



Resource Abundance and Its Impact on Latin American Economic Growth

Karen I. Poppe A.*

School of Economics and Business, Southeast University, Nanjing, China

*Corresponding author: karenpa_90@hotmail.com

Abstract Do abundant resources have any effect on the economic development of countries or are they the cause of a resource curse? The controversy generated about this research area is still active in many analytical frameworks. This paper makes a thorough empirical research on the relationship between resource abundant countries in Latin America and their economic growth. Scholars have found different arguments to argue about the resource curse existence and literature about the resource abundance and the most representative variables that can have effect on it, they all englobe general variables such as production, openness and investment as the most influent ones on the issue. The paper focuses on Latin American countries which are resource endowed and analyze their economies' behavior to find out the relevant issues that put them in their current position on the world. In general terms, the findings reveal that after controlling the relevant variables such as labor force, production, openness, and investment the relationship and influence of the primary goods exports on the economy is not as significant as it was though, especially during the last 25 years, when there has been more globalization, industrialization, technologic growth, and other factors that could have changed the economies in Latin American countries. The results showed that the variables related with trade, exports or Natural Resource production had less impact in the economy lately; however, variables very related with investment, resource allocation, income distribution and others directly related with governmental decisions have more impact in Latin American economies, since problems such as corruption and bureaucracy have been causing major issues throughout the history. Natural resource endowment for Latin American countries had lead these economies to work focused on their production; nonetheless, in recent years, evidence does not show the existence of a "resource curse" but a poor governmental management which has taken Latin American economies to challenging economic episodes during the course of the history.

Keywords: resource curse, natural resources, resource endowment, resource based exports

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1. Introduction

Natural resource endowment has been considered as a real blessing since old times, Countries highly endowed with natural resources have an important advantage over countries that are not and making people to move from one place to another looking after finding natural resources abundance. However, year after year and specially after World War II the development of countries has accumulated enough evidence that countries with more resources tend to grow slowly, showing that natural resources are more a curse than a real blessing.

Not only growth, talking about economic variables, has been affected in a negative way but also there has been a more unequal distribution of income and a larger share of people leaving beyond the poverty rate. Problems such as corruption, unnecessary expenses done by the governments; especially military, authoritarian regimes and face a higher probability of an armed conflict [1]; this problems can also make endowed countries to have

weaker institutions through which resources influence the course of economy.

Miguel Cervantes Saavedra (1605) said once "the richness owner is not blissful to own them, but to spend them, and not to spend in the way he/she wants, but know how to spend them well". And he said it in a time when Spain enjoyed abundant natural resources, such as gold, which they recent found in Latin America.

1.1. Background Study

Major resource endowed countries in Latin America

Throughout, the history of the Latin American region, natural resource wealth has been very relevant for its economies. For example, production of precious metals, rubber, oil, coffee and some other grains have at various periods of history made countries in Latin America, some of the most successful in the world. Latin American commodities have changed the course of history of the world, produced around 80 percent of the world's silver in the 16th through 19th centuries, fueling the monetary systems of not only Europe, but China and India as well [2].

Since the early 2000s, there have been many intense movements in commodity markets, which caused hard times, crisis and movements around Latin America (LA). Countercyclical policies have supported domestic demand in the larger LA economies, and external demand from fast-growing emerging markets has boosted exports and terms of trade for LA's net commodity exporters. For the short term the economic situation for LA seem to look good, however, current situation has made LA countries make a lot of effort to reorient their vision, seize opportunities to boost long-run growth especially considering the large gaps that LA would need to close in such key areas as saving, infrastructure, new technologies adaption and human capital accumulation.

The fact that natural resource prices are more volatile than other prices is well established; markets for primary products (commodities), are known for their instability. This probably translates into superior ambiguity for primary commodity producers, and also extends through to other sectors in resource abundant economies. In Latin America, most of the countries are very well endowed with different kind of resources, the most important ones are petroleum, natural gas and coal. In the following Table 1, a compilation of the resources each country owns is described.

1.2. Purpose of Study

The Purpose of study of the current Thesis can be classified into three aims, first to present statistical, historical, theoretical and empirical arguments about the resource abundance on each country and analyze the different theories and their relationship among each other to understand their current position in the global market and their impact on the economy of each country. In

addition, the paper also looks forward to discuss, approve and mitigate the theories found about the resource abundance, analyzing the trade flow of Latin American countries. Finally, aims to understand, analyze and demonstrate the interaction among variables and bear out the effects of previously mentioned theories in Latin America.

1.3. Objective of Study

The primary objective of this research is to test whether the level of resource abundance in Latin American countries, has positive, negative or no effect in their economic growth.

1.4. Innovations

The current paper makes a thorough investigation mostly focused on checking up on the Natural resource abundance impact on the economic growth of Latin American countries, based on the resource curse concept. The resource curse has been studied by many analysts considering countries all over the world; however, this paper focuses on Latin American countries and updated data of the past 20 years, which allows to know if nowadays there is still a resource curse or the economic growth of countries depends more on other variables.

Diverse information from different authors is displayed and a new econometrical model is made based on the compilation of variables considered to be the most relevant on the analysis of many analysts. The findings of the research reveal the significance of the mentioned variables on the economic growth of the Latin American countries and whether the resource curse is a prevailing issue.

Table 1. COUNTRIES RESOURCES

COUNTRY	RESOURCES
Argentina	fertile plains of the pampas, lead, zinc, tin, copper, iron ore, manganese, petroleum, uranium, beef
Bolivia	tin, natural gas, petroleum, zinc, tungsten, antimony, silver, iron, lead, gold, timber, hydropower, lithium, meat, potatoes, grains
Brazil	bauxite, gold, iron ore, manganese, nickel, phosphates, platinum, tin, rare earth elements, uranium, petroleum, hydropower, timber, steel, cassava, cane, iron, coffee, cacao, fruits, beef, soy bean
Chile	copper, timber, iron ore, nitrates, precious metals, molybdenum, hydropower, fish
Colombia	petroleum, natural gas, coal, iron ore, nickel, gold, copper, emeralds, hydropower, coffee
Costa Rica	Hydropower, agriculture products
Cuba	cobalt, nickel, iron ore, chromium, copper, salt, timber, silica, petroleum, arable land, sugar, coffee, tobacco
Dominican Rep.	nickel, bauxite, gold, silver, coffee, sugar
Ecuador	petroleum, fish, timber, hydropower, cacao, shrimp, banana
El Salvador	hydropower, geothermal power, petroleum, arable land, coffee, sugar
Guatemala	petroleum, nickel, rare woods, fish, chicle, hydropower, coffee, sugar, bananas
Haiti	bauxite, copper, calcium carbonate, gold, marble, hydropower, coffee, oils
Honduras	timber, gold, silver, copper, lead, zinc, iron ore, antimony, coal, fish, hydropower, coffee
Mexico	petroleum, silver, copper, gold, lead, zinc, natural gas, timber
Nicaragua	gold, silver, copper, tungsten, lead, zinc, timber, fish
Panama	copper, mahogany forests, shrimp, hydropower
Paraguay	hydropower, timber, iron ore, manganese, limestone, soy bean, cotton
Peru	copper, silver, gold, petroleum, timber, fish, iron ore, coal, phosphate, potash, hydropower, natural gas, tin, chemicals
Puerto Rico	Some copper and nickel; potential for onshore and offshore oil. chemicals
Uruguay	arable land, hydropower, minor minerals, fish
Venezuela	Oil, sugar zinc, copper, flour, fruits, petroleum, natural gas, iron ore, gold, bauxite, other minerals, hydropower, diamonds, cacao, aluminum

Source: Compiled data from <http://www.indexmundi.com/factbook/compare/argentina.bolivia>.

2. Literature Review

Empirical studies present that natural resource abundance has an important role on economic growth, and many people have been analyzing this fact, not only in economic but in political and social areas, trying to figure out the impact of the resource endowment on the real growth of the countries; in addition, researchers intend to define the related variables, the interaction among them and identify if there is any real effect of the variables on the countries development level.

Following, the theories, arguments and researches previously mentioned are going to be described.

2.1. About the Resource Curse

The observation that rich economies or not “well endowed” countries can sometimes outperform poor economies is not a new concept. Different authors have made reference to this phenomenon, reaching to different conclusions. This fact was given a name, has firstly being called as “resource curse” by Jeffrey Sachs and Andrew Warner (1995) [3,4].

The resource curse refers to a modern economy paradox (also later known as paradox of plenty) [5] and authors opted to show economies natural resource exports ratio as share of GDP in 1971 (their base year), for countries which are basically known as well-endowed countries¹, and demonstrate that they tended to have low growth rates during the subsequent period 1971-1989. This negative relationship holds true after judging four variables found to be important to economic growth, such as initial per capita income, trade policy, government efficiency, and investment rates [6]. Acceptable or not, Sachs and Warner’s arguments have been discussed by many other authors.

One of the papers that mentions the content is Atkinson and Hamilton (2003), this shows that the countries most affected by the resource curse are the ones that react to export booms and substitute government consumption instead of investment. However, in 2006 it was found that there is a strong, negative relationship between a country’s investment in physical capital and its endowment of natural capital [7]. By the year 2008 for example, the resource curse existence was argued [8]. This theory considers that commodity booms have positive short term effects on output, but adverse long-term effects. The long-term effects are confined to “high-rent”, and non-agricultural commodities (the resource curse is avoided by countries with sufficiently good institutions).

Excessive and Intensive resource exploitation guided the manufacturing industry recession and the flaw of institution. As a result, the economic growth is embarrassed. In contrast to the previous arguments, Thorvaldur Gylfason [9,10] in two different researches tries to explain the effect of an investment in education of countries on the economic growth, together with the participation of skilled and unskilled labor in the primary sector, the countries’ exports and output growth of commodity producers. He figures out that the effects of

schooling generally drop in size and significance when primary employment or primary exports are related with economic growth. He implies that basically it is possible that a productive primary sector could affect wages in the secondary sector by offering high wages to its own workers (this because of a rise on exports of commodities and abundant natural resources inhibit the human capital generation of the secondary sector through its effect on the exchange rate), causing workers to move to the most lucrative sector, since secondary sector wages become less attractive; forcing the secondary sector to offer better wages to combat quits and this may deter hiring, learning and growth. Despite that affirmation, Stijns [11], argues that natural resource wealth (at least in the form of minerals) should be positively related to education levels, but the effects of wages and incentives should be better analyzed and considered in forward studies.

In later years, the human capital also was considered as part of the natural resources; every time, education role becomes more and more important and it is considered as having more impact on the economy. In 2011 [12,13,14,15,16], others argue that the relationship between natural resources and human capital might be different across countries. They construct a theoretical model where the natural resources endowment has a positive and important effect on education in countries with good institutions, and a negative effect in countries with bad ones. In addition, many studies have found that resource abundance has an effect on stability within a country. Moreover, when the types of resources are taken into account, the effects on duration and onset of civil war became clearer [16]. This helps understanding that human resources, and the institutions where they intend to work according to the different periods, play a very important role and can lead to civil problems if not well treated.

Another view [17,18] is countering that measuring natural resources considering terms of the export ratio to GDP is flawed. They argue that consumption in more developed countries would be bigger and increase the domestic consumption of their own resources discussing the resource abundance measurement made by Sachs and Warner [6]. Instead, they measure per capita oil and mining output. Nonetheless, the results they find that by adjusting the empirical measurement and methods, focused more on the overuse of growth rates as an indicator and the measure of resources as shares of GDP, there does not appear to be any resource curse for oil. Gylfason (2008) also makes the argument that natural capital, in the form of resources, can “crowd out” physical and financial capital, consumption can be financed through a faster reduction of the natural resource and saving can take place through less rapid depletion (or of more rapid renewal if the resource is renewable).

Based more on results analysis, some authors use the data and use the resource curse variables in a different way; Sala-i-Martin and Subramanian disaggregate the Sachs and Warner [19] “resource exports” distinguishing it into fuels and metals and agricultural and raw materials. What they find is that none of these exports have a direct effect on growth. Isham et al [20] also argue that some exports, if not controlled, can in turn affect to a country’s ability to deal with price shocks, ultimately letting prosperity being affected. Leite and Weidmann [21] went

¹ Well-endowed countries are the ones which have different Natural resources in bigger quantities comparing with the rest of the world.

deeper and decomposed the natural resource exports as a variable for their study looking at the existent connection of corruption and natural resources, economic growth and anti-corruption policies (however, there are still some argues about all of these findings being questionable because of using the GDP as a control variable [20].

Andrew Rosser [22], focuses on an analysis of all of the variables that Resource curse authors have considered and comes up with neutral results, which can be resumed in the following arguments:

While all of the ongoing researches on the resource show the association of resource endowment with negative development outcomes as conclusive evidence, there still are existing explanations for the resource curse do not adequately account for the role of external economic and political environments or social forces in shaping development outcomes in resource abundant countries; what is more, some of the resource abundant countries have performed quite well. No recommendation exists for overcoming the resource curse considering the issue of political feasibility. And, finally, the approaches to resource curse issues have been too reductionist and need to focus more on understanding variation in development outcomes between resource rich countries and the associated policy lessons.

There has been also an increasing body of literature that argues a non-existent resource curse. For instance, Lederman and Maloney [23] refer to it as a “missing resource curse”, who basically say that natural resource exports seem to have a positive rather than a negative effect on subsequent economic growth due to the relationship between various aspects of International trade, ranging from resource abundance to export expansion and subsequent economic growth. Several empirical analyses have found that there is no evidence of a resource curse and that the idea of a curse is a “red herring” that tempts policymakers into blaming economic problems on resource abundance [24]. Furthermore, Boyce and Emery [25] argue that resource abundance can even be a blessing in the long term.

2.2. Resource Abundance, Divergences and Related Arguments

The main problem of organizing the economy based on the natural resources’ exploitation, does not allow countries to get the welfare they expect. Behind the resource curse, there are different theories which talk about the resource abundance in the countries and explain that their impact on the economy is related to many different reasons.

Previously mentioned arguments and the query about the long-term growth effects of natural resource production and/or natural resource booms were studied implicitly through the issue of whether natural resource production promoted de-industrialization (new term proposed in the Dutch disease arguments [26]). In the Dutch disease model, there are 3 sectors in the economy: a tradeable (non-resource) manufacturing sector, a tradeable natural resource sector, and a non-traded sector. Labor and capital are not used in the natural resource sector but used in the manufacturing and non-traded sectors. The greater the endowment of natural resources is, the higher the demand for non-tradeable goods, and as consequence, the

smaller is the allocation of labor and capital to the manufacturing sector.

The problem comes when the shrinkage of the manufacturing sector caused by resource abundance can lead to a socially inefficient decline in growth; though there is nothing harmful about the decline in manufacturing if neoclassical, competitive conditions conquer in the economy. We can consider the Dutch Disease as a real disease talking about a source of slow growth and the “backward and forward linkages” also stressed by Hirschman and others, if such linkages constitute production externalities, or the famous “learning by doing” stressed by Matsuyama [27]. This also includes variables such as wages in different sectors, with the labor force moving across sectors causing distribution of employment and productivity problems as wealth effects pull resources in and out of non-traded sectors. These sectoral shifts can affect the growth in the long term, as shown in another context such as in Matsuyama.

Previous arguments also include foreign exchange income distribution, and the destination of savings, investment and capital of countries. One in particular [28], stresses that governments typically earned most of the rents from natural resource exploitation. Others argue that natural resource abundance unescapably leads to increase the corruption level and inefficient bureaucracies; or that high rents distract governments from investing in growth producers and focus more on supporting the public goods sector, such as in infrastructure. Ross [13] also implies the existence of a “rentier effect,” which suggests that resource-rich governments use low tax rates and patronage to dampen democratic pressures; a “repression effect,” which holds that resource wealth enables governments to strengthen their internal security forces and hence repress popular movements; and a “modernization effect,” which implies that growth that is based on the export of oil and minerals will fail to bring about the social and cultural changes that tend to produce democratic government. As a result, the argument suggests that the natural-resource intensive economies ended up with more inappropriate capital on their hands than other economies. However, a better analysis is needed because there must be something else going beyond only wasteful policies since there are still some countries which, despite being well resource endowment, have a significant economic growth.

One well-known problem considered to be part of the resource endowed economies is the volatility effect, which moves from booms and recessions considering them as cycles. For example, the high resource prices of the 1970s made the resource abundant countries to borrow heavily, and by the end of that period and the ending price collapse in the early 1980s left them large debts and the incapacity to service them [29]. Unless a resource rich economy has a large “non-resource-based” tradable sector to work with, the previously mentioned uncertainty associated with the economic cycles can reinforce a downward cycle. Now the lower opportunities in the non resource tradable sector, make fewer opportunities for workers to find new jobs when resource prices decline due to the recession and the skill lack of the workers; as a result, a price decline can cause the whole economy to contract.

Interest rates will also reflect the risks associated with this volatility: the greater the volatility level, the higher it

will be interest rate, and as consequence the smaller the investments in non tradeable goods sector become. These two effects combine to cause the economy to specialize away from production of non- tradable. In turn, the less the economy produces non-tradeable goods, "... the greater the volatility of relative prices, the higher the interest rate the sector faces, causing it to shrink even further, until it disappears" (Hausmann and Rigobon, 2002).

Several studies also focus on the "voracity effect," also known as pool problems, which consider the political fights over resource rents and the imbalances they cause in the economic growth. The level of large and concentrated rents, makes them easier to appropriate compared with the more diffuse rents associated with land or human resources, make societies less entrepreneurial by increasing the private returns to unproductive rent-seeking [30,31]. Revenue abundance, usually makes it easier for politicians and policymakers to waste it on conspicuous expenditures and uneconomic investments. Often times, it induces corruption. This may be called the "voracity effect" that causes the retardation of growth through misuse and abuse of public funds [8].

Not only in the previously explained way, but rent-seeking activities can have a long term effect since they make it easier for the government to tap abundant revenue without making taxation efforts which may also deter government efforts in building public sector institutions and manage public finance. This would have no effect and be controlled on economy growth if the variable of institutional development is controlled [32].

As consequence of Ross study, J.A. Robinson [33] comes up with new arguments, explaining that politicians tend to over-extract natural resources relative to the efficient extraction path because they discount the future too much, and also resource booms improve the efficiency of the extraction path. The main purpose of doing it is to rise the value of being in power and provide politicians with more resources which they can use to influence the outcome of elections. However, when occurring in the presence of robust institutions (more controlled governments), resource booms will raise national incomes.

Focusing also in the democracy level, other authors [34] affirm that resource rents tend to increase corruption, which not only reduce the accountability level but the effectiveness of a government which can distort the economy as well. Busse and Gröning (2013) also find that natural resource exports lead to increased corruption, using an instrumental variable technique that accounts for endogeneity. In other words, the effectiveness of the government to make quality policies can be under mined by large inflows of revenue generated from natural resources [35].

2.3. Resource Abundance in Latin America

Resource abundance in Latin America has also caused some controversy among different researches. However, there is a specific modern concept related to resource abundance and its impact on economic growth for Latin America. This term was re-formulated by Eduardo Gudynas [36] causing lot of current controversy among the countries and it is called "Extractivism" or "Neo-extravism"; in some other theories which have high

similarity the term to call the way of working of some industries can also be called extractive industries.

The extractivism [37] is a particular case of Natural Resources extraction, intense or in high volumes, intended to be exported, as low processed or not processed products. In this sense, the extractivism has very important consequences for the endowed countries, the first one is a high economic and Politic dependence of the buyer countries and the global market. What is more, there is disincentive into other economy areas: because extractive activities, such as mining, attract and concentrate the investment and labor force, in detriment of other activities and a lack of positive externalities. Economic distortions and inflation are generated due to the foreign exchange of exports.

Another consequence is the commercial exchange inequality widening because Latin American countries sell raw materials for low prices and buy expensive finished goods. Income of the exports made come in the way of Taxes and usually this income is designated as government consumption which is not always well administrate and many times have been wasted. And the last but not least important issue is the big environmental impact, for which repair costs are high.

This complex consequences are, most of them, related with the previous mentioned theories and Gudynas tries to put emphasis on new variables such as commercial exchange inequality and environmental impact [38,39,40,41].

It is important to mention the Dutch Disease again [26], this time applied to Latin America and one important effect that resource booms had on the countries' economy and all the pernicious consequences of the significant increase of the incomes in them. The Dutch Disease, being very related with a natural resource discovery, it can be called to any new issue which causes a big entrance of foreign currency as a notable rise of the prices of the natural resource, the external assistance and the FDI.

Also contributing to theories about Latin American development is the famous hypothesis of Raul Prebisch [42] and Hans Singer [43]. They argued that resource-based growth would be frustrated by secular decline in world prices of natural resources. Very close related views estimated that world demand of primary goods would remain slower compared with the demand of manufactures due to a productivity growth being faster in manufacturing.

The "Prebisch hypothesis" of declining relative prices of commodities was generally c suggesting that developing countries should run away from their dependency on natural resource exports by promoting industrialization and manufacturing. As Lederman and Maloney pointed out, the Prebisch-Singer thesis that the natural resource growth strategy is destined to fail, as it has previously seen in LA economies before they adopted the import – substitution industrialization strategy [42]. Prebisch and Singer clearly argued that the demand for primary goods by industrial economies would not be as constant and strong enough to support the production and export of commodities an effective instrument of growth for producer countries. This through the years, will make the primary goods dependent countries to suffer a fall and deterioration in their global participation or terms of trade, slowing their growth and making the only solution being the national industrialization.

Lastly, Grier [44] shows that spillover effects between human and physical capital accumulation become very important for LA economies. Investigating the effect of resource dependence on human or physical capital by itself will not reveal the true overall effect because it is not possible to have control over the spillovers; however, Grier's results show that there is a significant relationship between human and physical capital in Latin America and the effect of human capital on physical capital is important and for the economy.

This completes the summary of the arguments about the links between natural resource abundance and growth, not only in countries all over the world but also in Latin America itself. In the next section, the basic evidence for the period 1994 – 2015. In the following section it is examined the additional evidence on a number of the theoretical points discussed in this section.

3. Resource Abundance and Latin American Economic Development

Latin America is one of the resource richest regions of the world, especially in South America. The most important resource produced within the LA is petroleum in crude form; 4 out of the 20 largest oil producing countries in the world are located there (Venezuela, Mexico, Brazil and Colombia). Also, some of the largest producers of other mineral resources are part of the region, firstly Chile producing cooper, Peru with the gold and Mexico and its silver.

Latin American growth policies have always been a very important issue for the development of countries. The main period of the development begins after World War I, when most Latin American countries had returned to the gold standard, and followed orthodox balance of payments adjustment policies [45]. Colombia's and other countries exports, started booming during this period, and these countries found again for themselves a path of export-orientation. Similarly, Venezuela enjoyed from a very fast growth led by oil exports, getting a huge share of the world market. Finally, expansionary monetary and fiscal policies made Brazil to quarter the fall in export quantities and prices that it suffered during and after World War I; this fact, not only created currency depreciation but supported demand for home goods and production of importable up to the early 1920s. After World War II, one of the strongest underlying themes in discussion was the whole pessimism about primary exports and the movements of commodities' prices. The strongest and most positive incentive towards import substitution was the intervening desire to industrialize more rapidly, and that is what countries like Brazil, Chile and Mexico did, trying to improve boost the manufacture industries.

Import substitution was followed energetically through much of the 1950s and 1960s in most Latin American countries. Protection against imports of industrial goods was raised substantially. In some cases exports of manufactures were subsidized, directly or through credit or tariff exemptions on imported inputs (as in Brazil and Mexico). In 1950s yet maintaining the tempo of import-substituting industrialization was not simple. When the easy part of the process became exhausted (production of simple consumer goods, basic metals, cement and staple

chemicals) and labor productivity growth began to abate, industrial efficiency became a key problem to be dealt with [34].

Industrialized countries such as United States and Japan obtained a high demand after that period, and Latin American economies were hit by oil shocks in the 1970s; however, the subsequent recession by sustaining domestic demand ended up on a serious debt crisis that spread to most of the region in 1980s².

As in every economic boom and recession, the Natural Resources in each country in Latin America have always played a very important role in the development of the economy; however, industrialization meant a very significant variable for countries to overcome crisis. In some cases, such as in Brazil and Mexico which are the biggest economies of the region, not only primary goods but manufactures represented a really big part of their production and exports, nonetheless, these economies had not only focus their productive activities in natural resources, but created many complements for them to achieve their success.

A good example is Sao Paulo's growth which mostly comes from the coffee boom that hit the city in the 1880s. Immigrants from Japan and Europe to the city to work in the coffee trade. Today, Sao Paulo produces about half of Brazil's industrial goods and is the center of South American manufacturing³.

Other important and fast growing economies considering their GDP growth are Argentina, Colombia, Chile and Venezuela⁴. Among the years, these countries had a very relevant growth that let them appear as the first economies in Latin America. Some of these countries have resource based exports (agriculture, minerals and fuels), and that is what made them succeed, however, in the last decade the tendency showed a slower growth for all of them mostly for oil producers such as Venezuela. Peru and Colombia economies depend on mineral resources that made them step strong; nonetheless more diversification of their source of revenue are needed. Peru and Venezuela are countries which had significant periods in which their growth was larger and capable to develop complimentary activities to lead their progress up.

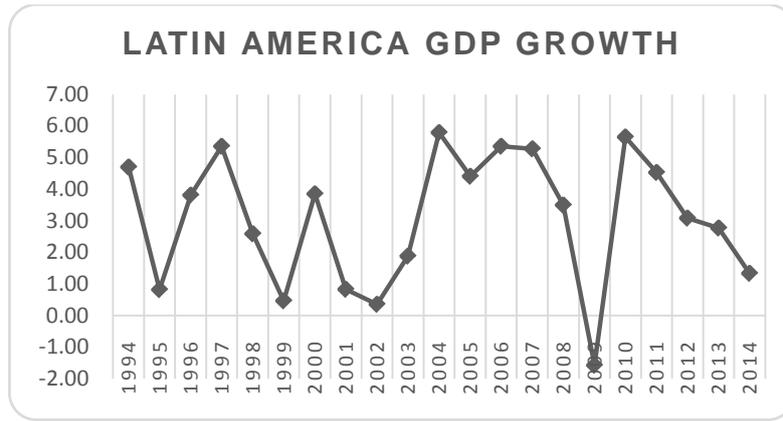
In Figure 1, Booms and economic recessions of Latin American economy are shown; as it is possible to visualize, the periods between both states of the economy are very short and every boom always tends to fall in a more important quantity.

If exports of primary goods and manufactures are compared, the difference among countries is easily recognizable. Figure 2 and Figure 3 show that countries such as Venezuela which are major oil or other resources exporters, tend to have a low participation on manufactures exports, clearly explaining the previous affirmation of industrialization and manufacture level negative relation with all the issues that Natural Resource abundance leads.

² All information based on Enzo Grilli. "Political economy and economic development in Latin America in the second half of 20th Century" International Economics SAIS, Johns Hopkins University, Washington, DC, USA. 2004.

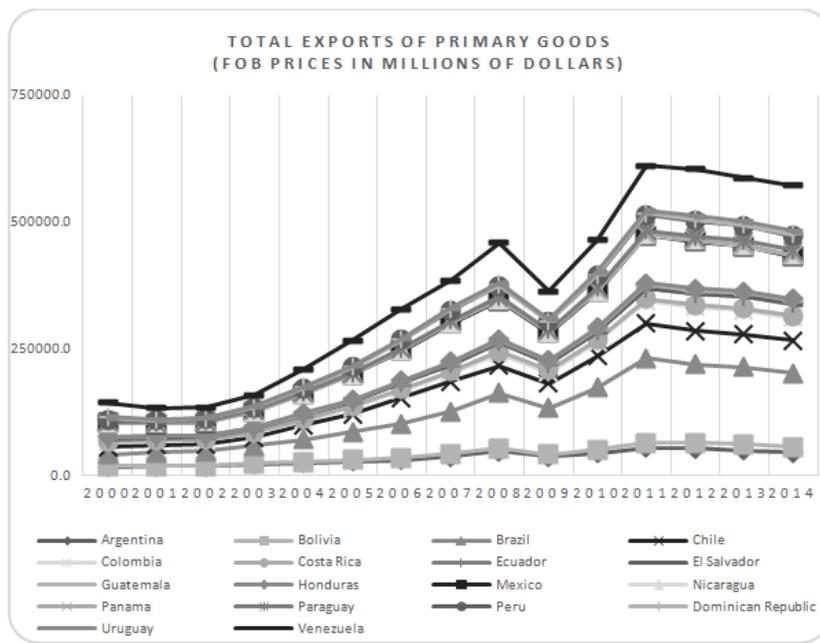
³ <http://education.nationalgeographic.org/encyclopedia/south-america-resources/>

⁴ It is important to mention that during the last years all of the mentioned countries presented an important decrement in their economic achievements due to bad political choices and world crisis.



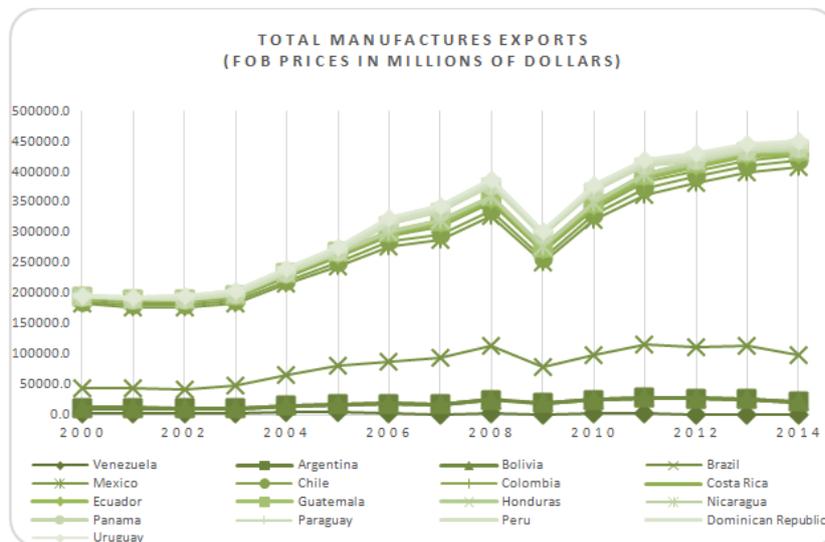
Source: World Bank database. April 4, 2016.

Figure 1. LATIN AMERICA GDP GROWTH



Source: Economic Commission for Latin America and the Caribbean CEPAL database, extracted on April 4, 2016.

Figure 2. LATIN AMERICAN EXPORTS OF PRIMARY GOODS



Source: United Nations Commodity Trade Statistics Database and COMTRADE, extracted on April 4, 2016.

Figure 3. LATIN AMERICAN MANUFACTURES EXPORTS

As shown in the graphs, the countries with more primary goods exports show an opposite situation when it comes to manufactures, unless they have low values in both. The resource abundant countries such as Venezuela, clearly have a more significant quantity of exports in that sector despite of having some participation in the manufacture sector. Other poor countries such as Bolivia, show very low performance on exports compared to other countries, and mostly focus on the resource sector.

Poor economies in Latin America such as Ecuador, Bolivia, El Salvador, Haiti, Nicaragua, Honduras; not only demonstrate that they do not know how to administrate resources, but that the main problems come on the hand of bad politicians who always tried to take advantage of the resource booms, spending the dividends in unnecessary things reducing future wealth. Weak governance and corresponding poor economic policies underlie the misallocation and mismanagement of resources, then resources become unproductive rent - seeking activities. Corruption always played a major role in economies, especially in economic booms when the increase of the demand of commodities denote an increase in the current income of countries.

It is not by chance that resource curse cases can be primarily associated with extractive industries (gas, minerals and oil) because these are considered as 'point source' resources that can easily become the object of rent - seeking and redistributive skirmishes, a point originally made by Collier and Goderis (2007). In some cases, mostly in Central America, have the largest number of people living in extreme poverty.

Figure 4 shows the mining level in Latin American countries, being Venezuela the biggest producer followed by Chile, Ecuador and Bolivia. Actually, these countries are the most mineral abundant despite a lot of losses among the years because of the transnational companies that overexploited the mines and extracted a lot of minerals taking the countries resources away. This has been part of the economic history of most of the countries, especially the less developed.

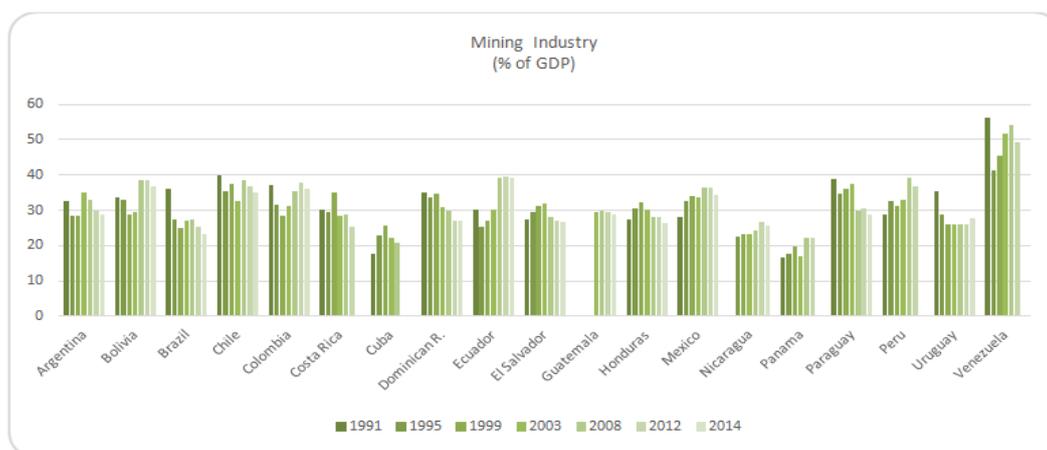
Weak governance lead also to other major problems; firstly the welfare distribution is highly skewed in these countries, big portions of population live under extreme poverty and that is one main reason why in some areas there has been an increase in drug trade, mostly cocaine, is

also a major problem in Latin American countries. Drug trafficking has become a major economic industry in South America, providing millions of dollars to cartels or drug organizations. The farmers who produce raw material for the drug trade rarely benefit as much as the cartels that deliver the drugs to an international market. Drug cartels have become a serious security threat to South American governments, especially in Colombia and Brazil. This significant problem has been affecting in a very important way to some countries such as Bolivia and Colombia.

It is important to consider the influence of a simple correlation between Natural Capital and GDP in the economy; both expressed in Per Capita terms, can demonstrate that the countries in Latin America confirm the intuition that natural resources contribute to the income generation. (Appendix I)

As it is possible to see in the graph, there is a positive correlation of variables in Latin America. This can lead to an interpretation about the existence of a resource curse, in the same way that poor countries have a low outperformance while they enjoy having good quantities of resources. However, there is no way of telling whether countries have been unable to grow because they are so dependent on commodities because they have been unable to grow in other sectors.

In the case of the less developed economies in Latin America, it is possible to say that the curse is associated with all primary commodities, agricultural, fuel and minerals all included, and that, when an economy has a large, and profitable primary commodity sector, it tends to crowd out the development of manufacturing and other industrial activities. This is a generalized case of the "Dutch disease" in which a real appreciation of the exchange rate are caused by the revenues gotten from primary commodity exports, affecting the international competitiveness of manufacturing and other tradable goods production. Under the circumstances, investors of all kinds would not have incentives to invest in manufacturing activities, which would stifle its growth. There are technological limits to productivity increase in agricultural activities. In case of gas, oil and mineral extraction, the capital intensive methods of production may be used but these activities tend to become often "enclave" operations by multinational corporations and to generate local employment only to a minimum extent.



Source: World Bank national accounts data, and OECD National Accounts data files, extracted on April 4, 2016.

Figure 4. MINING INDUSTRY IN LATIN AMERICA

Manufacturing activities, on the other hand, tend to have the scale economy effect and the productivity increase expected of the learning-by-doing technological advance inherent in the nature of technology used.

3.1. Latin American and the Worlds' Economic Growth

As previously mentioned, Latin American countries had a lot of difficulties in the economic development due to different facts. Around the world, there are some countries that were also highly affected by the lack of a fair licensing system, transparent and free of corruption system, such as the experience of Norway, country that firstly had an impact the benefit of the petroleum and other primary goods activities overall economy increases overtime and high rates of return; nonetheless, this tends to take primary commodities producers to slow down their research phase in order to keep the production generating high revenue, and their investment horizon is surely much shorter than what is advisable for a country. The Norwegian experience says that when oil reserves are discovered, the pressure from oil companies, local politicians and unions expecting to benefit from the oil production will be strong, making it politically virtually impossible to prevent rapid production (Steinar Holden, 2013)⁵. We can compare this case with rich oil countries such as Venezuela, Mexico and Bolivia where, if the spending of oil revenues had increased faster, the increase in the cost level is also likely to have been faster, increasing the risk of Dutch Disease.

On the other hand, resource-rich economies such as China, Great Britain, Germany, and the U.S., experienced particularly rapid industrial development at the end of the last century. The investment in equipment and infrastructure played a major role for their development; Coal-abundant countries like Australia developed higher saving and investment rate as well.

In the nineteenth and twentieth centuries, resource-poor countries such as Switzerland and Japan surged ahead of resource abundant economies such as Russia. Also with falling transport costs, the physical availability of resources within the national economy is rarely as decisive today as it was a century ago. Thus, Korea and Japan have become world-class steel producers despite their virtual complete dependence on imports of iron ore. This means that the transport cost and the exports of manufactures were key variables in the development of countries and Latin America are much delayed. The following graph shows the comparison among the export growth of Latin American countries and other continents.

As it is possible to see in [Table 2](#), the countries in which raw materials and primary goods exports are predominant have periods of high exports; however, these exports are just during some booms which finally end up on a fall. The tendency of growth of those countries is very low and constant in most of the cases. On the other hand, manufactures producers and industrialized economies show also peak periods in which exports are more significant as is the case of Asia, USA and Western

Europe; nonetheless exports growth is gradual and displays better values on the last periods related with primary goods export countries. This demonstrate that more developed countries progressively increase their production level in order to export more and generate more revenues to be reinvested on more industrialization and manufacture field and that, evidently, is not the case of well resource endowed countries.

4. Empirical Research

The empirical research is divided into two parts, the first one is the quantitative analysis that presents a regression model that includes the variables that, according to the previous analysis made, could have significant impact on the economic growth of Latin American countries and at the same time, could test out the impact of natural resource endowment on the economic growth of the countries. The second part or qualitative analysis will expose an empirical analysis and interpretations of the results obtained on the first one.

4.1. Quantitative Analysis

This section aims to find out whether the natural resource abundance has real impact on the economic growth of Latin America during the period 1994 – 2014, modern period which will also show if the resource endowment could have economic impact nowadays when industrialization, technologic innovation and globalization have enormous influence among countries all over the world.

4.1.1. Equation Model and Variable Description

Some empirical research made about the resource abundance have found different variables that have some influence on the economic growth of the countries. Others, explain how the correlation among variables, which do not seem to be robust themselves, could represent a threat on the evolution of economies. The previous research made on this paper aimed to find out which are the elements that allowed most of the scholars to find significant evidence about the impact of Natural resource endowment on the economic growth of countries and the compilation of those variables included highlight the main topics: the natural resource presence relevance, not only on the owner countries but for the world, the influence of production on the government choices and the labor force, and the resource (reserves) distribution on the economy in general.

On first instance, Appendix ii show the results of the analysis applied to Latin America based on one of the most transcendental studies which has been derived by several authors, especially Sachs and Warner, 1997; however, despite running the regression considering variables applied in the same way, the results were not robust⁶; so that, the following equation has been applied based on the compilation of different variables that involve the natural resources in the economy, its production and trade, and also other important variables

⁵ Steinar Holden, "Avoiding the resource curse the case Norway" Oslo, Norway, 2013

⁶ Appendix ii show the process and results of the applied model.

which might have impact in the relation resource – economy, such as market openness, investment, corruption level, terms of trade, Foreign Direct Investment, Domestic savings and Labor force.

The final econometric model applied to find the resource abundance impact on the economic growth of Latin American countries is:

$$\begin{aligned} \text{LnGDP} = & \alpha + \beta_i x \text{ SXP} + \beta_{ii} x \text{ SOPEN} + \beta_{iii} x \text{ INV} \\ & + \beta_{iv} x \text{ CORR} + \beta_v x \text{ DTT} + \beta_{vi} x \text{ FDI} \\ & + \beta_{vii} x \text{ SAV} + \beta_{viii} x \text{ LnLABF} + \varepsilon \end{aligned} \quad (1)$$

Where LnGDP is the dependent variable and represents the economic growth of Latin American countries through the GDP per capita; α , β_i , β_{ii} , β_{iii} , β_{iv} , β_v , β_{vi} , β_{vii} , and β_{viii} are the standardized coefficients of each variable and will help to find out the significance of the analyzed variables and ε is an unpredicted variable in the dependent variable that is going to be known as the “error” of the equation, and the rest of the variables are known constants described in the Appendix iii.

4.1.2. Regression Numerical Results

The previously mentioned Regression model now is estimated through the Ordinary Least Squares (OLS) method, the purpose of this is to estimate the effects of the variables on the economic growth of Latin American countries. The main purpose of the OLS method is to

minimize the differences among the considered variables in the regression model and predict a linear approximation of the data.

The mentioned equation is the full regression model that one is the result of adding variables to a more simple equation in the following way:

$$\text{LnGDP} = \alpha + \beta_i x \text{ SXP} + \varepsilon \quad (2)$$

$$\text{LnGDP} = \alpha + \beta_i x \text{ SXP} + \beta_{ii} x \text{ SOPEN} + \varepsilon \quad (3)$$

$$\text{LnGDP} = \alpha + \beta_i x \text{ SXP} + \beta_{ii} x \text{ SOPEN} + \varepsilon \quad (4)$$

$$\text{LnGDP} = \alpha + \beta_i x \text{ SXP} + \beta_{ii} x \text{ SOPEN} + \beta_{iii} x \text{ INV} + \varepsilon \quad (5)$$

$$\begin{aligned} \text{LnGDP} = & \alpha + \beta_i x \text{ SXP} + \beta_{ii} x \text{ SOPEN} \\ & + \beta_{iii} x \text{ INV} + \beta_{iv} x \text{ CORR} + \varepsilon \end{aligned} \quad (6)$$

$$\begin{aligned} \text{LnGDP} = & \alpha + \beta_i x \text{ SXP} + \beta_{ii} x \text{ SOPEN} + \beta_{iii} x \text{ INV} \\ & + \beta_{iv} x \text{ CORR} + \beta_v x \text{ DTT} + \beta_{vi} x \text{ FDI} + \varepsilon \end{aligned} \quad (7)$$

$$\begin{aligned} \text{LnGDP} = & \alpha + \beta_i x \text{ SXP} + \beta_{ii} x \text{ SOPEN} + \beta_{iii} x \text{ INV} \\ & + \beta_{iv} x \text{ CORR} + \beta_v x \text{ DTT} + \beta_{vi} x \text{ FDI} \\ & + \beta_{vii} x \text{ SAV} + \varepsilon \end{aligned} \quad (8)$$

$$\begin{aligned} \text{LnGDP} = & \alpha + \beta_i x \text{ SXP} + \beta_{ii} x \text{ SOPEN} + \beta_{iii} x \text{ INV} \\ & + \beta_{iv} x \text{ CORR} + \beta_v x \text{ DTT} + \beta_{vi} x \text{ FDI} \\ & + \beta_{vii} x \text{ SAV} + \beta_{viii} x \text{ LnLABF} + \varepsilon. \end{aligned} \quad (9)$$

Table 2. LATIN AMERICA AND THE WORLD

Latin America and the world: export growth (volume)

Annual rate(%)	1870-1913	1913-1929	1929-1950	1950-1973	1973-1981	1981-2000
Latin America	3.6	3.4	14	4.1	3.5	5.9
Argentina	5.2	2.9	-1.9	3.1	5.8	6.9
Brazil	1.9	2	4.4	4.7	7.6	3.7
Chile	3.4	4.1	-0.7	2.4	8.2	8.6
Colombia	2	5.5	1.5	3.8	2.3	5.4
Mexico	5.4	2.9	-29	4.3	10.5	8.7
Peru	1.6	6.6	0.1	5.8	4.3	3.2
Venezuela	3.3	4	6.5	4	-7.1	2.6
Asia (excluding Japan)	2.6	1.6	-0.6	5.5	7.9	10
Western Europe	3.2	0.2	-0.3	8.4	5	5.5
North America	4.7	32	1.8	6.5	4.2	6.5
Japan	8.5	6.1	-0.9	15.5	9.3	5
World	3.4	0.9	0.3	7.7	5.2	6.3

Sources: Maddison (1995) from 1870 to 1973; country sources for Latin America (except Argentina and Chile) from 1973 to 2000; ECLA, Statistical yearbooks, for Argentina and Chile; IMF WEO IMF, Financial statistics and world economic outlooks.

This equation tries to display the result about the influence of other important general characteristics or concepts which will let us know in fist instance, the impact of the natural resource exploitation, commercialization, the government decisions and the importance of the market openness and trade on the Latin American countries Growth. The purpose of adding more variables is to make a more consistent regression model, know the correlation level among variables and the impact of all of them on each other and the dependent variable.

After running the regressions, adding all of the mentioned variables, the results show:

Table 3. SUMMARY OF DATA RESULTS

Variable	Mean	Std. Dev.	Min	Max	Obs.
code	9.5	5.20	1	18	378
year	2004	6.06	1994	2014	378
LnGDP	8.18	0.75	6.44	9.73	378
SXP	14.17	1.21	10.96	16.39	378
SOPEN	0.42	0.49	0	1	378
INV	29.10	10.59	11.62	103.77	378
CORR	3.56	1.39	1.5	7.90	269
DTT	110.61	36.25	50.29	262.09	378
FDI	3.61	2.66	-0.78	17.13	378
SAV	18.11	8.52	0.87	42.19	378
LnLABF	15.60	1.16	13.90	18.51	378

Table 4. REGRESSION RESULTS

Dependent variable :LnGDP	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SXP	0.157 (5.115)***	0.112 (3.354)***	0.135 (4.268)***	0.168 (5.150)***	0.166 (5.033)***	0.164 (4.821)***	0.045 -1.404	-0.337 (7.869)***
SOPEN		-0.258 (3.140)***	-0.204 (2.636)***	-0.222 (2.951)***	-0.221 (2.929)***	-0.218 (2.856)***	-0.26 (3.934)***	-0.061 -1.075
INV			-0.024 (7.245)***	-0.023 (6.353)***	-0.022 (6.171)***	-0.022 (6.003)***	-0.027 (8.353)***	-0.029 (11.033)***
CORR				0.253 (10.489)***	0.254 (10.436)***	0.256 (9.944)***	0.228 (10.175)***	0.233 (12.624)***
DTT					0 (0.445)	0.001 (0.473)	0.001 (0.528)	0 (0.212)
FDI						-0.004 (0.248)	-0.005 (0.402)	-0.004 (0.414)
SAV							0.036 (9.491)***	0.043 (13.562)***
LnLABF								0.463 (11.278)***
Constant	5.955 (13.634)***	6.696 (13.609)***	7.047 (15.191)***	5.64 (11.721)***	5.601 (11.443)***	5.626 (11.248)***	6.928 (15.282)***	4.975 (12.118)***
F statistic	26.2	18.3	31.4	43.6	34.8	28.9	46.1	75.7
Adjusted R-squared	0.06	0.08	0.19	0.39	0.39	0.38	0.54	0.69

The sample of the regression includes information of 18 Latin American countries⁷ over 21 years (periods from 1994 to 2014). The total observations are 378 for each variable. The summary of the empirical study shows the mean of each variable which is basically the sum of the observations altogether divided by the number of observations; the standard deviation as the difference of each observation of the sample and its mean, indicating the dispersion degree of the data regard to the mean; finally, the summary shows the minimum and maximum values that each variable has.

The summary shows the variables or observations are suitable enough to be run in a regression. As a result, including the 8 different independent variables, 8 different regressions are run adding one new variable to the previous one and making sure if the correlation of the variables is significant in the model. Table iv shows the results.

The results show that the coefficients are significant at 1% ($p < 0.01$), so that, most of the variables are robust despite the market openness SOPEN stops being significant when LnLABF is added. The variables DTT and FDI can let us know some about their relationship with the economic growth when interpreting the results.

When we have a look to the F statistic, compared with the P-values of the regressions which are significant, it is possible to identify that the F statistic shows robustness too, meaning that the coefficients for the variables are significant and that the variables used to estimate the model explain the dependent variable.

The most important obtained value is the Adjusted R-squared which measures the regression success, having to be a value between 0 and 1, when 1 when the regression is perfectly adjusted and 0 if the model doesn't explain the dependent variable. Therefore, it is possible to say that,

being close to 1, the variables have been correctly chosen and, especially considering the full regression, and they are related and explain the economic growth even in a more efficient way than the simple R^2 .

4.2. Qualitative Analysis

When one starts thinking about the effect of natural resources on economic growth, three options offer themselves: natural resource exports, production or reserve distribution. The claim that being a resource export dependent country slows down its expected rate of growth, is a different claim than arguing that high mineral reserves or production of those reserves is associated with slower rates of growth.

If we take a look into the first regression model equation (1) in Table 4, the SXP differs with most of the results shown by other scholars, showing a positive effect being directly correlated with the GDP growth. Basically, the primary goods exports represent the most important variable that can measure the dependence of Natural Resources in the economy of Latin American countries telling us through the regression results exports of primary goods of the countries affect positively in the economic growth of countries with a coefficient of 0.157 in first instance implying that a unit increase in the share of primary exports would be associated with an increase of 0.157 of economic growth⁸.

It is possible that the positive relationship previously mentioned reflect a parallel growth between both variables, regretting the possible arguments that some scholars proposed in their studies that resource rich countries tend to adopt import-substituting, state-led development strategies and rent-seeking activities. However, following regressions will add more variables to see the influence of

⁷ The countries Cuba, Haiti and Puerto Rico had to be excluded of the analysis due to the lack of data available for most of the variables.

⁸ Appendix iv shows the no robust result with negative impact so that, the positive result will be preferred for now.

the correlation among them and the real impact on growth altogether. Due to its importance, it was intended to keep the significance of SXP in the next regressions to show the real influence of it on the other variables.

Equation (2) now adds the market degree of openness in the countries. The purpose of adding this variable is to show the degree of integration to the global economy that each country has over the others during the period 1994 – 2014⁹. In subsequent results the FDI is also added to help measuring the economy global interaction. The results show a negative interaction of the policies considered by the SOPEN with the economic growth, being SXP still positive. For now, the results show that the more involved the Latin American countries are with the trade of goods, especially primary goods, the lower their economic development tends to be.

Consecutively, the government investments to GDP ratio and the Corruption perception index are included in equation (3). These variables show very interesting results because are unexpected but can let us know that the negative impact that investment policies and facts that government does impact in a negative way and it is very related with the corruption level. Lately, mostly during the past 25 years, many Latin American countries have suffered of huge corruption problems; a lot of confrontation between government parties and population in general had place in different countries such as Argentina, Venezuela, Cuba and Bolivia. During commodity peaks, huge amounts of foreign income came into Latin American economies, especially in 2004 when the biggest boom of the last 2 decades began. However, the resources assignation, investment and other government policies caused a lot of unconformity in the population and, as a matter of fact, was not designated to manufacture or industrial sector.

The bad income expenditure and not appropriate resource assignment can be reflected in the regression results, showing resource endowment in countries could not really affect growth.

The next two variables added seem not to be significant, however they are still being considered in later regressions due to the possible inference they can have. The terms of trade and the FDI, both related with the international relations, the openness of the economies to external transactions and the relation with government policies.

Many scholars found that the more natural resources a country is endowed with, the more investment on those industries, focusing most on government institutions (from which governors can take advantage of) and that is a reason why situations such as a high level of nationalization of industries (risk of expropriation) scare away the FDI. Other implications are the corruption level and the bureaucratic level which, according to researcher, are latent in resource abundant countries.

In this case, FDI has no relevance but could explain that, since most of Latin American economies are based on resource exploitation, the increase on FDI impacts negatively in their growth and this has been a very

important fact through the history of these countries. What foreign companies usually do is extract away the resources, leaving and giving the minimum to the country (Such as explained in the extractivism concept of E. Gudynas).

SAV is the next included variable and it is possible to say that it is a variable used with the purpose of understanding the long term choices effect on the economic growth and the influence of them on other variables. As it is common in most of the countries, this variable remains positive impact on the GDP growth because the savings not only prevent countries to get into debt but allows them to earn revenues from loans to other countries meaning long term wealth. The other variables keep the tendency and the general regression shows more significance of the correlation.

When we talk about labor force LnLABF it is important to consider that workers move from one sector to another in order to increase their revenues and facilities. However, as explained in the Dutch disease theory, when there are economic booms, some of the resource endowed countries tend to allocate all of the resources and effort to that sector, generating movements in the whole economy and neglecting the manufacture sector. The problem comes when the boom is over and economy is in recession and has to stabilize, and the most affected sector is the labor force, where workers did not even had the need of improving the knowledge to be more qualified, causing an imbalance on the manufactures sector.

That is the reason why, considering the general of workers, between 15-64 years old, have positive impact in economies based on resource exploitation over all of the other variables and is important for the economic growth regardless the skill level they do have.

The most important fact about introducing the Labor force to the economy is that now, the primary exports remain a negative effect on the economy, giving big evidence about the existence of the Dutch Disease, when the labor force moves to the resource sector, creating important increase in the manufactures sector but affecting the real economic growth for next periods.

5. Results and Conclusion

In a long-standing view in the development literature and the obtained results it is possible to say resume the results into the following important findings.

First of all, exports of primary goods could not necessary show real evidence of resource based economies impact on their growth. They can be a good reference to know how important is the resource exploitation for the system, but not present any relevancy itself. The intention of considering period of years 1994 – 2014 for the present analysis is to know the current economic situation, which has changed through the years, and nowadays some abundant countries have very few resources left to really base their economies on.

Second, all the international trade variables into the economy have certain impact but are not the key factors affecting the economic growth of Latin American countries. It is possible to say that due to this fact, foreign countries are averse to invest or have any economic relation with Latin America because of the uncertainty

⁹ A country is said to be integrated to the global economy if during the mentioned period it maintained low tariffs and quotas did not have an excessively high black market exchange rate premium, was not socialist, and avoided extreme state-control of its export sector.

that it represents for them, mostly due to governmental efficiency and corruption problems. On the other hand, considering that the primary goods exports are the main characteristic of this analysis and it is directly affected by the variables which represent trade, can imply that when countries mostly work trading primary goods and all what that involves, more affected their growth is seen as consequence.

In terms of government role into Latin American economies there has always been and still is a big issue present in most of the countries. Corruption is one of the biggest problems, mostly in socialist economies and resource distribution, income assignation and investment always tend to favor the own governor's interests causing a lot of damage to the economies of countries, which are still dealing with that.

Labor force in Latin America shifts from one sector to another lead by an increased aggregate demand to the economy situation and causing an imbalance in the productive sector of manufactures and taking the labor away from high learning-by-doing sectors, depressing the growth in labor productivity, and the economic growth, facts that can prove the Dutch Disease effects of the resource abundance.

Latin American countries which mostly specialize in natural resource production and exports are more likely to suffer from recession periods and unpredictable shocks in global commodity prices. Industrialization and manufacture are the key factors to overcome the resource curse and keep a sustainable economic growth.

In general terms, the findings reveal that despite the relationship between Natural resources endowment and economy growth, that relationship has not real impact on the economy and that the biggest issues can be attributed to government decisions, which affect present and future growth, leads to Latin American countries to continue being resource booms dependent and not develop their industries or manufacture sectors, continuing being considered as developing countries. And the most important result shows that in the last 25 years, Latin America's economic growth does not give real evidence of a "resource curse", but can attribute most of their failure to a bad government management which must be solved in order to allow them to change their current situation.

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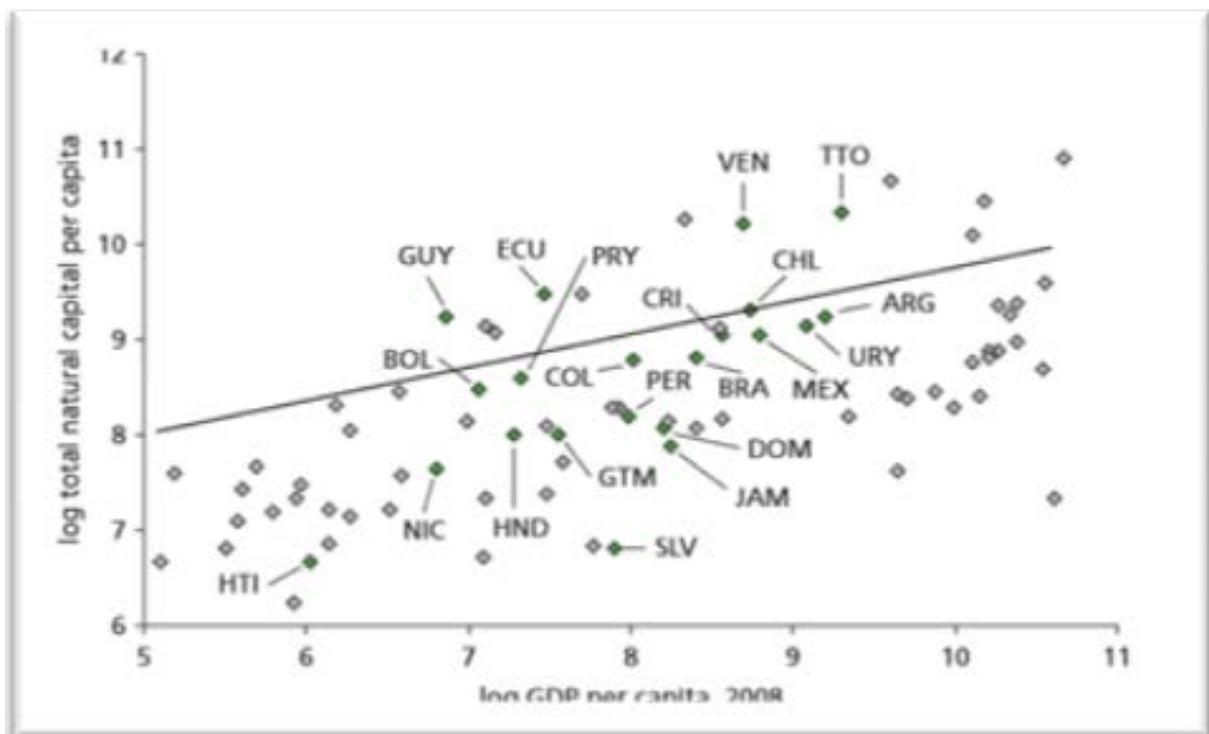
References

- [1] Palley Thomas I. (2003). Sovereign Debt Restructuring Proposals: A Comparative Look Ethics & International Affairs, Volume 17.2.
- [2] Sinnott, Emily; Nash, John; de la Torre, Augusto (2011). Natural Resources in Latin America and the Caribbean: Beyond Booms and Busts?. The World Bank, Washington DC.
- [3] Sachs, J. and A. Warner (1995). Economic Reform and the Process of Global Integration, Brookings Papers on Economic Activity. pp. 1-118.
- [4] Sachs, J. and A. Warner (1995). Natural Resource Abundance and Economic Growth. NBER Working Paper 5398 Series.
- [5] Sachs, J. D. and A. M. Warner (1997). Natural Resource Abundance and Economic Growth. Working paper, Center for International Development and Harvard Institute for International Development.
- [6] Sachs, J. D. and A. M. Warner. (2001). The curse of natural resources. *European Economic Review* 45 827-38.
- [7] Papyrakis Elissaios and Gerlagh Reyer (June 2006). Resource abundance and economic growth in the United States. School of Economics and Finance, University of St. Andrews, St. Salvador's College.
- [8] Collier Paul and Goderis Benedikt (August, 2007). Commodity Prices, Growth, and the Natural Resource Curse: Reconciling a Conundrum. University of Oxford.
- [9] Thorvaldur Gylfason (May 2001). Natural resources, education and economic development. *European economic review Journal*, North-Holland.
- [10] Thorvaldur Gylfason (November 2001). *Nature, power and growth*. Blackwell Publishers Ltd.
- [11] Stijns Jean Philippe. (November, 2005). Natural resource abundance and human capital accumulation. Northeastern University, Boston, MA, USA.
- [12] Cabrales Antonio and Hauk Esther. (June, 2011). Political institutions and the curse of natural resources. CEPR Research.
- [13] Ross, Michael L. (2001). Does oil hinder democracy?. *World Politics*.
- [14] Ross, Michael L. (2001). The oil curse, The political economy of the resource curse, *World Politics*.
- [15] Ross, Michael L., (2001). *Timber Booms and Institutional Breakdown in Southeast Asia*. Cambridge: Cambridge University Press.
- [16] Ross, Michael L., (2006). A Closer Look at Oil, Diamonds, and Civil War *American Review of Political Science*, 9, 265-300.
- [17] Alexeev, M. Conrad, R. (2005). The elusive curse of oil. *Rev. Econ. Stat*91 (3), 586-598.
- [18] Barro, R. (1991). Economic Growth in a Cross Section of Countries. *Quarterly Journal of Economics*, pp. 106.
- [19] Sala-i-Martin, X., Subramanian A., (2003). Addressing the Natural Resource Curse: An Illustration from Nigeria). NBER Working Papers Nr. 9804. National Bureau of Economic Research, Cambridge, MA
- [20] Isham, J., Woolcock M., Pritchett L. and Busby G. (2003). The Variety of Resource Experience: How Natural Resource Export Structures Affect the Political Economy of Economic Growth. Middlebury College Economics Discussion Paper.
- [21] Leite, C., Weidmann J. (1999). Does Mother Nature Corrupt? Natural Resources, Corruption, and Economic Growth. IMF Working paper 99/85.
- [22] Rosser Andrew (2006). The Political Economy of the Resource Curse: A literature Survey.
- [23] Lederman Daniel and Maloney William F. (2007). Does what you export matter?, The World Bank, Washington DC.
- [24] Brunnschweiler, Christa N. and Erwin H. Bulte (2009). Natural Resources and Violent Conflict: Resource Abundance. Dependence and the Onset of Civil Wars. *Oxford Economic Papers* 61 (4): 651-674.
- [25] Boyce and Emery (2011). Data for US states during the period 1970-2001.

- [26] Corden W. Max and Neary J. Peter (1982). Dutch disease. Oxford Economic Papers.
- [27] Matsuyama, K. (1992). Agricultural Productivity, Comparative Advantage, and Economic Growth. *Journal of Economic Theory*. pp. 317-334.
- [28] Gelb (1988). A.H. Windfall Gains: Blessing or Curse?. New York: Oxford University Press.
- [29] Manzano and Rigobon (February, 2001). Resource curse or debt overhang?. Unidad de Estudios Económicos. Corporación Andina de Fomento and Universidad Católica Andrés Bello.
- [30] Lane, P. and A. Tornell (1995). Power Concentration and Growth, Harvard Institute of Economic Research Discussion Pp. 172.
- [31] Tornell Aaron and Lane Phillip (1999). The voracity effect. Department of Economics, Harvard University, Cambridge & Department of Economics, Trinity College, Dublin 2, Ireland, and Centre for Economic Policy Research VOL. 89 NO. 1 pp 4.
- [32] Halvor Mehlum, Karl Moene and Ragnar Torvik, (2006). Cursed by Resources or Institutions?. *The world economy*, Vol. 29.
- [33] Robinson, JA., R Torvik., Verdier T., (2006). Political foundations of the resource curse. *Journal of Development Economics*.
- [34] Bhattacharyya, S., Hodler R. (2009). Natural Resources, Democracy and Corruption. Working Papers Series Nr. 1047. University of Melbourne, Department of Economics.
- [35] Collier Paul and A Hoeffler (1998). On the economic causes of civil war. *Oxford Economic Papers*.
- [36] Gudynas Eduardo (2010). Diez tesis urgentes sobre el nuevo extractivismo, contextos y demandas bajo el progresismo sudamericano actual. CIDES UMSA, La Paz, Bolivia.
- [37] Gudynas Eduardo (2011). Mas alla del nuevo extractivismo: transiciones sostenibles y alternativas para el desarrollo. Oxfam y CIDES UMSA, La Paz, Bolivia. pp 379-410.
- [38] Gudynas, Eduardo (2011). Desarrollo y sustentabilidad ambiental: diversidad de posturas, tensiones persistentes. Universidad de Granada, Granada. pp 69-96.
- [39] Gudynas Eduardo & Alayza Alejandra (2011). Transiciones. Post extractivismo y alternativas al desarrollo en el Peru. Red peruana para una Globalizacion con equidad, Lima – Peru. Pp 187-216.
- [40] Gudynas Eduardo (2013). El nuevo extractivismo progresista en America del Sur, tesis sobre un problema bajo nuevas expresiones.
- [41] Gudynas Eduardo (2013). Extracciones, extratismos y extrahecciones, un marco conceptual sobre la apropiacion de recursos naturales. pp 5.
- [42] Prebisch Raul (1950). *The Economic Development of Latin America and its Principal Problems*. Lake Success, N.Y. United Nations.
- [43] Singer Hans W. (May, 1950). The Distribution of Trade between Investing and Borrowing Countries. *American Economic Review*, 40 pp. 473-85.
- [44] Grier Robin and Blanco Luisa (2008). The Impact of Resource Abundance and Resource Inequality on Capital Accumulation in Latin America. Working paper.
- [45] Eichengreen Barry, Rose Andrew K. and Wyplosz Charles (June, 1995). Exchange Market Mayhem: The Antecedents and Aftermath of Speculative Attacks. JEL Classification Numbers: F31, F32.

APPENDIX I

NATURAL CAPITAL PER CAPITA IS POSITIVELY CORRELATED WITH GDP PER CAPITA



Sources: World Bank Development indicators, World Bank Natural Capital Database and World Bank staff calculations.

Note: Resource abundance is measured by the total natural capital per capita in 2000. The log of GDP per capita is based on constant 2000US\$ values. LAC countries are shown as green squares. ARG=Argentina; BOL=Bolivia, BRA=Brazil; COL=Colombia; CRI=Costa Rica, CHL=Chile, DOM=Dominican Republic, ECU=Ecuador, GUY=Guyana, GTM=Guatemala, HTI=Haiti, HND=Honduras, JAM=Jamaica, MEX=Mexico, NIC=Nicaragua, PER=Peru, PRY=Paraguay, SLV=El Salvador, TTO=Trinidad and Tobago, URY=Uruguay, VEN=Venezuela.

APPENDIX II

PROCESS AND RESULTS OF THE REGRESSION ANALYSIS APPLIED TO LATIN AMERICA BASED ON ONE OF THE MOST TRANSCENDENTAL STUDIES.

DEPENDENT VARIABLE : GEA9414							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LGDPGEA94	0.974 (10.894)***	0.947 (10.156)***	0.929 (8.650)***	0.927 (8.586)***	0.904 (6.178)***	0.938 (6.097)***	0.939 (5.537)***
SXP		-0.003 -1	-0.003 -1.003	-0.004 -1.231	-0.004 -1.207	-0.004 -1	-0.004 -0.944
SOPEN			-0.07 -0.389	-0.048 -0.263	-0.056 -0.29	0.017 -0.079	0.015 -0.058
LINV9414				-0.016 -0.922	-0.016 -0.865	-0.013 -0.715	-0.013 -0.666
CORR					0.018 -0.246	0.017 -0.226	0.016 -0.176
DTT AVER						0.023 -0.828	0.023 -0.765
FDI							0.001 -0.02
Constant	-0.342 -0.435	-0.03 -0.036	0.166 -0.165	0.536 -0.492	0.691 -0.534	0.284 -0.203	0.277 -0.183
F statistic	118.7	59.8	37.7	28.2	20.9	17.1	13.3
Adjusted R-squared	0.87	0.87	0.87	0.86	0.85	0.85	0.84

GEA 9414

SXP	-0.012 -1.495
Constant	8.503 (32.940)***
F statistic	2.2
Adjusted R-squared	0.07

- GEA9414** Average annual growth in real GDP divided by the economically active population between the years 1994 and 2014. Exact calculation is $100 \cdot (1/20) \cdot (\ln(\text{GDPEA14}) - \ln(\text{GDPEA94}))$.
Source of data: World bank database, extracted on January 29, 2016.
- LGDPGEA94** Natural log of real GDP divided by the economically-active population in 1994.
Source of data: World bank database, extracted on January 29, 2016.
- SXP** Share of exports of primary products in GNP in 1994.
Source of data: World Bank, extracted on January 18, 2016.
- SOPEN** Average of the annual degree of openness of the economy, at current prices (Based on figures in millions of dollars).
Source of data: Economic Commission for Latin America and the Caribbean. ECLAC - CEPALSTAT, extracted on January 25, 2016.
- LINV9414** Natural log of the Ratio of Government investment divided on the GDP.
Source of data: World Bank and Economy watch, extracted on February 28, 2016.
- CORR** Corruption in government perception index. A low score means “illegal payments are generally expected throughout government”, in the form of “bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans.” Scored 0-10. 0 means that a country is perceived as highly corrupt and 10 is perceived as very clean.
Source of data: Transparency International - Corruption Perceptions Index, Various Annual Reports. - <http://www.transparency.org/surveys/index.html>, extracted on January 25, 2016
- DTT AVER** Average annual growth in the log of the external terms of trade between 1970 and 1990. The external terms of trade is the ratio of an export price index to an import price index. The exact calculation is $100 \cdot (1/20) \cdot (\ln(\text{TT1990}) - \ln(\text{TT1970}))$.
Source of data: World Bank national accounts data, and OECD National Accounts data files, extracted on March 25, 2016.

FDI Average annual growth in the log of the FDI between 1994 and 2014. Refers to direct investment equity flows in the reporting economy. FDI rate is the sum of equity capital, reinvestment of earnings, and other capital.
Source of data: International Monetary Fund, Balance of Payments database, supplemented by data from the United Nations Conference on Trade and Development and World Bank, extracted on January 25, 2016.

APPENDIX III

VARIABLE DESCRIPTIONS AND SOURCES

- LnGDP** Natural log of GDP per capita is Gross Domestic Product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.
Source of data: World Bank national accounts data, and OECD National Accounts data files, extracted on January 18, 2016.
- SXP** Share of exports of primary products on GDP per capita. Ratio result from the division of the total exports of primary goods (F.O.B. value nominated in U.S. dollars) by the GDP per capita. Primary products exports or natural resource exports per capita of Latin American countries is the main variable which shows the existence or inexistence of a resource curse in Latin America.
Source of data: World Bank, extracted on January 18, 2016.
- SOPEN** Average of the annual degree of openness of the economy, at current prices (Based on figures in millions of dollars).
Source of data: Economic Commission for Latin America and the Caribbean. ECLAC - CEPALSTAT, extracted on January 25, 2016.
- INV** Ratio of Government investment divided on the GDP.
Source of data: World Bank and Economy watch, extracted on February 28, 2016
- CORR** Corruption in government perception index. A low score means “illegal payments are generally expected throughout government”, in the form of “bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans.” Scored 0-10. 0 means that a country is perceived as highly corrupt and 10 is perceived as very clean.
Source of data: Transparency International - Corruption Perceptions Index, Various Annual Reports. - <http://www.transparency.org/surveys/index.html>, extracted on January 25, 2016
- DTT** Terms of trade. Net barter terms of trade index is calculated as the percentage ratio of the export unit value indexes to the import unit value indexes, measured relative to the base year 2000. Unit value indexes are based on data reported by countries that demonstrate consistency under UNCTAD quality controls, supplemented by UNCTAD's estimates using the previous year's trade values at the Standard International Trade Classification three-digit level as weights. To improve data coverage, especially for the latest periods, UNCTAD constructs a set of average prices indexes at the three-digit product classification of the Standard International Trade Classification revision 3 using UNCTAD's Commodity Price Statistics, international and national sources, and UNCTAD secretariat estimates and calculates unit value indexes at the country level using the current year's trade values as weights.
Source of data: World Bank national accounts data, and OECD National Accounts data files, extracted on March 25, 2016.
- FDI** Ratio of Foreign direct investment divided by GDP. Refers to direct investment equity flows in the reporting economy. FDI rate is the sum of equity capital, reinvestment of earnings, and other capital. Direct investment is a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy.
Source of data: International Monetary Fund, Balance of Payments database, supplemented by data from the United Nations Conference on Trade and Development and World Bank, extracted on January 25, 2016.
- SAV** Data of Gross domestic savings calculated as GDP less final consumption expenditure (total consumption).
Source of data: World Bank national accounts data, and OECD National Accounts data files, extracted on January 25, 2016.
- LnLABF** Natural log of total labor force comprises people ages 15 and older who meet the International Labor Organization definition of the economically active population: all people who supply labor for the production of goods and services during a specified period. It includes both the employed and the

unemployed. While national practices vary in the treatment of such groups as the armed forces and seasonal or part-time workers, in general the labor force includes the armed forces, the unemployed, and first-time job-seekers, but excludes homemakers and other unpaid caregivers and workers in the informal sector. Source: International Labor Organization.

Source of data: World Bank population estimates, extracted on January 16, 2016.