



THE IMPACT OF THE DECLINE IN OIL PRICES IN LATIN AMERICA

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ABSTRACT

International oil prices have been falling irreversibly. This is due to a complex structural phenomenon which is analyzed in the introductory part of this article; we then move on to the study of some of the nations that have gambled a significant part of their internal growth on petroleum production. As a result, they have seen the imperative need to restructure their strategies in order to ensure a consolidated revenue base. The problem is primarily reflected in those economies that have not known how to diversify their productive sectors and international markets, or they have not invested enough in the basic infrastructure, cutting-edge technology, and the research and development required to reduce their vulnerability and economic dependence on the trade of certain raw materials in the global economic system. Latin America demonstrates various cases of this kind, such as Venezuela and Mexico (traditionally oil countries), or Brazil and Argentina (recently venturing into the oil market). The objective of this article is to discuss the main challenges faced by each of these countries, to identify their similarities and differences, and finally, to propose strategies that could be implemented for the sustainable development of their economies. This is a descriptive, correlational, and explanatory investigation with a purely qualitative focus. Analysis of each case is carried out purely in a current timeframe. The information used for the study is based on the most recent international reports and global circumstances of the countries in question. This investigation took place in the year 2015 over a five-month period.

Keywords: Latin America, Oil prices decline, Raw materials, Economic impact, Productivity, case studies.

JEL Classification Codes: F02, F14.

Contribution/ Originality

This study is one of very few studies which have investigated the impact of the oil prices decline, particularly in Latin America. As it is a very recent phenomena, the critical analysis of core oil economies in the region contributes to the perspectives of midterm strategies for their governments to follow.

1. INTRODUCTION

The structure of the international economic system is in full reconfiguration. International oil prices have fallen, very likely irreversibly, registering prices of less than 50 dollars per barrel. This has backed oil exporting countries into a corner.

Latin America has not escaped the wild scenario we have glimpsed for the hydrocarbon sector in the near future. There are various countries in this region that are dependent on petroleum exportation for their national economic sustenance – such as Mexico and Venezuela. We have other countries that, in the last few years, have committed a significant part of their growth to the push to produce oil – as is the case of Brazil, with its state-owned agency PETROBRAS and their huge off-shore oil reserves, just discovered in 2007 – and Argentina, which has gambled on the re-nationalization of the oil company, *Yacimientos Petroliferos Fiscales* (YPF), against the political cost that this action has wreaked on the government of Cristina Fernandez with the European Union.

This regional reality demands that we focus our analysis on reconfiguring the structural strategies that these nations urgently need to implement in order to assure their adaptation to the energy framework currently in use. This requires creating economically dynamic alternatives that minimize oil revenue losses. This is a good time for creativity, diversification, and vigorous promotion of the alternate competitive sectors that every Latin American nation possesses.

The specific case of Chile will provide significant input in the final section, in which solutions are proposed. Despite being a non-petroleum producing country, Chile has achieved a level of economic vigor and trade diversification that ranks it as the most competitive country in Latin America. It is a crowning example of the strategic path that other countries could adopt in their own economies.

2. REVIEW OF THE LITERATURE

In order to understand the context in which the key Latin American oil economies developed, it is first necessary to understand the reconfiguration that the petroleum industry is currently undergoing worldwide.

2.1. Oil and the Imminent Decline in its Prices

The decline in oil prices is neither a circumstantial nor a chance event. It appears to be caused by an irreversible structural phenomenon that has forced nations in general to search for adaptation techniques and alternate development strategies that will allow them to face the most foreseeable calamities. Let us analyze this phenomenon more closely in order to understand it better.

After oil prices had remained stable for more than three years, with prices hovering at 100 dollars per barrel, in mid-2014 the fuel suffered a drastic slump until reaching figures below 50 dollars per barrel in the first months of 2015. Just from January to June 2015, oil registered a 56% downturn in its value. To a great degree this decline is due to the increase in the supply of petroleum, which was greater than the increase in product demand. Economic forecasts indicate

that this imbalance in the hydrocarbon market will persist during the next few years, so we can expect constant volatility in oil prices, which tend towards a drop in prices rather than an increase. (Levy, 2015). The changing behavior of oil prices is directly related to the boom of certain oil-producing countries, such as the United States, that have been a driving force in the fuel sector due to horizontal drilling and hydraulic fracturing, or *fracking*, in order to extract shale gas and petroleum quickly, cheaply, and “efficiently” in corporate (albeit not environmental) terms. This phenomenon in the fuel sector implies the greatest production of hydrocarbons in the history of the United States, which translates into less costs and much less dependency on petroleum and gas importation for this great North American power.² To that we add the reluctance of the main petroleum-exporting countries (OPEC) to reduce their oil production, the high macroeconomic repercussions generated by the crisis in Ukraine, and the critical situation in Syria, Nigeria, Libya, and Iraq, a crucial region for oil distribution to Europe (United Nations, 2015). The future of the global market for conventional petroleum is not at all rosy.

The United States has three key elements that have caused it to become the only economy capable of optimally exploiting the benefits of the oil shale industry. Besides enjoying the right kind of geology, it possesses capital markets with sufficient capacity to explore and exploit high-risk financial products. In addition, land owners are able to own rights over underground minerals, and the industrial infrastructure is largely based on independent companies instead of a single state-owned company controlling the fuel sector, for example. (Morse, 2014) Even though various countries are now venturing into the production of shale gas and oil (Saudi Arabia, Australia, China, Mexico, Russia, and the United Kingdom) they have a long way to go before achieving such favorable competitive advantages as those of the United States. The North American country will lead up this sector for several years. This economic outlook implies a structural reconfiguration of international geopolitics. Trade alliances, and therefore oil distribution routes, will be modified strategically.

- Asian countries allied with the United States, such as South Korea or Japan, may find a brand new, more reliable provider as a result of this prediction.
- Countries that are totally dependent on oil imports will greatly benefit from the fall in oil prices. China and India – huge petroleum consumers – will considerably increase their demand for oil in the next few years, when faced with such an attractive price. For its part, the European Union will be able ease its internal economic situation a bit when their crude oil importation costs go down.³

¹ Directional boring allows wells to penetrate shale bands at great depths. Hydraulic fracturing, or *fracking*, refers to the injection of fluids at high pressure to release gas and petroleum from rocky formations. Blackwill and Sullivan (2014).

² In 2013, oil production in United States was about to reach the same level of production of the Russian Federation, becoming the first producer of energy of the planet. Furthermore, in 2015 the United States may overpass Saudi Arabia as the main crude oil producer of the world. United Nations (2015).

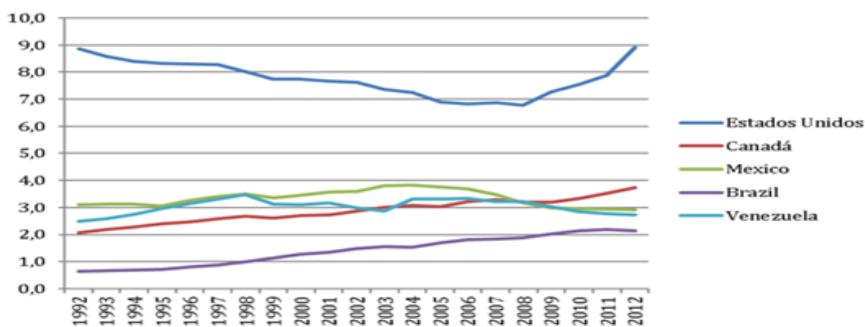
³ European imports on energy, increased to \$500 billion in 2013, corresponding 75% only to pure oil. The Economist (2014b).

- For obvious reasons, the United States will significantly reduce its external consumption of hydrocarbons, which will directly affect the oil supplying nations that have the North American country as their primary customer.
- Countries that have traditionally been oil producers will have to dramatically adjust their budgets due to the low revenue originating from hydrocarbon, and they will have to search for new markets where revenue originates more from export volume than from price. They must create policies that allow them to make their operability and exploration and exploitation tactics more flexible within the energy sector so that they may begin competing on the market. Most importantly, they must diversify their economy by focusing on other productive sectors that will allow them to reduce their dependence on petroleum.

Within the economies experiencing great changes due to this global oil phenomenon are various Latin American countries. We will now analyze this phenomenon more closely, as well as its impact on the region.

2.2. The Decline in Oil Prices in Latin America

As [Escribano and Malamud \(2014\)](#) aptly state, in questions of fuel capacity, the Latin American geographical region is characterized by two pivotal aspects regarding hydrocarbons: the marked divergence between the oil-supplying countries (heavily dependent on supplying oil to the United States) and the oil-consuming countries. Counting the ultra-heavy crude oil located in the Orinoco Petroleum Belt, Venezuela has the largest proven oil reserves in the world. However, its infrastructure is too limited to enable the country to transform said crude oil into derivative products, and it has reduced its daily production capacity from 3 million barrels in the year 2000, to 2.4 million today. Brazil is now ranked in second place for oil reserves in Latin America (with 0.9% of the world's total reserves), thanks to the discovery of pre-salt deposits in 2007.



Graph-1. Petroleum Production, 1992-2012 (millions of barrels/day –mbd–)

Source: [Escribano and Malamud \(2014\)](#) based on *BP Statistical Review of World Energy 2013*.

Unfortunately the brand new non-conventional extraction alternatives (such as oil and gas shales) leave Brazil out of the game insofar as projects that are immediately foreseeable for pre-salt. Mexico, an international oil power until just a few years ago, today faces a decline in their crude oil production, which leaves it in alarming circumstances for the short term. Once having

represented up to 4% of the world's oil reserves, today it barely has 0.7% of the total, which ranks it in third place in proven oil reserves in Latin America, after Venezuela and Brazil [Escribano and Malamud \(2014\)](#)

2.3. The Macroeconomic Context in the Region

In order to better understand the context in which the petroleum industry has developed in the region, it is necessary to analyze the macroeconomic structure that characterizes Latin America. After the period of unrivaled economic bonanza that characterized most of the Latin American economies since 2003 and even during the crisis of 2008 and at least until 2010, today the regional panorama is perceived as uncertain, unpredictable and, in some cases, even worrisome. In 2014, economic growth in Latin America was only 1.3%, and an increase of barely one percentage point is predicted for 2015, while for 2016 a general growth of 3.1% is expected. In the boom years, an average growth figure of up to 5% was achieved. ([United Nations, 2015](#))

The risk level and growth outlook varies according to country. A positive environment for economic growth in Latin America is expected insofar as the rise in investment demand in Mexico and Chile is concerned. This is a result of the emergence of structural reforms in the former case, and the large short-term public investment projects that are planned to be implemented in the latter case. In addition, economic recovery of the United States will primarily benefit the nations that are most dependent on them, such as Mexico and Central America. On the other hand, the greatest economic affects in the region will be reflected in economies, such as Argentina and Brazil, which are heavily dependent on *commodities*⁴ exportation; which have suffered a significant devaluation since 2011. These countries are specifically dependent on their hefty trade dealings with China – with an economy that will continue having significant rates of slowdown in the next few years-. The appreciation of the American dollar and, of course, the unexpected decline in international petroleum prices plays a central role in this regional economic change. ([IDB – INTAL, 2015](#); [United Nations, 2015](#))

The heavy dependence of Latin American nations on the exportation of certain commodities (including, of course, petroleum) implies a high rate of financial vulnerability to external vicissitudes. As seen in Graph 2, petroleum sales in Venezuela and other countries such as Colombia and Ecuador, represent more than half of their export revenues. The same thing occurs in the case of Chile with minerals (copper), and in Argentina, Uruguay, and Paraguay with their agriculture/livestock sector.

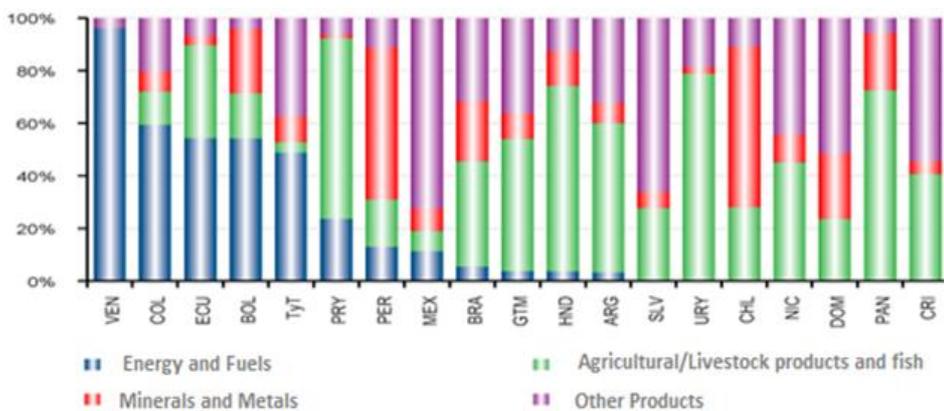
The case of Mexico is interesting because, even though the great majority of its exports are seen in the “other products” category—mainly referring to sales by the automobile, household appliance, and other industries, revenues are considerably higher in the field of petroleum. Despite the fact that hydrocarbon exports only hover at 15% of Mexico's economic activities,

⁴ *Commodities* refer to goods and raw materials that have a value or use, and a very low level of differentiation or specialization, such a petroleum or soy.

these represent 30% of the total revenue, with remittance of foreign funds and tourism being the main sources of income. (Sabatini, 2015)

The case of Brazil appears to be a bit more balanced. The agricultural/livestock sector represents 40% of external income, minerals and metals around 20% and 25% for “other products”. The problem centers around the fact that extraction diversification in any of its sectors is dependent on international prices (all raw materials combined), which will keep the Brazilian nation at a very meager growth expectation in the next few years. (IDB – INTAL, 2015)

External vicissitudes (i.e. an imminent drop in crude oil prices or volatility in the value of raw materials in general) define the growth levels of these nations, and projections of their growth potential are in fact speculative and short-term in nature.



Graph-2. Makeup of exports in Latin America and the Caribbean by largest categories, 2013

Source: IDB – INTAL (2015)

The study of these four specific cases (Venezuela, Mexico, Brazil and Argentina), will help us more fully understand the problems and identify the endemic patterns that impede regional development. The proposals provided in this study, regarding implementation of strategic measures that will motivate structural and systemic change, seek to be a template that can be copied by other nations suffering similar levels of economic dependence and vulnerability.

3. METHODOLOGY AND SUPPOSITIONS

This is a descriptive, correlational, and explanatory investigation with a purely qualitative focus since it is based on the collection of documental date that founds its argument on the validity and reliability of the bibliographical resources used as key sources. Using the results obtained from this study, the tangible reality affecting different Latin American countries is defined, basing the argument and proposal on prior experience, understanding of the subject, and collection of genuine, updated, diverse, and reliable information. There is no manipulation of the variables. This is an external observation of the occurrence in its natural form, and it is defined as research based on theory founded on emerging design; this means that the theory comes from the information itself—it is not forced into categories. The type of sampling is theoretical, i.e., the

collection of the information and the emerging theory will indicate the composition of the sample. [Hernández et al. \(2010\)](#) in order to achieve the main objective of this investigation, four specific cases were analyzed, each with both similar and dissimilar characteristics at the same time. All the cases are similar in their heavy dependence on the commodities market, in their investment in oil sector for internal production, and in their reduced room for maneuverability in their internal economic policies. They differ in their experience in the petroleum industry, their degree of influence in a global scale, and in their industrial sector strategy. The first two cases, Venezuela and Mexico—the region's traditional petroleum giants— have maintained their tendency to be most dependent on this sector. The size of their economy and the high representation of oil revenues on their GDP make them *de rigueur* cases for this study. The next two cases of the study, Brazil and Argentina, are economies that have had great impact on the geographical area, and are countries that only in the last few years have implemented their petroleum business based on separate strategies, feasibilities, and forecasts, albeit with a high degree of vulnerability and a low degree of specialization. Brazil, along with Mexico and Venezuela, has one of the three largest oil companies in Latin America, not to mention the large oil reserve just barely discovered in 2007. This has caused Brazil to be validly recognized recently as a country with net oil exporting capacity. Argentina, despite not having the same attributes as the above countries, staked its future on the re-nationalization of its petroleum company (YPF) in 2012 to enable the state to kick-start this sector without interference from the Repsol transnational company. Since Argentina is a leading economy in the region and traditionally more dedicated to development of the agricultural sector, it will be interesting to discover its primary goals for the petroleum industry and the impact the current oil price drop may cause to their prospective planning. Finally, in the proposal section, we include the case of Chile. This nation, despite not being an oil-producing country, is in fact highly dependent on the international price of copper. Despite this dependence, it has succeeded in establishing structural foundations for the country's sustainable development, which makes it a strategic model to be followed by other nations. Analysis of each case is carried out purely in a current timeframe. The information used for the study is based on the most recent international reports and global circumstances of the countries in question. This investigation took place in the year 2015 over a five-month period.

4. FINDINGS / ANALYSIS

4.1. The Great Traditional Oil Countries

4.1.1. Venezuela

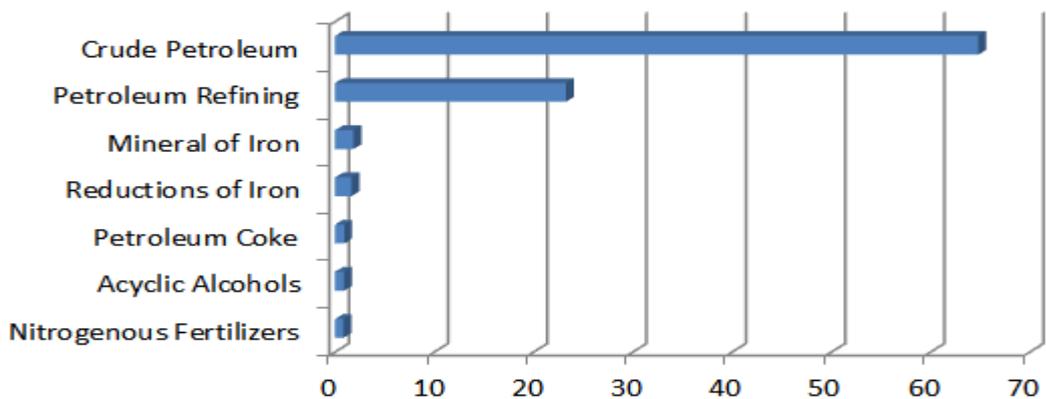
Ever since Hugo Chavez took power in 1999 petroleum has been the focus of productivity and of national exports (reaching levels of up to 95% of the country's total economic activities). [Sabatini \(2015\)](#) this is mainly due to the fact that, during that period, the country had the good fortune of enjoying a strong rise in international prices of raw materials, specifically petroleum, which as previously mentioned, was priced at around 100 dollars per barrel.

The petroleum boom allowed the government to make interesting alliances with other Latin American governments with whom they shared socialist leanings (Cuba, Ecuador, Bolivia and, at

one time, Nicaragua), or countries that were very attracted to Venezuela's offer of business or service in exchange for oil at a guaranteed low cost (Caribbean islands such as Dominica, San Vicente and the Grenadines, and Saint Lucia). In this context, the Bolivarian Alternative for the People of Our America (ALBA) was founded, as well as the program called PetroCaribe, in order to provide cheap financing of oil in the region.

Unfortunately, once the petroleum boom and an arbitrary administration ended, with radical actions at odds with the interests of international investors and entrepreneurs, the economy has been notably destabilizing more and more every year. As was stated in the article *Competitividad Latinoamericana. Afinidades y Contrastes por casos* [*Latin American Competitiveness: Likenesses and Contrasts by Cases*] (Rodríguez, 2014) even though Chavez succeeded in improving some social areas, such as fighting poverty and fostering primary education, their world competitive indicators have been collapsing to such a degree that today Venezuela is ranked nearly at the bottom of the list, according to the World Economic Forum. (2015)

After the death of Chavez and the rise of the uncharismatic Nicolas Maduro, the national situation has become untenable. Capital flight, scarce federal reserves, progressively more imperceptible foreign investment, and the alarming increase in public debt, are added to the unpredictable fall in oil prices since mid-2014, which has reduced the amount of oil revenues in Venezuelan coffers by half.⁵ The amassing of these factors has resulted in an economic crisis that attained the highest inflation rate in the world last year (greater than 65%), along with shortages and lack of employment opportunities and basic products (food, medicines, machinery, and industrial equipment), which has paralyzed internal productivity (Pensar en Venezuela, 2015). Venezuela appears to be on the brink of bankruptcy.



Graph-3. Observatory of Economic Complexity (2015)

Source: Observatory of Economic Complexity (2015)

⁵ Each dollar down in the oil price represents for Venezuela around 480 millions of dollars less in its exports incomes. According to the Deutsche Bank, the government needs \$120 dls. (price per barrel), to finance all its annual expenses calculated. [The Economist \(2014a\)](#).

The dependence of this South American nation on oil sales is excessive, and scarce investment has been made on exploration, technology, and infrastructure, either to improve the petrochemical industry itself or to diversify productivity in other sectors.

By observing the following graph, we see that almost 90% of the country's exports are based on the extraction of crude oil and its derivatives. Foods, chemical products, and electronics, combined, contribute only a marginal amount to the national GDP.

The dependence on single-commodity production in Venezuela has unquestionably caused the nation to be extremely vulnerable to the conduct of the world economic system. And if Venezuela unfortunately collapses, it will directly affect the entire region, specifically the small Caribbean nations with whom Venezuela has made agreements to supply oil at such a low cost, primarily Cuba.

4.1.2. Mexico

Thanks to the large petroleum reserves discovered on Mexican territory in the seventies, Mexico has patently become a crude oil exporting country. Currently, Mexico is the seventh largest oil producer worldwide, and the third largest in Latin America, only below Venezuela and Brazil.

Since the times of Vicente Fox (Mexico's President 2000-2006), an energy reform has been sought to meet the country's needs, primarily due to the scarcity of light crude oil of near-surface extraction and the limited diversification of economic sectors that would boost productivity in the country. Now that Mexico has finally approved an extremely controversial structural reform of the energy sector, the country appears to be one of the emerging economies that will suffer less impact from the decline in international hydrocarbon prices. As previously mentioned, contributing to this lesser impact will be the economic upturn in the United States and the resulting high level of manufacturing exportation to the neighbor of the north, as well as the macroeconomic bailout that has succeeded in consolidating the Aztec nation since the 1994 crisis. This last factor places the country in a very comfortable position with international financial institutions in case Mexico requires loans to cushion the impact of petroleum losses.

Despite the less turbulent scenario envisioned for Mexico, the panorama is not rosy. Just a few years ago, in 2013, there was talk of the "Mexican Moment", in which it was predicted that the recently established structural reforms would directly trigger high direct foreign investment rates and an enviable economic growth that would be translated into sustainable internal development. The reverting phenomenon of the outsourcing, whereby assembly plants especially from the United States would leave Asia and go back to investing in Mexico due to the no longer attractive Chinese wage rate, combined with the rise of the automobile and aerospace sectors in Mexico, and manufacturing exports that exceeded that of all Latin America combined, were the factors that analysts took into account in order to predict such positive trends in this country (Friedman, 2013).

According to the original calculations, energy reform could have caused a rise of up to one percent of the annual Gross Domestic Product (GDP). Today, however, in view of the unforeseen

decline in oil prices, this percentage point has not only disappeared from the forecasts, but also the expectation of the country's economic growth for 2015 has had to be reduced from 3.0 - 4.0% to 2.5 - 3.0%. [Sabatini \(2015\)](#) the Mexican government has seen the need to cut back on public investment projects, putting the federal expenditures budget for 2016 at zero.⁶

The great benefits that the energy reform would supposedly bring to Mexico are no longer as clear as before and, in fact, the low oil prices have obligated the government to put on hold international investment projects for deep-water oil and shale gas exploration. These exploratory activities no longer offer sufficient payoff. The cost of exploration is very high in view of such low crude oil prices. Furthermore, the depreciation of the exchange rate as well as American protectionism and international financial volatility all combine to forecast the economic downturn that can be expected for Mexico in 2015 and 2016.

MEXICO

GDP (Percentage of annual growth in constant prices)

2011	2012	2013	2014	2015	2016
4.0	4.0	1.4	2.4	2.1	3.0

Source: [IMF \(2014\)](#). World Economic Outlook Database

According to the Mexican Institute for Industrial Development and Economic Growth (IDIC), structural reforms do not solve the problem of job insecurity, which has a direct impact on consumer spending and economic growth, so their 2016 outlook for Mexico is consistent with the IMF's lowered forecast. ([Forbes Mexico, 2015](#))

The bottom line is that we can expect the year 2015, and above all 2016, to be very much below the economic outlook that had been expected to be achieved due to recent structural reforms, and specifically, the energy reform. Mexico will be the Latin American country that demonstrates the greatest average economic growth, but this could well be limited to the short term, since it will later have to face a genuine adjustment due to loss of oil revenue.

4.2. The Recent Petroleum Gamble

The two South American giants, Brazil and Argentina, have recently wagered on developing the petroleum sector, looking to strengthen their financial revenues through diversification of productivity. The agricultural industry can be well complemented by a prosperous, competitive energy sector. Unfortunately, things have not turned out well for these two countries in the last few years. Let's analyze why.

⁶ A zero base budget is a planning and budget method that annually reevaluates all the expenses and programs based solely on the capital available for the next year, without using the previous years as reference. [Pyhr \(1977\)](#).

4.2.1. Brazil

As analyzed in the article entitled *El Brazil de Hoy [Brazil of Today]* (Rodríguez, 2014) it can be seen that Brazil has had remarkable economic growth in the first decade of the 21st Century. A hefty increase in the per capita GDP was due to the strong appreciation in the value of the commodities worldwide. Being one of the main exporting countries of this type of raw materials, Brazil achieved an extraordinary income level that allowed it to evade the onslaught of the 2008 crisis with relative ease. Besides the primary sector, the energy industry producing biofuels and petroleum derivatives achieved up to 160% growth, while natural gas and petroleum extraction increased their productivity more than 80%. (De Negri and Cavalcante, 2013; Ordoñez and Rosa, 2013).

In spite of the fact that the national boom seemed to be ushering in an era of Brazil as a world power, today the critical situation their economy is passing through, specifically in the petroleum industry, is extremely alarming.

Despite having discovered oil deposits known as *pre-salt*⁷ eight years ago, promising at least 50 million barrels of crude oil, today Brazil's state-owned petroleum company *par excellence*, PETROBRAS, suffers losses amounting to more than 7 billion dollars. This is essentially due to the bribery scheme between construction companies and the siphoning of funds from PETROBRAS bids to political campaigns, which has tarnished the international image of both the government of Dilma Rousseff and that of the company. The drop in the value of the state-owned company's shares on the stock market is resonating in effect. The share price dropped 50% in the last quarter of 2014, which caused the company's worth to plunge as much as 50 billion dollars in value. Adding the fall of international oil prices to all this, the multi-million dollar projects that had been contemplated for pre-salt oil are being postponed indefinitely. Today, with petroleum prices below 100 dollars per barrel, it is simply not feasible to push ahead with pre-salt oil exploration. (Sabatini, 2015). The growth outlook for Brazil in 2015 is nil. In fact, the economy is expected to experience a 1% downturn instead of the 0.3% growth that had been predicted in January of this year, according to the IMF. *El Economista* (2015) this is due to the drop in prices of raw materials (including crude oil, of course), a heavy drought in southeastern Brazil, loss of consumer confidence in general and the low investment in PETROBRAS in particular, and the radical austerity measures being implemented by the unpopular Dilma Rousseff's government.

⁷ "The term *pre-salt* refers to the layers of rocks located in the underwater portions of a large part of the Brazilian coast, which have the potential to generate and accumulate petroleum. It is appropriate to call it *pre-salt* because it forms a stratum of rocks that extend below an extensive layer of salt that, in certain areas of the coast, are up to 2,000 m thick. The term *pre-* is used because, over time, these rocks were deposited before the layer of salt. The total depth of these rocks, which is the distance between the ocean surface and the petroleum reservoirs below the salt layer, can be up to 7,000 meters". Petrobras (2015).

BRAZIL

GDP (Percentage of annual growth in constant prices)

2010	2011	2012	2013	2014	2015	2016
7.5	3.9	1.7	2.7	0.14	-1.0	0.9

Source: IMF; 2014. World Economic Outlook Database

As can be seen in the table, the drastic turnaround in Brazil's economic growth in just a few years reflects the vulnerability of their internal system and the fragility of the productive sectors that move the economy, which have failed to achieve consolidated levels of competitiveness. Endemic problems such as corruption, low productive specialization despite the predominance of basic extraction of raw materials for export—primarily to China—has resulted in the instability of Brazil's industrialization.

4.2.2. Argentina... A Peculiar Case

ECLAC (Economic Commission for Latin America and the Caribbean) reported very meager economic growth for Latin America (1.1%) in 2014. [ECLAC \(2015\)](#) the slowdown was primarily concentrated in the three largest economies of South America: Brazil, Venezuela, and Argentina. We have already analyzed the first two countries; now it is Argentina's turn.

After the 2008 crisis, Argentina appeared to be a booming economy. In 2010, only two years later, the country had successfully recovered, registering an incredible 9.2% growth, while in 2011 it registered an impressive 8.6%. To a great extent, these good results were due to the notable rise in international prices of commodities, consumer spending, and the amount of investment the country received at that time. ([Weisbrot et al., 2011](#))

Nevertheless, as a consequence of the resounding drop in raw material prices, the energy deficit, and the low credibility of the Justicialist government of Fernandez de Kirchner⁸, beginning in 2012 Argentina underwent an internal slowdown due to low international demand for their key products. [Ministry of the Economy Public Finance \(2012\)](#) since this country is highly dependent on the export of cereals such as soy, the poor cereal crop of 2012 and the international volatility of prices were a direct blow to their economic output.

ARGENTINA

GDP (Percentage of annual growth in constant prices)

2011	2012	2013	2014	2015
8.6	0.9	2.9	-1.7	-1.5

Source: IMF (2014). World Economic Outlook Database

⁸ The alarming accumulation of public debt by Argentina, as well as the generation of international distrust, is due in great part to the shady performance of its public institutions and failure to pay the debt owed international creditors. [Rodríguez \(2014\)](#).

Cristina Fernandez' strategy to turn the falling economy around has been to boost local industry by restricting imports. Since it is a debtor country, it is impossible for them to request loans—the revenues must come from inside the country. Unfortunately, due to a weakened economy with a high level of risk and little international credibility, Argentina has maintained low foreign investment and there are no available funds that can be used for genuinely boosting local industry. The economy is dependent on, and therefore vulnerable to, the international market, specifically the price of raw materials.

In terms of energy, the Argentinian case is peculiar. This country is world-renowned for its elevated grain and meat exports, not for its petroleum. In regard to conventional oil reserves, Argentina is below Venezuela, Mexico, and Brazil; it is even below Ecuador (0.5%) since it registers 0.15% of the total reserves worldwide. [Escribano and Malamud \(2014\)](#) the majority of the crude oil it produces is for internal use, not for export.

What is remarkable about this South American country is the risky and controversial governmental gamble that has been observed in the last few years; their strategy has been to promote petroleum and gas production using nationalist measures that have checkmated the country's international politics.

In 2011 the government of Cristina Fernandez made the decision to expropriate the entire stock (51%) owned by Repsol (the Spanish Petroleum Company) in the oil company YPF. This large Argentinian oil company (YPF) had been privatized by Carlos Menem. Besides causing heavy capital flight and a negative image for international investors, the cost of this decision has been to create strong animosity with the European Union.

As we proposed in the article *La Nacionalización de Empresas: ¿El Camino? [Nationalizing Companies: The Answer?]* ([Rodríguez, 2012](#)) this decision by the Argentinian government, despite severe repercussions to its economy, appears to follow a national strategic plan based on long-term projections for the petrochemical industry. We base such a statement on the fact that just in 2011, Argentina and Brazil promised to transform Latin America into the “New Black Gold Mecca” ([Vignaux, 2011](#)) since Brazil had discovered pre-salt deposits and Argentina (with the private company Repsol still intervening in YPF) appeared to have discovered around 150 million barrels of shale gas and oil reserves. Today it is known that Argentina is in at least third place worldwide for this type of proven reserves (only after China and the United States). In our opinion, the majority shares in YPF were expropriated from Repsol due to the government's intention to stake their claim in the non-conventional hydrocarbon extraction industry, which could be an interesting mid-term plan.

Unfortunately, the nationalization of YPF has not been a sufficiently effective strategy to reverse the low Argentinian oil production trends that have been registered for the last five years in a row. Despite the fact that YPF was able to register 8.85% production (having obtained PETROBRAS assets), national petroleum extraction dropped 1.44% in 2014, compared to the previous year. [De Santis \(2015\)](#) the severe downturn of the economy and the lack of access to international credits have prevented the government from wholeheartedly advancing the strategy to replace imports with local infrastructure to activate the national petroleum industry.

5. CONCLUSIONS / LIMITATIONS

Based on what we have analyzed regarding the four Latin American nations, we can conclude that they are markedly similar in certain fundamental aspects:

- Excessive dependence on commodities prices and their international trade.
- Gambling national political and economic stability on elevated oil prices (primarily Venezuela, Brazil, and Mexico).
- Little diversification of national productive sector activities.
- Weak basic infrastructure, insufficient access to cutting edge technology and grassroots investment in research and development in order to boost specialization sectors and local industrialization.

The post-crisis Latin American boom was due, more than anything, to the high price of commodities in those years. When the value of commodities fell and, quite the opposite, these countries were faced with a dramatic drop in international prices of a product that is so essential to their income base (as is the case of petroleum), economic fragility and uncertainty over the future potential of these countries is now the prevailing consideration.

It is true that each of the four cases present specific factors, either political or administrative, that have directly influenced this downward turn in their economic performance. Nonetheless, it is precisely due to this lack of industrial consolidation and sector diversification that this kind of emerging economies continue being highly vulnerable to certain circumstantial aspects that undermine their own internal development. As stated by [Levy \(2015\)](#) for economic, strategic, and environmental reasons, the answer is to stop depending on oil use and, in the specific case of Latin America, to stop depending on simply extracting and exporting certain raw materials without added value. Unfortunately, the business boom represented by countries such as China on today's global economy is translated into massive consumption of raw materials, which sets back industrialization plans in Latin America. The Asian giant has now become the first most important trade partner of Brazil and the second of Mexico, and it has substantially increased its trade activity with Argentina. In addition, China has made ample deals with Venezuela to guarantee oil supply from them in exchange for substantial loans that allow Caracas to weather the severe blows their economy has taken.⁹ The dependency on international markets, whether the United States in their peak or China now, indicate that the Latin American region continues implementing cyclical processes and short-term growth trends ([OECD/United Nations/CAF, 2014](#)) Strategic planning based on specialization of internal productivity with investment in infrastructure, advancement of education and labor training, and adequate research and development; all of these continue being a utopia for many governments, even when it is clearly understood that this is the guaranteed path towards efficiency and sustainable development.

In this sense and in concurrence with the perspective presented by the Inter-American Development Bank and the Institute for Latin American Integration ([IDB – INTAL, 2015](#)) we

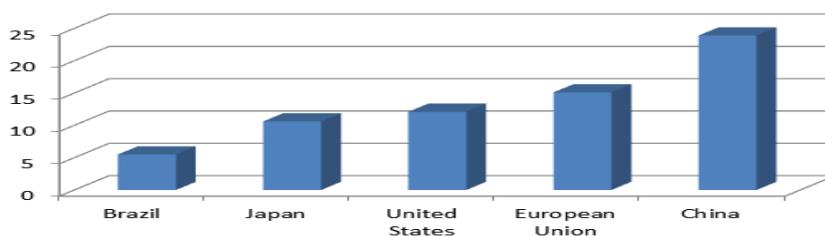
⁹ As an example, suffice it to say that between 2000 and 2010, Brazilian exports to China increased from \$1.1 a 30.8 billion dollars, a jump from 2%, to 15% of the South American country's total exports. [Ferreira \(2011\); IPEA \(2011\)](#).

consider that the stormy international outlook of the raw materials market may very well result in other types of indirect effects that are not yet even measurable. Some countries such as Mexico, due to its macroeconomic bailout and the increase in manufacturing exports due to the American economic boom, will be better able to dodge the situation, but that does not mean that in the long term, economic growth--much less economic development--is guaranteed in Mexico, simply because its economy continues depending more on the international context than on its own capacity for diversified productivity.

6. PROPOSALS

The main proposal is based on replicating the national development and planning strategies that have been driving successful nations over the years, such as Chile. We feel that this country is an example to be followed by other neighboring countries of the region due to the fact that, even though they possess a very small economy and a rough terrain for competitive development of certain industrial sectors, the country has known how to give added value to its national production by diversifying its productive sectors and the international markets they are directed to. This has allowed Chile to rank among the top thirty three most competitive countries in the world, and number one in Latin America. According to the Global Report on Competitiveness of the World Economic Forum 2014 – 2015, Chile combines various essential factors that give it a quite stable general profile. It has a strong institutional base, low levels of corruption, efficient government, solid macroeconomic stability with a low deficit and public debt, not to mention notable efficiency in its markets. It is true that this country needs to invest much more in innovation and in training in order to create businesses, especially in the private sector. However, it has achieved structural consolidation internally, and even with the volatility of mineral prices (Chile is the main producer of copper, lithium, and iodine in the world), its economy is predicted to be solid and stable over the next few years. Focusing on the basic infrastructure as well as sector and market diversification, it is very interesting how Chile has progressed. As can be seen in Graph 4, their exports by destination country are quite balanced and, in almost all cases (93.5%), they are backed by a trade agreement currently in effect between the parties.

This is not just about market diversification, it is also about the fact that the products Chile trades with the world come from different productive sectors that have increased their added value over the years.



Graph-4. Main destination countries for exports from Chile, 2012

Source: DIRECON (2013)

Besides valuable mining production (copper), of which Chile satisfies 36% of the world market, the agricultural and livestock industry are the main activity in the central and south regions of the country. Chile has known how to successfully venture into Asian and European markets by offering high quality fruits and vegetables. It has also exploited the fishing, forestry, and crustacean industry, and has a strong base in grapewine growing, which places it among the ten most important winegrowers worldwide.

To a great extent, global vulnerability is reduced by counting on a variety of products and destination markets, which allows the nation to continue specializing and fostering quality and efficiency in its production without having to be so dependent on the conduct of the global economic system and its direct effect on the internal economy's performance. In this sense, countries such as Venezuela, Mexico, Brazil, and Argentina require medium- and long-term planning regarding the level of specialization each of them can achieve in the productive sectors known for their competitive advantages. Productive diversification will result in greater exploitation of the trade agreements that each country has signed with different nations and/or economic blocks in order to expand their market.

In the specific case of Venezuela, it should be emphasized that there is an imperative need to boost the petrochemical industry in order to move from mere petroleum exploration and extraction to industrially transforming hydrocarbon into innovative derivative products (fuels, plastics, and chemical products).

The agricultural sector could well be a specialized productive sector, with a captive internal market that would generate consumption by the country's own inhabitants. Venezuela imports more than 50% of the food it consumes. Rice, sugar, coffee, and corn—products traditionally exported from Venezuela—are now largely imported. This trend is common in the majority of Latin American countries. High-demand basic food products are imported, even though demand could be satisfied by national production. As Fajnzylber stated in his book, *La Industrialización Trunca de América Latina* (1983 [*The Truncated Industrialization of Latin America*]) the inhabitant himself must be the worker who produces the goods and who consumes the final product. A wage base that is congruent with the price of merchandise will drive up internal demand and guarantee the consumption of the country's own products.

In the case of México, even though manufacturing exports have surpassed revenues obtained by the petroleum, tourism, and foreign remittance sectors combined, they contribute only a slight margin to national productivity since it is derived mostly from transnational corporations (TNCs) that manufacture or assemble their products in Mexico, to then re-export them to the world as final products. In this sense, the country's national planning strategy must focus on more ambitiously boosting the industrial specialization sectors for supplying machine parts, designed equipment, and automobile parts that can be locally supplied to transnational companies—above all, now that Mexico has become so attractive for foreign investment in the aerospace industry as well as the automobile industry.

The government must offer incentives by providing technology and know-how to TNCs in exchange for labor, raw materials and markets, just as the Asian Tigers did at one time. (Fajnzylber, 1989)

As stated above, the agricultural sector is a priority in this internal restructuring. Despite the feeble support this sector has had over the last few decades, Mexico is ranked among the fifteen most important food-producing countries worldwide. Strong investment is required in order to modernize the “light” industrialization of agricultural production, which will allow it to achieve competition levels closer to what the United States offers with the products it massively exports Mexico. Tourism is also a cornerstone of the Mexican economy. If, despite the problems with insecurity, Mexico is now ranked among the top ten countries for tourism in the world, the country would do well to develop an extensive tourism platform on diverse fronts (traditional, medical, and ecological tourism), taking advantage of the territorial, cultural, and gastronomic attractions it offers.

Brazil now enjoys a significant manufacturing base that it should not neglect. The export of raw materials to China has been more highly prioritized than national productive specialization in strategic, innovative alternative sectors such as the agricultural industry in general and the biofuel industry. Specifically, Brazilian science has made the great contribution of ethanol to the world. However, in the last few years, Brazil has suffered a marked downturn in its productivity due to low petroleum prices, which pushes companies to go back to consuming oil, since it is cheaper than ethanol. Rodríguez (2014) the agricultural industry is the pillar of Brazilian revenues, so it is necessary to continue strengthening this sector through research and development into other highly efficient, technologically innovative derivative products. This will allow the country to duplicate the ethanol success story and again position them in the international forefront.

In the industrial sector, Brazil must continue promoting a high level of specialization in the aerospace industry. Producing Brazilian planes has required an extremely strong base in specialized engineering and research and development, so this same strategy and planning must be duplicated in other sectors.

In the specific case of Argentina, we could say that their scheme to venture into a strategic sector such as shale gas and petroleum is on the right path to reducing the country's dependence on raw material exports. The government's intention to replace imports with national products is an interesting proposition. However, without a sound macroeconomic base that will assure the needed investment to consolidate the basic infrastructure and provide the research and development required for industrializing the country, Argentina will not be able to advance in the short term.

By taking advantage of Argentina's outstanding level of education and human development, the government must invest more in the high tech industry (the country stands out in industries dedicated to software, design, satellite construction and production, high-technology chips and aeronautic turbines). It already has the human capital, all that is needed is to strengthen it.

The country's main exports center around agricultural/livestock products such as grains and vegetable oils, sheep and cattle, among others. The second most important export product is petroleum, but as we have seen, the drop in prices has directly affected these sectors. An elevated amount of sector diversification is required, along with strong investment primarily in the secondary and tertiary sectors, with a high added value on the production and services they offer.

Specifically with respect to petroleum, some analysts such as [Escribano and Malamud \(2014\)](#) have suggested that the energy future of Latin America – specifically in Argentina, Mexico, and Brazil – lies in their capacity to replicate the non-conventional gas revolution that occurred in the United States, since these countries rank in third, sixth, and tenth place worldwide, respectively, in proven reserves of this type. If this is the case, we must again stress the overbearing need for industrialization, innovation, and investment in research and development, which will allow the countries to truly exploit this sector.

In our opinion, it would be more productive to also venture into other areas. Sector diversification with a high added value cushions the volatility of the international economic system and allows to develop the countries' inventiveness and self-sufficiency, thus guaranteeing more market share, employment, better salaries, and a more qualified labor force, which translates into better jobs and well-paid, sought-after professions.

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