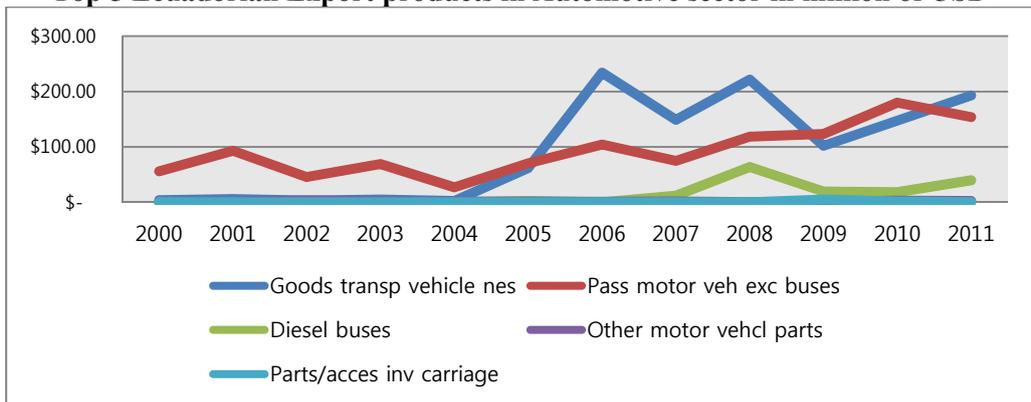
Source: UNCOMTRADE

Since 2007 the sector of "diesel buses" have been showing a remarkable increase, especially in 2008 when sales increased 438% to reach USD 63.8 million. The main partner was Venezuela with a share of 65.1%. This result was reached due to good relations between the two governments. For example, on February 17, 2011 both countries signed an agreement to export 2500 automobiles for public transportation in Caracas from Ecuador (El Comercio, 2011).

D. Peruvian Export Performance.

In contrast with the previous Andean countries, Peru's economy historically has not been characterized as an automobile producer. These days, there is not any company dedicated to produce automobiles, even though local demand is significant. This is true except for companies dedicated to producing buses. According to Government data, the demand of vehicles in 2011 was 122000 new units and 31373 used cars (INEI, 2011). Despite this, during the study period Peru had exported USD 157 million, an average of USD 13 million every year, showing a remarkable increase in comparison to previous years.

Figure 11
Top 5 Peruvian Exports destination in Automotive sector in million of USD
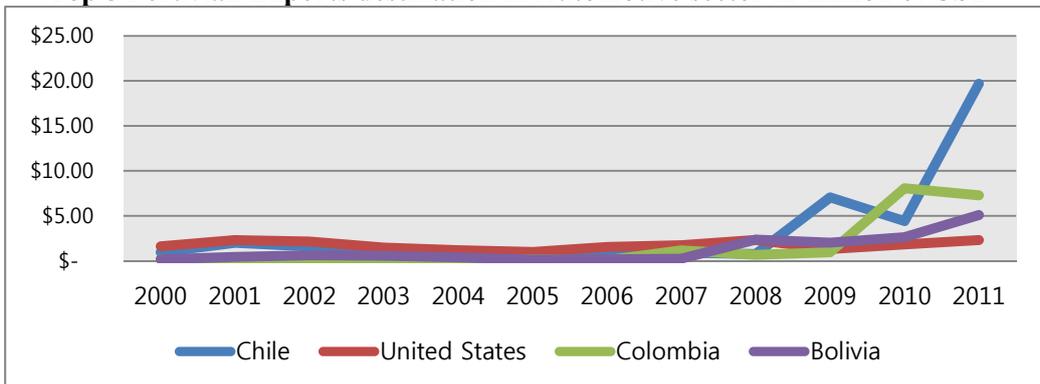
Source: UNCOMTRADE

The main export partners are regional countries, but the total amount is not significant compared with another export sectors. Also it is important to recognize that since 2008 the exports are increasing constantly, especial to Chile and Bolivia, natural partners because of their shared boarders. For the first partner the growth rate is 25 times the value, reaching USD 19.7 million, whilst Bolivia´s it growth rate is 21 times since 2007, USD 5.1 million.

The main export product is "Motor vehicles for the transport of persons, n.e.s." with a share of 14.6% of the total in the period. The second most important sector is "Road tractors for semi-trailers" which has a share of 12.8%. This product has two important export peaks recorded, the first one in 2002 when exports reached a value of USD 10 million; divided between the UAE (USD 6.1 million) and Angola (USD 3.6 million), and the second in 2009 when Chile imported USD 4.2 million and Ecuador USD 1.4 million.

Figure 12
Top 5 Peruvian Export products in Automotive sector in million of USD
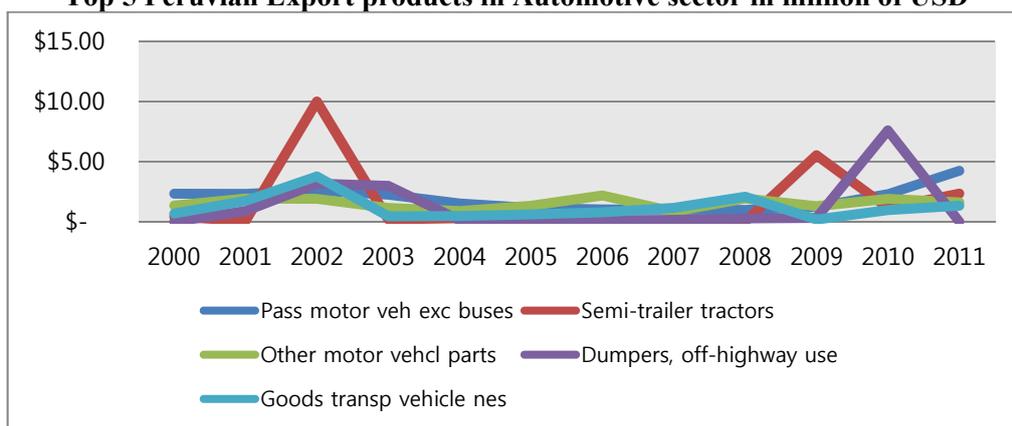
Source: UNCOMTRADE

The success of the buses sector in recent years was a consequence of the competitiveness acquired by the local firms responsible for the manufacturing of buses to attend to the internal market. This increase in demand was also promoted by sectoral policies. For example the government have implemented a program to replace the older bus units by exchanging their value for bonds to buy new buses.

In this subject, bus manufacturing is technologically less demanding than automobiles due to the requirements of electronic components. This is the reason why in Andean markets the firms related to buses develop their own brands and are more recurrent that other type of products.

E. Venezuelan Export Performance.

Venezuela is the largest market for automobile in the Andean Economic region with demand of 500 thousand units every year, making it a more important market for the automotive industry. Recently, used cars tend to be more expensive than brand new ones because supply cannot meet the increasing demand. This is caused by government's policies; which combine fixed price for automobile industry with imports quota to create a unique market condition. In addition, it is noteworthy that the policy of fixed exchange rate also contributes to the increase in demand, increasing the purchases of automobiles as store of value.

To illustrate the market situation, I made a price comparison between a brand-new three-door Chevrolet Aveo 2013 and one built in the same year with mileage of 2000 km. Dealer price of the former car is BS 244,000, and market price of latter one is BS 410,000, which is almost 70 percent higher.[7]

Figure 13
Share of private automobile producers in number of units in Venezuela for 2011
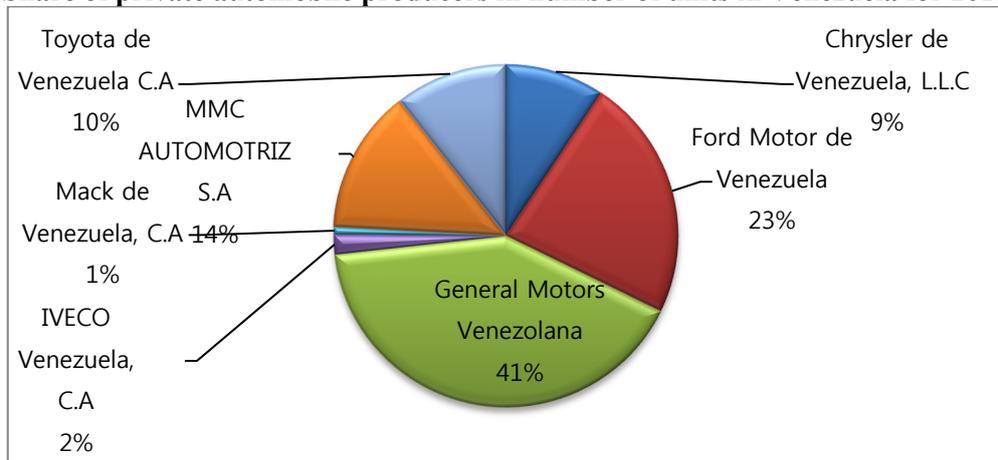
Source: Camara Automotriz de Venezuela

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[7] The data of the prices was taken from www.chevrolet.com.ve and roloeganga.com. Jun 28, 2013.

Lately, governments in an attempt to increase the local production of automobiles and correct the market failure have signed a partnership with private investors from China. This leads to the creation of two manufacturing companies as Venirauto Industrias C.A., and Corporación Automotriz ZGT. C.A. with mix capital and little information about their production, performance, and market shares.

Nevertheless, in Venezuela there are seven production assemblies, making this the largest production structure in the region. One of the most productive firm is General Motors Venezuela, first established in Venezuela in 1944, which produces the 41% of total production. The second major company is Ford Motor de Venezuela, founded in October in 1962. Currently this company produces 23% of the total automobiles. The third important producer is MMC Automotriz S.A., which produces 14% of the total country production. This company is specialized manufacturing products for Mitsubishi and Hyundai. The company started their operations in 1990 specializing in producing vans and personal automobiles.

The fourth larger producer is Toyota de Venezuela C.A. a share of 10% of total local production for 2011. Toyota started their production in 1969 and its main product is the Corolla model, built since 1990. The fifth firm is Chrysler de Venezuela, LLC. This company has been located in Caracas since, however the industrial complex of the company was relocated to Carabobo in 1958. During 2011, the production share was 9% of the total units produced in Venezuela.

In addition to these five companies, Venezuela has two companies that built heavy trucks, buses and other vehicles with similar characteristics. The most important one is IVECO Venezuela, C.A., which has a share of 2%, it represents the manufacture of almost 2000 units in 2011. The other important company is Mack de Venezuela, with a share of 1%, producing 700 units a year. This company was established in 1962 and they are considered the leaders in the section of heavy trucks (Camara Automotriz de Venezuela, 2013).

Unlike Colombia and Ecuador, Venezuela had the US as the main customer for its exports, thus, this is why this country presented a different production structure, focusing on motor vehicles and parts. In 2000, the share of the exports to United States was 72% or 160.1 million, while in 2005 the exports value reached USD 161.8 million or 46%. Also the most important export product to this country by share was "Other parts & accessories of the motor vehicles" with the 87% of the total exports during the study period of time. The export peak was USD 149.9 million, in 2005.

Figure 14
Top 5 Venezuelan Exports destination in Automotive sector in millions of USD
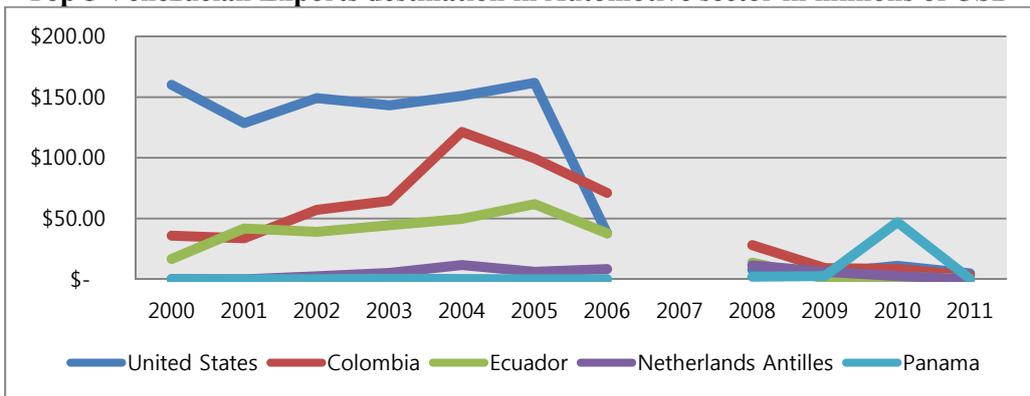
Source: UNCOMTRADE

The second most important product was "Drive-axles with differential, whether/not provided with other transmission components, & non-driving axles; parts thereof of the motor vehicles" with a share of 4.5%. This demonstrates that until 2005 Venezuela already had an important production line in parts and components to supply foreign markets.

The second main destination was Colombia, with a share of 25.6%. The trend increased since 2000 and reached the highest point in 2004, when the automobile industry exports had USD 121.3 million in sales. The main export product of Colombia was "Motor vehicles for the transport of persons" with 55% of the share during the period. The second main export product was "Motor vehicles for the transport of goods, n.e.s."

accounting for 27.4% of the total exports. The highest sales were recorded in 2006 with USD 52.16 million.

As a matter of fact the import restriction policies that applied since 2007 by the Venezuelan government had affected local production, and the exports capabilities of the industry. This started in 2003, when the government implemented a fixed exchange rate and centralized the market in one government institution in which companies and members of the public buy and sell the local currency with foreign currencies by assigning access to limited amounts of dollar, euro, yen or any other coinage. The intended goal of policy makers was the reduction of inflationary pressures, reduction of capital flight and to enhance the local production of inputs. (Niño, 2011).

Figure 15
Top 5 Venezuelan Export products in Automotive sector in millions of USD
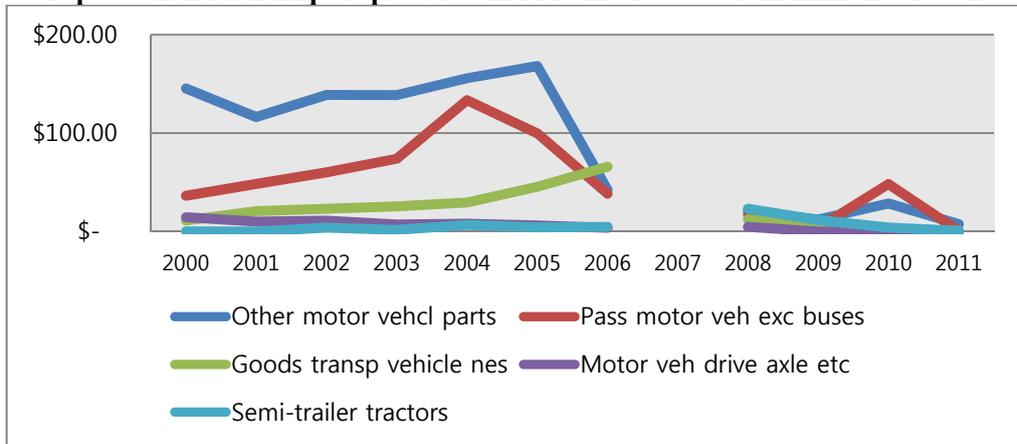
Source: UNCOMTRADE

Due to the private sector's lack of confidence in the government, the effect of these types of measures only generated a reduction in local production and a decline in the competitiveness of the productive sector instead of enhancing the local production of parts and components for automobiles. In the medium term, the demand for foreign currency was affecting the exchange rate and the black market, consequently the effectiveness of the policy was poor. Then the government began imposing import

quotas as of 2007, with the justification of sustaining the fixed exchange rate and rade balance.

Venezuelan businessmen indicate several problems with the limited access to foreign currencies. The most important is related to the bureaucracy in the institutions responsible for the assignment of currencies when it delays the allocation of quotas for access to foreign exchange. Then the importers of parts and components have to postpone their orders, affecting the production of final goods. Another important consequence is the limited import quotas, which harm the production processes and the effectiveness of policies. This is reflected in the fact that since 2007, the highest peak sector export was USD 88 million, which is four times less than the exports recorded in 2005.

TRADE COMPARISON IN AUTOMOTIVE SECTOR IN ANDEAN COUNTRIES

As with many other industrial sectors, the automotive industry had been affected by globalization since 1990, enhancing the process of fragmentation in production. As a consequence, local industries with low levels of efficiency were wound down; meanwhile the factories with higher efficiency levels or higher income potential received the support and investment of transnational producers to support local, regional or global requirements, promoting a fragmentation into the productive chains.

In comparison with other industrial sectors, the fragmentation process in automobile production is constrained due to the exploitation of heavy components required for the production of the final goods, providing incentives for cluster development. However, it also can also be a labour intensive process if the company is based on assembly lines (Humprey and Memedovic in Lall, Albaladejo and Zhang, 2004).

Figure 16
Exports in Automotive sector by Region of destiny in Millions of USD
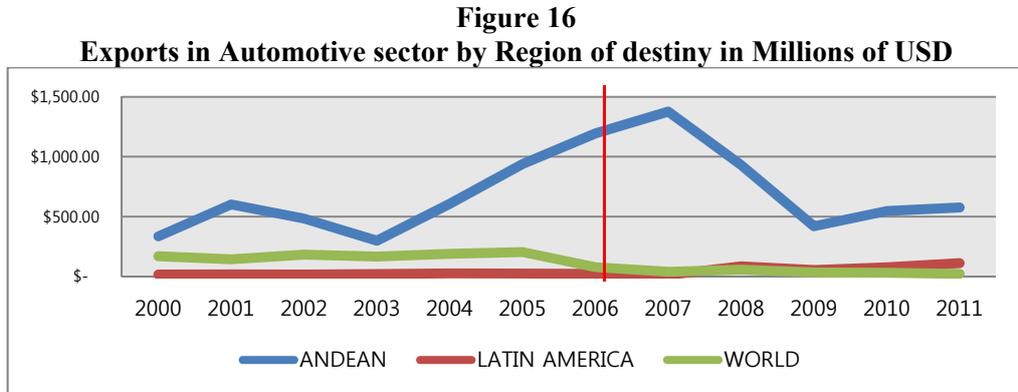
Source: UNCOMTRADE

In addition, a consequence of the implementation of regional agreements, the automobile trade has been concentrated towards exports in the Andean region, representing 79% of total trade. Nevertheless the trends were stable during the first half of the decade; regional exports have increased while trade with the world and other

regional partners remains stable. These relative stable patterns changed since 2006, when the customs union broke down, constituting the break point of the comparative analysis.

Considering the export trends, the trade in Andean countries has been characterized by deficit into the sector. The exports during the period were USD 10.1 billion while the imports were USD 85.6 billion generating a trade deficit of 78.9%. The difference in the of the trade deficit is clear; during the first part of the decade the deficit it was 69.2%, whereas in the second part of the year it raises to 85.1%. The result indicates that the openness of the economies have affected sectors through the increase of imports, although the results can change from country to country.

Table 3[8]
Distribution of Exports and Imports of selected countries by destination, trade balance and shares as percentage of total in automotive sector (2000 – 2011).

			Colombia		Ecuador		Peru		Venezuela		TOTAL	
			2000-2006	2007-2011	2000-2006	2007-2011	2000-2006	2007-2011	2000-2006	2007-2011	2000-2006	2007-2011
Andean	EXPORTS	SHARE	91.6%	85.3%	96.8%	96.7%	37.4%	40.1%	36.6%	26.8%	88.2%	86.0%
		FINAL	66.9%	62.0%	99.0%	98.9%	63.5%	68.7%	58.3%	40.3%	82.9%	82.3%
		OTHER	4.7%	4.6%	0.6%	0.6%	20.7%	19.9%	4.7%	6.7%	3.2%	2.8%
		PARTS	28.4%	33.4%	0.4%	0.5%	15.8%	11.5%	37.0%	52.9%	13.9%	14.9%
	IMPORTS	SHARE	9.8%	7.0%	13.1%	11.7%	0.2%	0.3%	14.7%	14.7%	9.4%	7.5%
		FINAL	98.3%	98.5%	77.6%	74.4%	64.9%	82.0%	67.2%	66.6%	81.6%	80.5%
		OTHER	0.0%	0.0%	3.8%	4.0%	14.0%	9.0%	6.5%	6.3%	3.4%	3.4%
		PARTS	1.7%	1.5%	18.6%	21.6%	21.1%	9.0%	26.3%	27.1%	15.0%	16.1%
Regional	EXPORTS	SHARE	3.4%	9.4%	3.0%	3.0%	29.7%	36.3%	37.0%	43.7%	6.6%	9.4%
		FINAL	33.6%	44.9%	58.4%	65.2%	60.2%	65.0%	62.3%	62.6%	57.9%	67.9%
		OTHER	38.5%	30.3%	22.6%	17.2%	14.0%	11.6%	14.6%	14.5%	21.6%	15.6%
		PARTS	27.9%	24.7%	19.0%	17.6%	25.9%	23.4%	23.1%	22.9%	20.5%	16.5%
	IMPORTS	SHARE	20.5%	23.3%	10.4%	9.3%	26.2%	24.0%	26.3%	26.5%	21.6%	21.9%
		FINAL	89.1%	90.0%	77.1%	77.3%	86.1%	85.4%	69.6%	59.2%	83.9%	83.4%
		OTHER	1.0%	1.1%	3.0%	2.8%	3.5%	3.4%	8.0%	16.2%	3.3%	4.0%
		PARTS	9.9%	8.9%	19.9%	19.9%	10.4%	11.2%	22.3%	24.6%	12.8%	12.7%
World	EXPORTS	SHARE	5.1%	5.3%	0.3%	0.3%	32.8%	23.6%	26.4%	29.5%	5.1%	4.5%
		FINAL	11.7%	12.9%	20.7%	20.8%	26.4%	28.8%	33.3%	32.5%	19.7%	20.8%
		OTHER	6.2%	6.7%	13.1%	13.7%	23.0%	24.2%	14.7%	19.3%	10.6%	11.9%
		PARTS	82.1%	80.3%	66.2%	65.5%	50.6%	47.0%	52.0%	48.2%	69.7%	67.3%
	IMPORTS	SHARE	69.7%	69.7%	76.5%	79.0%	72.0%	73.7%	59.0%	58.8%	69.0%	70.6%
		FINAL	79.7%	79.8%	84.6%	83.8%	81.4%	82.0%	64.4%	56.9%	79.7%	79.1%
		OTHER	5.4%	5.1%	5.5%	5.6%	5.4%	5.4%	10.8%	12.5%	7.2%	7.4%
		PARTS	14.9%	15.1%	9.9%	10.6%	13.3%	12.6%	24.8%	30.6%	13.1%	13.4%
TRADE BALANCE AS PORCENTAGE OF AUTOMOBILE INDUSTRY TRADE			-47.7%	-78.7%	-75.6%	-70.8%	-96.1%	-98.7%	-70.2%	-91.8%	-69.2%	-85.1%
EXPORT SHARE			49.9%	48.4%	12.9%	42.6%	1.4%	2.6%	35.8%	8.1%		
IMPORT SHARE			26.2%	36.4%	19.2%	18.5%	12.9%	24.6%	41.7%	14.7%		

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[8] Andean partners are referred to Bolivia, Colombia, Ecuador, Peru and Venezuela, while Regional partners contains the results for trade with Latin American countries and Caribbean which do not belong to Andean Community. The world partners are referred to all partners not considered before.

In addition to these results, the exports structure is different between the four selected countries, but even with these particular characteristics, they have similar export patterns between two groups; the first being Colombia and Ecuador, and the second containing Peru and Venezuela. For the first group, the exports are highly concentrated in the Andean Region and finished automobiles, while for the second group the exports are more diversified in terms of the type of export products.

However, Andean exports to World partners decreased, being replaced the reduction by increasing the trade with partners located in other Latin American countries and the Caribbean region. In the end, the Andean regional trade measured by exports increased due to its participation in the production of final vehicles.

Furthermore, the import trend had shown that the automobile products from countries from other parts of the World, excluding Andean and other Latin American partners, are the most important partner, by concentrating around the 70% of the total. There are not big differences between the selected periods, but the change between periods indicates a small increase in the imports from other parts of the world, parallel with an insignificant increase in the share of import parts and other vehicles for special uses.

Regarding Colombia's patterns, those indicate the trade deficit between selected periods increased 31%, allowing the conclusion that the trade policies applied have failed. The performance is mainly due to the decrease in Andean exports, which was the most important partner in the automotive sector during the first part of the decade, decreasing its participation from 91.6% to 85.3%. The share was also affected by the changes in the type of product, raising the export of parts and decreasing final automobiles.

While this is happening with Andean trade, the automobile industry in Colombia is looking for new partnerships and diversifying their trade relations with other regional

markets, increasing trade relations with Latin American countries and Caribbean countries outside the Andean Community. In this case, the increase is driven by the trade of final vehicles.

The export with other partners of the world remains stable, except for the exports of completed vehicles which have increased. The reason for this result is related to trade promotions with other regional partners and international destinations, as they look for a replacement for the Andean markets. The effect is reflected in the diversification of exports destinations. Therefore, the overall participation in the Andean zone for imports increased more than 10%, while the share in exports remains equal.

Imports are also concentrated. The main partners are from countries from other parts of the world. The share for both periods remains stable; 69.7% of total imports for both time periods. Some changes are reflected in regional imports, increasing participation with regional partners and decreasing imports from Andean countries, especially for completed vehicles. This result could be the effect of the FTA with Mexico, which is one of the most important automobiles producers in the world.

In the same context, but in the case of Ecuador, the trade balance shows a decrease in the deficit, passing from 75.6% to 70.8%. There are two facts that must be acknowledged. The first is related to the dimension of the trade deficit in the sector, which is the largest except for Peru. For the second time period, the deficit is the smallest amongst the selected countries. The second fact is that Ecuador is the only Andean country with a reduction in the trade deficit.

Furthermore, Ecuador does not have significant changes in their export patterns across the different markets and the different products. The shares remain stable in the two period analysed. The effects of the customs union break did not modify the export behaviour in a way that could be considered significant.

The result of the export structure indicates that most of them are concentrated in Andean countries, especially in final products. Those products have an export rate of 99% in the first period, and 98.8% in the second. The regional partners have a concentrated export structure as well, being focused on final products but with a lower share, increasing from 58.4% to 65.2%. Those results reflect a decrease in the demand for parts and components.

On the other hand, the imports the structure has changed, giving more relevance to world partners and replacing the Andean and regional suppliers. The change is from 9.9% to 10.6%, shifting also the demand for parts and components from 9.9% to 10.6%. This could be caused by the increase in the export share for Andean countries, because the automobile industry is based on assembly lines which demands inputs.

Nevertheless the imports are highly concentrated in completed vehicles. The share is 84.6% and 83.8% respectively for the first and second time periods for world partners. The structure remains equally concentrated for imports from regional and Andean partners who have faced a reduction in their market share of the Ecuadorian market.

To conclude with this country, the export share shifted from 12.9% to 42.6%, becoming clearly the leader during the decade in Andean region. The import share decreased from 19.2% to 18.5% as well. These two results combined reflect the trade deficit reduction and the increase relevance of the sector into the trade policy during the last years. In recent times, the government is creating new industrial policies through the imposition of progressive ad-valorem import tariffs according to the value added to the final product locally.

For Peru, a country which is regarded as a small automobile producer, the analysis of export structure is not relevant to the overall results. This aspect is reflected in the trade deficit, which was 96.1% in the first period, while for the second it increased to 98.7%. In addition, it is also important to remember that Peru was not part of the Complementary Agreement in Automobile industry for Andean Countries.

The trade structure in exports indicates that the destinations are Andean countries, increasing the participation between periods by 3%. This result applies particularly to completed vehicles. The second most important change is the regional trade figures which have increased the most, shifting from 29.7% to 36.3%. The outcome was obtained due to the increase in the export capabilities for buses and heavy trucks, particularly to Chile, which is a natural partner due to their proximity.

On the other hand, the import structure shows the lack of integration with the Andean market, showing the lowest share of 0.2% and 0.3% for the two periods. Most of the imports are from other parts of the world, having a share of 72% and 73.7% for each period. Moreover, most of the import demands are concentrated in final goods and the structure is similar between the different import partners, reflecting the lack of development in the industry complex.

Nevertheless the participation of Peru in Andean exports has increased from the 1.4% to 2.6%. This result is caused by two factors; the first is the reduction in the export participation of Venezuela, and the second is the increase of exports to regional partners. As a matter of fact, the share of automobile imports also increased, from 12.9% to 24.6%. However, the increase in exports is not enough to compensate for the increase in imports, harming the performance of the sector and increasing the deficit.

The situation for Venezuela reflects the particular situation of the policy applied by the government during the decade. The first indicator is the trade deficit which has equal results with the other Andean countries, increasing the value among periods from 70.2 to 91.8%. This result is obtained even though trade volume has decreased.

The exports of Venezuela have more diversified destinations than the other Andean countries under the Complementation Agreement. The most important destinations are the regional markets, increasing share from 37% to 43.7%, without any significant change in the export structure. The exports to the rest of the World also have the same trend, increasing from 26.4% to 29.5%, but at difference of previous destinations

analysis, the trade structure changed, privileging the export of other vehicles and decreased in the demand for parts and components.

Contrast the exports to Andean markets decreased more than 10% between the periods, affecting the structure of the export goods as well. In this context the demand share shifts from final automobiles to parts and components and other type of automobiles.

With these results, Venezuela's production is facing trade isolation, when compared with other Andean countries. Total exports passed from 25.8% to 8.1% between time periods, while imports decreased from 41.75 to 14.7% as well. Consequently, this isolation is related to some government policies like foreign exchange market limitations, price control and import quotas imposed by the government.

FACTORS AND VARIABLES SHAPING THE TRADE PATTERNS

The results of previous chapters indicate that the performance in trade patterns for Andean countries differs. Complementary to the previous chapters, the variables analyzed in this point will describe some variables that could affect the performance from a macroeconomic perspective, expanding the analysis to cover the impact of some other variables in industrial environment.

A. Economic Growth

During the 90s, which was labelled as "lost decade" due to the lower average growth rate compared with previous time lags, economic growth was 2.9%. At the end of the period, the region faced a severe financial crisis, blaming the Washington Consensus reform period implemented by Latin American countries (Reforma, 1997). The main effects on Andean economies were diverse and affected social composition and economic performance.

But things changed dramatically during the next decade in Latin America due to the increase in the average growth, being 3.6%. However, we have to consider the "commodity boom" in 2003, caused by the raise in the price of raw materials. This could have had effects over economic growth into the region. Moreover, analyzing the different growth rates, the Andean Countries are above the Latin American average, except for Venezuela.

Furthermore, Peru is the country with higher than average during the period, with a 5.6% growth rate, increasing their current GDP from USD 55.33 billion to USD 180.76 billion. The remarkable Peruvian growth was during the period 2003 until 2008, when the growth was 10% annually. The main sectors that bolstered these figures were the industries related to mining activities, being the World's leading producer of silver and the World's second highest producer of cupper. According to the US Geological Survey, the country has the third largest mineral reserves in the World (MEM, 2013).

This important endowment of natural resources is also complemented with the production of other important industrial goods.

For the case of Ecuador, the country registered the second most important growth in the decade, with 4.7%. Between 2000 and 2006 the average was 5.1%, meanwhile during the other part of this period the average decreased to 4.2%. The Ecuadorian GDP and government budget is mainly dependant on oil production; therefore the growth rate reflects the increase in oil prices. The highest point was in 2004 with 8.8% while the lowest point was in 2009. In addition, agricultural goods are also important and represent a great share of their exports.

In third place is Colombia achieving a 4.3% average growth rate. The most significant was in 2007 with 6.9%. The lowest points in the series were in 2001 and 2008 when the rate was 1.7%. One of the most important achievements is the stable trend, showing the lowest standard deviation of the period.

Figure 17
Economic Growth in Andean Economies
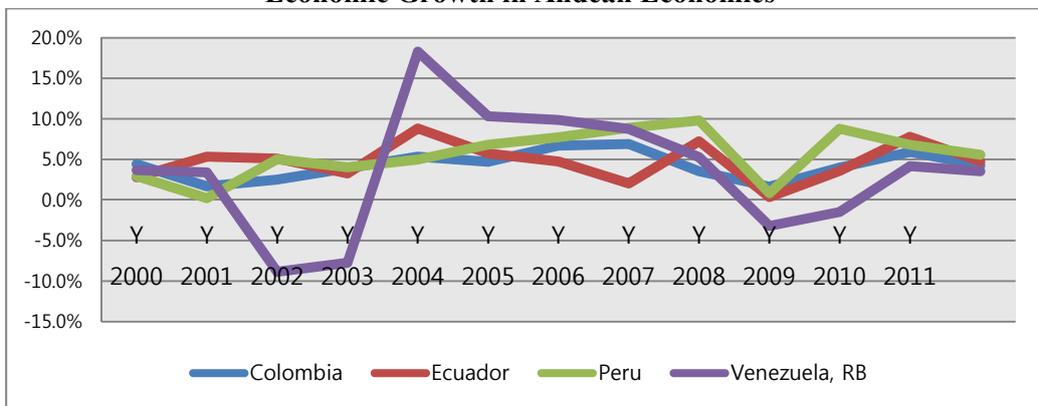

Source: World Bank

In last place is Venezuela with an average growth rate of 3.5%. The country recorded negative growth in two time periods; 2002 – 2003 and 2009 – 2010. The first recession was driven by internal politics and a crisis caused by a strike in the public enterprise,

which is responsible for all oil production in the country, "Petroleos de Venezuela S.A. – PDVSA".

The second crisis period was a consequence of the international financial crisis, which reduced the demand for oil, therefore causing a reduction in oil prices. In this point, we have to recognize the dependency on oil production, which determines the economic cycles, especially during the last decade. The country has become the one with the largest proven crude oil reserves between OPEC members, with 297.6 billion of barrels, representing 25% of the total reserves (OPEC, 2012).

In terms of GDP per capita, Venezuela is the country with the top, being higher than Latin American averages. It was USD 13,657.75 in 2010. For the next year it dropped to USD 10,809.56, a fall of 20.9%. The growth of the GDP per capita was 124% during the period. The second highest GDP per capita is Colombia, achieving USD 7,104.03 in 2011. The lowest point was recorded in 2003, when the income was USD 2268.88.

Figure 18
GDP per capita in Andean Economies
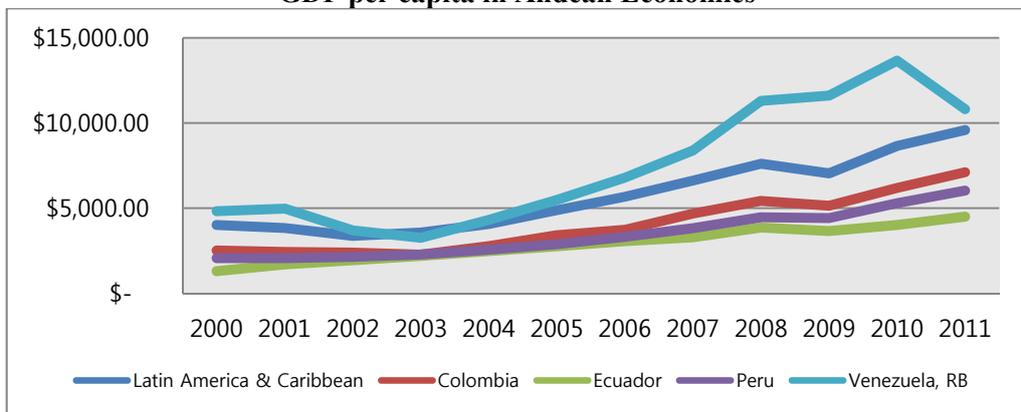
Source: World Bank

On the other hand, Peru has a GDP per capita of USD 6017.91 as of 2011, which is the highest value registered in the time period. The trend of increasing income is stable during the time period with a growth rate during the whole period of 192%. The lowest

point was in 2001 with a GDP per capita if USD 2056.40. The country with lowest income is Ecuador with USD 4496.47 of GDP per capita in 2011, which at the same time constitutes its highest rate for the period. In 2000 the income was USD 1291.34, meaning a growth rate of 248%. It is also remarkable that the country has the lowest standard deviation.

B. Industrialization Progress

Another important variable related to the performance in the sector is the industrialization process. As a general trend, the value added of manufactures and industrial products as a share of GDP is decreasing for all Andean countries, at an even higher speed than other Latin America and Caribbean countries. The point to be solved is determined by which country has been affected the most.

As in the previous chapter, the period is divided considering the FTAs signed by Peru and Colombia, and the latter desertion of Venezuela from Andean Community. Thus, the time analysed is divided in two periods, the first from 2000 to 2006, and second from 2007 to 2011.

The results indicate that during the first period the industrialization value added was higher for all the Andean countries than for the second time period. The reasons for this performance are related to the unstable decade, due to the international financial crisis in United States and Europe, the commodity boom in 2003, the increase in demand for raw material from China and India, and the increase in the production of manufactured goods in China.

Starting with the analysis, at the beginning the country with the highest industrialization level was Venezuela, with an average of 16.5%. Although it is the highest across Andean countries, the rate is lower than the regional average by 1.5%. This country also has the highest reduction in the value of the production of industrial products with a difference of 2.9% between the time periods. Congruently, Ecuador has

the same trend, but the difference is this country has the lowest average on the verge of decade, with 12.8%. The reduction between the periods was around 2.5%. Both countries have a decrease in this variable higher than the entire region in general.

Figure 19
Value Added of Industrial goods as share of GDP
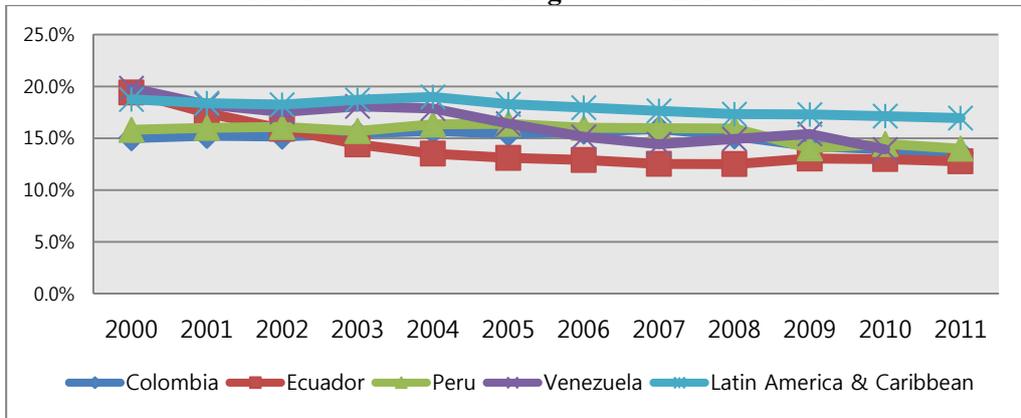
Source: World Bank

The results are the opposite for Colombia and Peru. When we compare them with the regional trend, it shows for Peru a reduction of 1.2%, and better performance in Colombia with a decrease of 0.8%. These results allow the conclusion that the countries with policies strengthening the market's role in the economy faced lower reduction in their industrial value. Nevertheless the region, especially the Andean countries, is specialized in the production of primary goods and services, meanwhile the production of industrial goods is based the natural comparative advantage based on the endowment of natural resources.

C. Trade Trends

The exports during the period of analysis are considered as one of the main aspects of the performance review. In the first instance, the country with higher exports per-capita is Venezuela, starting the period with USD 1273, and increasing the sales to USD 3168 in 2010. The total growth rate is 149%, with an average of 13.3% per annum, the

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lowest for Andean countries. It also presents the highest standard deviation with 31%, showing the volatility of this growth, due to the high importance of oil exports.

The second most important export country is Peru, which started the period with the lowest level of integration to foreign markets, exporting per capita USD 265. This value increased to USD 1552 in 2011. The total growth rate is 484%, which is the highest into the selected countries, representing an average of 18.3%. It has the second largest standard deviation with 14.9%, caused by the high export performance and the increase in the export rate.

Figure 20
Exports per-capita in dollars
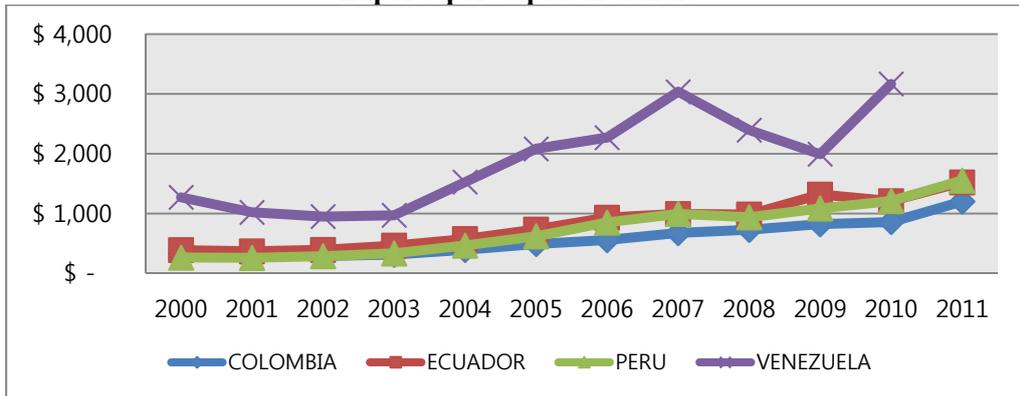
Source: UNCOMTRADE and World Bank

The third most integrated country to foreign markets is Ecuador, registering an export per-capita of USD 391 in 2000, increasing to USD 1523, which reflects a growth rate of 290% during the period, representing an average of 14.1% annually. The standard deviation is 14.8%, which in similarity with Venezuela reflects the importance of the exports fluctuation of oil but also food.

The least integrated market is Colombia, starting the period with USD 331 in 2000, and ending it with USD 1203 of export per-capita. The growth during the period was 263.4%, the second lowest of the selected countries. The average expansion was 13.2%,

but in contrast it has the lowest standard deviation, meaning that the economy had suffered lower effects of the unstable time period.

Figure 21
Share of Venezuela's Export by Cluster
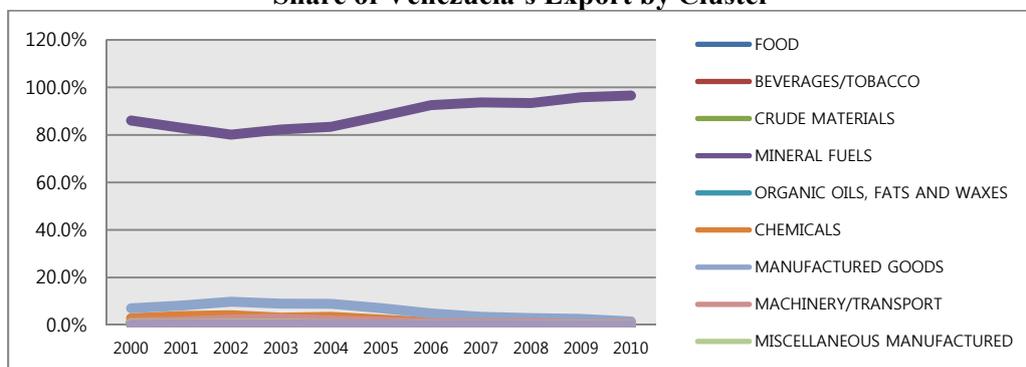

Source: UNCOMTRADE

The following paragraphs look for those products which are the most relevant to exports in each country, in order to understand the general results. Venezuela is the first country analysed, and basically the exports are concentrated in mineral fuels, with an average share of 88.6% during the period. The share was 86.1% in 2000, decreasing to 80.1% in 2002 as consequence of the strike in PDVSA[9]. At the end of the period the country had a rate 96.6%. This specialization process is caused by the recent increases in their oil reserves and the dependency of its value.

On the contrary, Peru is the country with the most diversified export structure. This can be interpreted as the main reason they suffered the least impact in the unstable decade. Exports are divided in four main clusters: crude materials with an average of 23.8%, manufactured goods which is the second larger cluster with a decreasing trend but with a participation of 19.5%, commodities not classified goods is the third one with 19.3% and food with a share of 17.5%.

[9] State owned enterprise responsible of the oil extraction.

Figure 22
Share of Peru's Export by Cluster
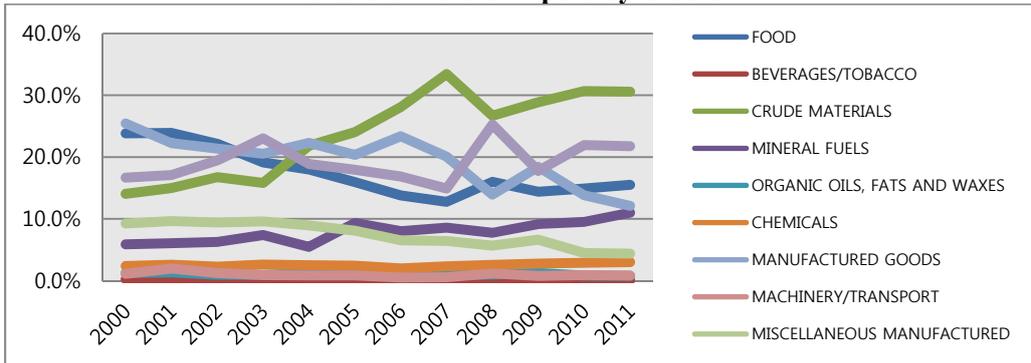
The Colombian situation indicates that the main export cluster is based on the trade of mineral fuels, with an average share of 43.2%. The increase of exports during the period constitutes almost two thirds of total exports. The second most important export cluster is food with an average of 14.7%, followed by manufactured goods with 12.1%. The last two clusters have a decreasing trend, replicating the same tendencies of the other two countries, centered in the export of raw materials and primary cluster.

Figure 23
Share of Colombia's Export by Cluster
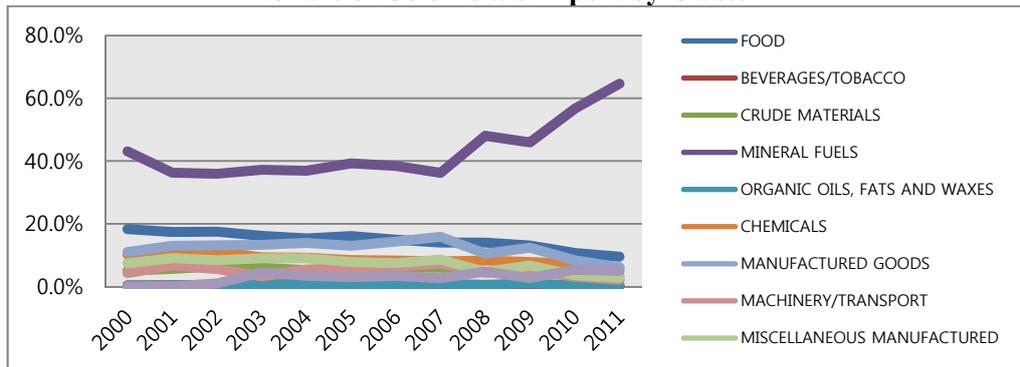
The export situation in Ecuador reflects the concentration in two clusters. The first is mineral fuels with a 53% and increasing share trend during the whole period. The second is food which has a share of 31.7% and a decreasing percentage. The results show a mirror effect between these two clusters over exports. It means when one of those two clusters increases its share the other decreases in almost the same proportion. This result suggests that the other clusters have not been significantly affected by the changes in the main export clusters.

Figure 24
Share of Ecuador's Export by Cluster
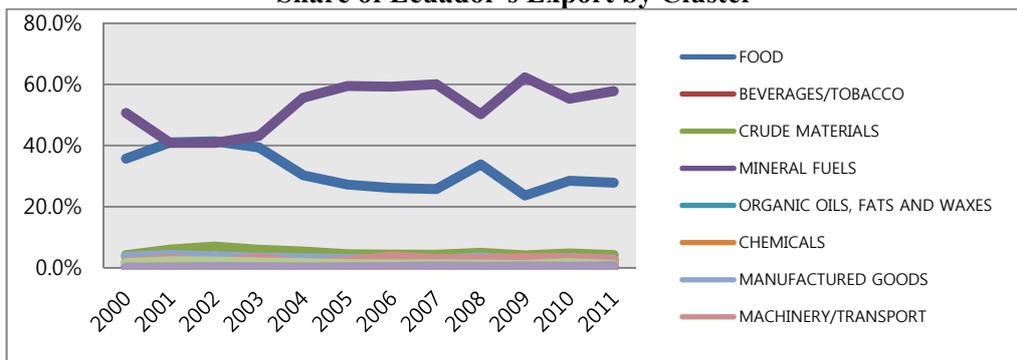
Source: UNCOMTRADE

Therefore, this analysis shows that exports have been an important factor in the economic growth of the countries, by showing increasing values. Nevertheless, the most important clusters for Andean countries are related to raw materials and food, especially due to the increase in prices of these products caused by the increase in demand for these products in China. The consequence of the international labour division and the specialization patterns also suggest that the regional specialization towards the production of raw materials is harming or reducing the total value of the industrial value added in the GDP, which can harm the performance of industrial policies.

D. Trade Policy

The Andean countries had similar trade policy during the latter half of the twentieth century, starting with the Agreement signed between the countries of the Latin American Integration Association (LAIA) in 1980, later with the formation of the Andean Community (CAN) implementing the "Customs Union Agreement" in 1987 and finally being part of the Global System of Trade Preferences (GSTP) in 1988. The four Andean countries all share the common history of forming and join the above mentioned trade agreements.

However, the trade policy differs from the last half of the first decade in the 21st century. After failing to realize the Free Trade Area of the Americas (AFTA) in 2003, the business strategy of Colombia, Peru and Ecuador was focused on seeking a trade agreement with the United States, the largest partner in the region. After negotiations, just two first countries signed the agreement in 2006, while Ecuador did not achieve any contract.

As a matter of fact, this agreement changed the Andean trade policy and the coordination mechanism inside the Andean Community. This was used by Venezuela, which since 1999 with the elected President Hugo Chavez; to always oppose free trade, especially with developed countries, which is the reason why Venezuela never participated in negotiations with the United States.

In the case of Ecuador, the decade under study is different than the other selected countries due to the constant changes of presidents. During the period 2000 - 2007, the country had four presidents. The last, Rafael Correa, has managed to maintain political stability. However, his regime changed trade policies many times closing the possibility to sign any FTAs with traditional partners in developed countries. Instead, new complementation trade agreements have been negotiated with regional partners who are not traditional trade partners.

In the Dispute Settlement tribunal in the WTO, Peru has received a suit from Brazil, complaining about the Peruvian government's countervailing duty investigation against the import of buses. However, the other three countries had never been involved in any dispute with other countries for matters related to the automotive sector.

Table 4
Regional Trade Agreements registered in WTO

	COLOMBIA		ECUADOR		PERU		VENEZUELA	
	SIGNATURE	ENTRY INTO FORCE	SIGNATURE	ENTRY INTO FORCE	SIGNATURE	ENTRY INTO FORCE	SIGNATURE	ENTRY INTO FORCE
CAN	1987	1988	1987	1988	1987	1988	1987	1988
CANADA	2008	2011			2008	2009		
CHILE	2006	2009			2006	2009		
CHINA					2009	2010		
COSTA RICA					2011	2013		
EFTA	2008	2011			2010	2011		
EUROPEAN UNION	2012	2013			2012	2013		
GSTP	1988	1989	1988	1989	1988	1989	1988	1989
JAPAN					2011	2012		
KOREA					2011	2011		
LAIA	1980	1981	1980	1981	1980	1981	1980	1981
MEXICO	1994	1995						
MEXICO					2011	2012		
NOTHERN TRIANGLE	2007	2009						
PANAMA					2011	2012		
PTN					1971	1973		
SINGAPORE					2008	2009		
UNITED STATES	2006	2012			2006	2009		
TOTAL	10		3		16		3	

Source: WTO

In addition, Colombia as a third party has joined United States to complain against China in countervailing duties on certain automobiles in July 2012. This result suggests that the increase in measures to promote the automotive sector applied by Andean countries have been taken with consideration to the regulatory framework of the WTO.

Another factor to consider about complaints in the WTO is the total value of the production in the automotive market and its entailment with foreign companies. One of the reasons may be the quantity of production in the sector, which is not globally significant to draw an interest from other automobile producing countries. Another reason could be that the potential companies interested in automotive industry in Andean countries, they can also be a potential complain countries in WTO. As a consequence, the real stakeholders are medium and small companies in the sector, with less ability to complain due to the resources required to proceed with a complaint.

E. Budget Management

According to economic theory, government expenditure is one of the variables which affects the level of consumption in the economy. In this context the share of the government expenditure over GDP can provide an important insight about this variable. Also, fiscal measures implemented in the Andean countries can also be used as a feasible factor to explain the automotive industry performance.

The figure 25 shows that Peru is the country with the lowest level of government expenditure. The average share was 19.2%, meanwhile the standard deviation is 1%, reflecting the stable behaviour in respect to the budget and the policy priorities. Another country that could be categorized as having the same trend is Colombia, even though it has higher government expenditure with an average of 27.7%, and a lower standard deviation with 1.2%. Those Andean countries with their policy objectives reflect their commitment for budget stability and less state intervention in the economy.

On the other hand, Ecuador and Venezuela have more economic intervention. For the first country we have two periods, the first characterized by following objectives related to budget control and government intervention over the economy, having an average of 21% with respect to the GDP from 2000 to 2006. The second period is characterized by an important increase in government expenditure. The average had an increase to 35.6% from 2007 to 2011. After 2007, Ecuador was ruled by a new party which is more focused on public service, which caused higher expenditure.

The last country, Venezuela, also present a trend similar with the second period of Ecuador, showing an increase of the government relevance over economic situation. Moreover, all the stages have an average of 33.7%, with a standard deviation of 3.4% which is higher compared to countries which are more market lead. At the beginning of the period the share was 28.3% increasing constantly until reaching 40.1% in 2011.

Figure 25
Government Expenditure as percentage of GDP
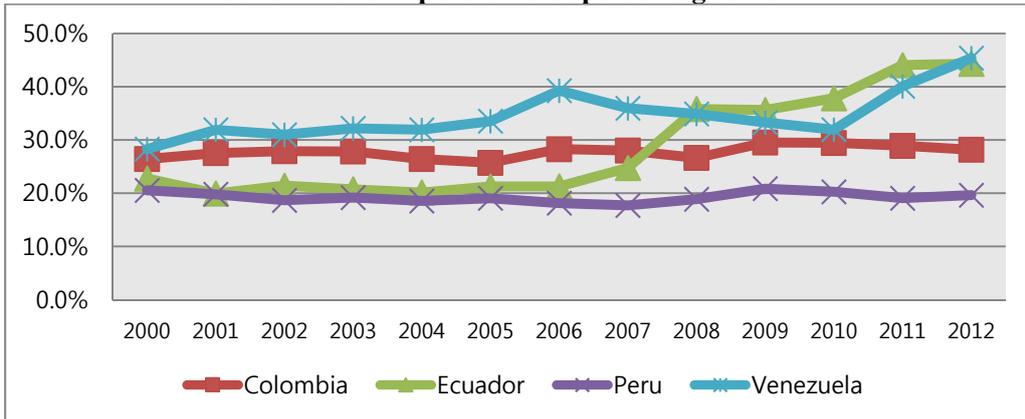
Source: IMF

F. Integration Policy

The integration patterns inside the Andean countries had been relatively coordinated between the members, but after the failure in the negotiations of the America's Free Trade Area, United States proposed the negotiations of regional FTA with Andean countries, gaining a positive answer from Colombia, Ecuador and Peru. Venezuela and Bolivia decided to not been part of the dialogue.

A few years of tough negotiations which also divided the Andean position, there was a change of strategy. At the beginning of the process it was a joint partnership between Andeans. But few months later, the Andean strategy was modified for individual FTA negotiations. The first country finishing the negotiations was Peru, then Colombia as well. The process for Ecuador was cancelled because during the negotiations, the parts had difficulties to reach agreements in different topics, like agriculture, services and property rights.

On the other hand, Venezuela, which never agreed to trade negotiations with the United States, announced the decision to leave the Andean Community, justifying the break of regional coordination in the customs union and the protection coordination process for

sectors declared as a priority, thus dividing the region. In this context Ecuador changed the trade policy after 2007 because the shift in the government and political agenda, creating a partnership with Venezuela, and other regional countries like Bolivia, Nicaragua, Cuba, Dominica and Antigua & Barbuda, naming the partnership ALBA[10]. It is also important to recognize that nowadays Venezuela has been approved to be part of MERCOSUR, and Ecuador is also requesting access to this regional agreement.

The countries promoting the free market have also signed an agreement consolidating different regional alliances with other partners who share similar policy objectives, especially with trade openness. The Pacific Alliance convened by Chile, Colombia, Peru and Mexico have the objective to increase the presence of their industries and products especially to gain access to Asia. This is being considered to be a response to ALBA and their objectives, which shows that the partnership between Andean countries is suffering the worse moment since its creation. Each country is seeking trade alliances with regimes with similar ideologies.

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[10] Acronym in Spanish, the translation is Bolivarian Alliance for the Peoples of Our America.

CONCLUSIONS

Undoubtedly, globalization and the new international governance structure have redefined both the role of the state and its policy-making process. In this context, the replication of the same industrial models applied in East Asian or Latin American countries during the 1960s and 1970s, based on protectionism, is no longer possible. However, some of these ideas and principles could be adapted to the new world environment.

Regarding the type of policies applied by the selected Andean countries, the main policy objectives vary greatly amongst them. On one hand we have Colombia and Peru promoting free trade, while Ecuador and Venezuela are utilizing trade restrictive protections, in order to enhance the sectoral competitiveness. This can be noted for the last half of the decade, supporting the comparison design.

Concerning the first research question, the design of industrial policies aimed at improving the performance of the automotive sector were not readily applied during the first half of the decade. The main reason for the intensity of the industrial structure is based on the heritage of the neo-liberal economic mentality and policies applied during the previous decade. Even though this reality was changing at the time, Venezuela showed more active policy-making design in the first six years.

While it is clear that the importance of industrial policy has increased for all governing bodies concerned, the implementation objectives differ greatly among them. In summation, since 2006 the Andean countries have taken different paths for their trade policy. On one hand, Colombia and Peru have the intention of promoting free market and trade openness. On the other, Ecuador and Venezuela increased tariffs to protect the automotive sector.

Supporting this conclusion, Ecuador was the sectoral winner, due to the fact that it was able to reduce the trade deficit and increase the share of the exports in the Andean

market. However it can be argued that the lack of diversification of export partners has increased, as they are still concentrated within the region. These results could be achieved through a combination of factors such as economic growth, an increase of the demand in Andean countries, regional integration with traditional partners and other factors.

Similarly, Peru has achieved export success due to the support of local demand, which has improved competitiveness in bus production. Today, buses are exported to Chile because of the FTA between these countries and their contiguity. Despite these results, the country cannot yet be labelled as an important automobile exporter. Peruvian deficit in the sector has increased, reducing the production share in the Andean community, which is not representatively significant.

In contrast with these two countries, the most important losses are recorded in Venezuela, where the principal trade policy is not rooted in the Andean Community. This has resulted in imposing import quotas, as the policy makers are not bound by the customs coordination program within the Andean region. Other important measures applied during the same period were restrictions in exchange markets, a price ceiling in automobile sales, the creation of public enterprises in the sector, generating the reduction of both imports and exports and the increase in demand for completed vehicles instead of parts and components.

In addition, Colombia experienced significant losses in this sector. Although it still has the most important share of the total automotive exports to the Andean region, sales to traditional partners have decreased. The government and the producers responded by giving more support to the industry through value-adding policies and actions, as well as more technological development and expansion of supply chains. The main results of those policies are reflected in the diversification of their exports to other countries in Latin America. Despite these efforts, the results of trade patterns are not sufficiently encouraging, due to a 30% increase in the trade deficit during the period of analysis.

Admittedly, the trade deficit in the region is high, which also marks the importance of internal demand. In this way, Ecuador and Venezuela are repeating old practices related to the import substitution model, reducing the sectoral deficit, increasing tariffs and imposing quotas for input imports. It is equally important to recognize that Venezuela has more aggressively approached the application of the industrialization process, resulting in the reduction of both imports and exports and has increased exports with Ecuador.

On the contrary to the previous statement, Colombia and Peru have attempted to promote the automotive industry more passively through indirect government intervention. The development of a sectoral plan, the promotion of investments, trade facilitation and similar policies were the main driving forces for the sector's performance. Similarly, Peru has implemented a "Scrapping Bonus" for heavy transport which has created positive pullovers in the export.

Consequently, the role of the state and its institutions can be noted as relevant in promoting and enhancing industrial development over a specific sector. We are unable, however, to draw conclusions about which type of policies have been more effective, due to conflicting results among the countries and their policies.

Furthermore, the increase in the trade deficit is a consequence of the positive economic growth in all of the selected countries, combined with the increase in the export of raw materials, as well as the rising demand of vehicles. Despite the fact that local producers had incentives to develop the sector, the figures were promising throughout decade, almost in its entirety.

The evidence of all of these factors indicates that the industrial progress in the sector was not sufficient enough to increase supply at the same speed at which demand was increasing, following the path of the other industrial sectors and reflected in the overall export performance.

In addition, the relative stability of a number of industries supplying the local markets suggests that the strategy followed by different global producers is based on production in other factories outside the Andean community. The lack of an increase in the production of automobiles could be a consequence of the lack of incentives for investment. The falling investment may be caused by the fact that the number of potential competitors is rising.

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Appendix

Appendix 1: List of Market destinies.

ANDEAN	LATIN AMERICA
Bolivia	Argentina
Colombia	Aruba
Ecuador	Bahamas, The
Peru	Barbados
Venezuela	Belize
	Bermuda
	Brazil
	British Virgin Islands
	Cayman Islands
	Chile
	Costa Rica
	Cuba
	Dominica
	Dominican Republic
	El Salvador
	Guatemala
	Guyana
	Haiti
	Honduras
	Jamaica
	Mexico
	Nicaragua
	Panama
	Paraguay
	St. Lucia
	St. Vincent and the Grenadines
	Suriname
	Uruguay

WORLD			
Afghanistan	Faeroe Islands	Macao	Sao Tome and Principe
Albania	Fiji	Macedonia, FYR	Saudi Arabia
Algeria	Finland	Madagascar	Senegal
American Samoa	Fm Sudan	Malaysia	Seychelles
Andorra	Fr. So. Ant. Tr	Mali	Sierra Leone
Angola	France	Malta	Singapore
Antigua and Barbuda	Free Zones	Marshall Islands	Slovak Republic
Armenia	French Polynesia	Mauritius	Slovenia
Australia	Gabon	Micronesia, Fed. Sts.	Solomon Islands
Austria	Georgia	Moldova	South Africa
Bahrain	Germany	Montenegro	Spain
Bangladesh	Ghana	Montserrat	Sri Lanka
Belarus	Greece	Morocco	St. Kitts and Nevis
Belgium	Greenland	Mozambique	Swaziland
Benin	Grenada	Myanmar	Sweden
Bhutan	Guam	Namibia	Switzerland
Bosnia and Herzegovina	Guinea	Nauru	Syrian Arab Republic
Botswana	Guinea-Bissau	Nepal	Tajikistan
Brunei	Holy See	Netherlands	Tanzania
Bulgaria	Hong Kong, China	Netherlands Antilles	Thailand
Burkina Faso	Hungary	New Caledonia	Togo
Cambodia	Iceland	New Zealand	Tokelau
Cameroon	India	Nigeria	Tonga
Canada	Indonesia	Niue	Trinidad and Tobago
Cape Verde	Iran, Islamic Rep.	Norfolk Island	Tunisia
Central African Republic	Iraq	Northern Mariana Islands	Turkey
Chad	Ireland	Norway	Turkmenistan
China	Israel	Occ.Pal.Terr	Turks and Caicos Isl.
Christmas Island	Italy	Oman	Tuvalu
Cocos (Keeling) Islands	Japan	Other Asia, nes	Uganda
Comoros	Jordan	Pakistan	Ukraine
Congo, Dem. Rep.	Kazakhstan	Papua New Guinea	United Arab Emirates
Congo, Rep.	Kenya	Philippines	United Kingdom
Cook Islands	Korea, Dem. Rep.	Pitcairn	United States
Cote d'Ivoire	Korea, Rep.	Poland	United States Minor Outlying I
Croatia	Kuwait	Portugal	Unspecified
Cyprus	Lao PDR	Qatar	Us Msc.Pac.I
Czech Republic	Latvia	Romania	Uzbekistan
Denmark	Lebanon	Russian Federation	Vietnam
Djibouti	Liberia	Rwanda	Western Sahara
Egypt, Arab Rep.	Libya	Saint Helena	Yugoslavia
Estonia	Lithuania	Saint Pierre and Miquelon	Zambia
Ethiopia(excludes Eritrea)	Luxembourg	Samoa	Zimbabwe

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Appendix 2:   List of final products classification.

FINAL	OTHER	PARTS
Buses etc nes	Agric self-load trailers	Motor car bodies
Concrete mixer trucks	Containers,goods transpt	Motor veh body parts nes
Crane lorries	Cycles not motorized	Motor veh chassis+engine
Diesel buses	Housing/camping trailer	Motor veh drive axle etc
Dumpers, off-highway use	Invalid carriages	Motor vehicle bodies nes
Fire fighting vehicles	Mot veh non-drive axles	Motor vehicle brake/part
Goods transp vehicle nes	Motorcycles et 250-500cc	Motor vehicle bumpers
Mobile drilling derricks	Motorcycles et 500-800cc	Motor vehicle gear boxes
Pass motor veh exc buses	Motorcycles etc >800cc	Other motor vehcl parts
Semi-trailer tractors	Motorcycles etc 50-250cc	
Snow/golf motor buggies	Motorcycles etc i/c<50cc	
Special motor vehcls ne	Motorcycles etc nes	
Transport Vehicles of ten or more	Non-motor vehicles nes	
	Other goods trailers	
	Parts,acces cycles etc	
	Parts/acces inv carriage	
	Parts/access motorcycles	
	Tanker trailers/semi-	
	Trailer/semi-trailer nes	
	Trailer/semi-trailer pts	

Appendix 3: Average Value Added of Industrial goods as share of GDP

Average Value Added of Industrial goods as share of GDP

Country	2000-2011	2000-2006	2007-2011	Difference
Colombia	15.0%	15.4%	14.6%	-0.8%
Ecuador	14.2%	15.2%	12.8%	-2.5%
Peru	15.6%	16.0%	14.9%	-1.2%
Venezuela	16.5%	17.6%	14.7%	-2.9%
Latin America & Caribbean	18.0%	18.5%	17.3%	-1.2%

Source: World Bank

Appendix 4: Annual Growth of manufacture Value

Annual Growth of Manufacture Value

Country	2000-2011	2000-2006	2007-2011	Difference
Colombia	3.6%	4.7%	2.1%	-2.6%
Ecuador	4.1%	4.2%	3.9%	-0.4%
Peru	5.8%	5.4%	6.4%	0.9%
Venezuela	1.7%	3.0%	-0.1%	-3.1%
Latin America & Caribbean	2.4%	2.8%	1.9%	-0.9%

Source: World Bank

At the end I want dedicated this research to my mother, who taught me the most important value in life: fight for your dreams with all your energy. To my father who also trained me with tenaciousness that is the key to open all the doors of knowledge, and also to my youngest brother who always has been a source of inspiration and example of honesty.