



Working Paper Series

The Resource Curse Hypothesis: Evidence from Ecuador

by

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28/2014

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SEEDS Working Paper 28/2014

October 2014

by Andrea Cori, Salvatore Monni.

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The Resource Curse Hypothesis: Evidence from Ecuador*

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Abstract

The aim of this work is to evaluate the economic stability of the choices made by the Government of Ecuador regarding the management of natural resources in the context of the *Revolucion Ciudadana* designed to create a society based on Buen Vivir. The choice of an intensification of the mining sector not only shows a change in the government's perspective (from *Sumak Kawsay* to sustainable development), but also requires an analysis that highlights the possible risks outlined in the recent theory defined as the Resource Curse Hypothesis. Indeed, in this work, the structural conditions, which the reference theoretical framework suggests are essential to avoiding the Resource Curse Hypothesis, will be analysed in order to assess the economic effectiveness of the change of perspective implemented in the *Revolucion Ciudadana*.

Keywords: Buen Vivir, Ecuador, Human Capital, Natural resources, Sustainability, Resource Curse Hypothesis, Sumak Kawsay.

JEL: O21; O54; P48; Q01; Q30, Q56.

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*We are grateful to Mariangela Zoli and Massimiliano Mazzanti for their useful suggestions and comments. The usual disclaimer applies. Corresponding author: Salvatore Monni, Department of Economics, Roma Tre University, Via Silvio d'Amico 77 – 00145 – Rome, Italy, E-mail: salvatore.monni@uniroma3.it.

1. Introduction

The social, economic and environmental crisis that is affecting the historical period we live in is caused, by the intrinsic unsustainability of the development model in force, according to many scholars (Acosta, 2009a, 2009b, 2009c; Stiglitz, 2010; Jackson, 2011). Therefore, political and economic thinking has focused on new forms of organization that are more sustainable from an environmental and social point of view. Latin America, in recent years, has made a significant contribution in this direction in terms of developing and testing new proposals and has aroused the interest of the international scientific community. The case of Ecuador is definitely one of the most interesting in this respect. The Ecuadorian political project explicitly takes its moves from an indigenous culture, *Sumak Kawsay*¹, known as Buen Vivir², which aims to achieve a fully sustainable and inclusive society (SENPLADES, 2009). In particular, *Sumak Kawsay* can be defined as an ancient philosophy which has been closely guarded and adopted for thousands of years by the indigenous peoples of Ecuador (Estermann, 2006; Alvarez, 2013). According to this Andean cosmovision, all human beings should try to establish a harmonious relationship with each other based on relationality, reciprocity, correspondence and complementarity that bind them together (Estermann, 2006). In this context, Man's aim is to maintain and implement this harmony by establishing an equal relationship with nature based on reciprocal exchange (Gudynas and Acosta, 2011). The practical significance of these principles, along with a cyclical conception of time, means there is no concept of the linear process that underlies Western neoliberal culture and implies a conception of well being that is no longer linked to satisfying needs but rather to achieving a state of harmony (Gudynas and Acosta, 2011).

The philosophy's ability to provide an alternative to the Western model, which is hegemonic in nature, derives from the fact that it is based on theoretical notions that differ from and contradict this model. Indeed, the rift that has been created in the all-embracing political and economic thought of contemporary culture by questioning the assumptions that justify it, paves the way to conceiving new forms of political and economic organisation (Viola, 2000). Thus *Sumak Kawsay*, brought to the fore by Correa's Government in Ecuador, which has adopted it as a guideline for the Ecuador political project *Revolucion Ciudadana* (SENPLADES, 2009; 2013), provides a capital opportunity in the recessionary environment in which we live (Acosta, 2009a, 2009b, 2009c) and its application needs a thorough analysis.

¹ Kichwa language.

² In order to avoid misunderstandings that may arise from the political meaning of the Spanish translation, the original term (*Sumak Kawsay*) will therefore be used throughout the work.

Leaving aside political rhetoric, in fact, the *Revolucion Ciudadana* has shown a certain ambiguity in its use of the model (Santamaria, 2013). In the first part of the political project where it established nature as a legal entity in the Constitution of Montecristi (República del Ecuador, 2008) and gave priority to human development and environmental protection over economic growth in the launch of the Yasuni ITT initiative³, a will to implement the principles of the indigenous philosophy could clearly be seen (Gudynas, 2009). During economic planning of the country (SENPLADES, 2009; 2013), the *Revolucion Ciudadana* appeared to comply more appropriately with the principles of the model of sustainable development by acknowledging that an intensification of the extractive industry was a driver of change in the production paradigm and development and economic growth which should gradually become less invasive from an environmental point of view (Villalba, 2013). Due to a shift in perspective in political action in Ecuador, the transformation process pursued in the *Revolucion Ciudadana* no longer regards the construction of an alternative model to the one based on development but an improvement of the same model by increasing levels of environmental sustainability and social inclusion (Acosta, 2010).

As well as being symptomatic of a change in the Ecuadorian political project at theoretical level, embracing expansion of the extractive industry as a driver of development in the country runs the risk of being counterproductive for the country's growth in light of the so-called *Resource Curse Hypothesis* (RCH).

The aim of this study is therefore to examine the possible negative effects of the exploitation of natural resources and examine the presence of structural conditions, considered necessary to avoid the resource curse, in order to assess the effectiveness from an economic point of view of political decisions that have ruled out the possibility of constructing an alternative model to the one based on development.

2. The Resource Curse Hypothesis: the case of Ecuador

Paradoxically, throughout history, abundant marketable natural resources have often been an indicator of low levels of economic growth for the countries that possess them (van der Ploeg, 2011). Numerous studies have been based on this empirical evidence and have tried to understand the reasons for this relationship known as the *Resource Curse*. Sachs and

³On 5 June 2007, President Correa and the former Minister of Energy and Mines, Alberto Acosta, made a revolutionary proposal. Ecuador pledged it would leave the crude oil in the ground in the ITT (Ishpingo, Tambococha, Tiputini): the area with the highest density of biodiversity in the world and defined the Yasuni ITT Initiative. Then, on 15 August 2013, Correa announced that the initiative had been suspended indefinitely.

Warner (1995) were among the first who reached the conclusion that, even if the presence of natural resources often coincides with low growth rates in the countries examined and there is a strong relationship between these phenomena, this is not in itself an obstacle to growth. The presence of a number of exceptions (i.e. Botswana, Norway) shows that additional conditions are required for the resource curse to occur. Based on this assumption, in recent years the literature has identified six different explanations that justify the RCH: *i)* the effects of Dutch disease (Corden and Neary, 1982; Buiter, and Purvis, 1983; Corden, 1984; Van Wijnbergen, 1984; Gylfason et al., 1999; Barbier, 2003; Kronenberg, 2004; Boyce, J.R., Emery, J.C.H., 2005; Ismail, 2010; Kuralbayeva and Stefanski, 2010) *ii)* the misallocation of revenue deriving from the exploitation of resources (Atkinson, Hamilton, 2003; McPherson, 2004; Neumayer, E., 2004; Boyce, J.R., Emery, J.C.H., 2005; Costantini and Monni, 2008a; Ploeg, F. and Venables, 2010) *iii)* an increase in rent-seeking behaviour (Ross, 1999; Baland and Francois, 2000; Ross, 2001; Mehlum et al., 2006; Vicente, 2010); *iv)* the level of investment in human capital (Gylfason, 2001; Birdsall N, Pinckney T, Sabot R, 2001; Papyrakis and Gerlagh, 2004; Lay and Mahmoud, 2004; Bravo-Ortega, C., De Gregorio, J., 2005) the level of institutional quality (Boschini et al., 2003; Sala-i-Martin and Subramanian, 2003; Isham et al., 2003; Mehlum et al., 2006; van der Ploeg, 2011); *vi)* the initial level of Human Development Dimensions (Costantini and Monni, 2008a and 2008b; Pendergast, Clarke and van Kooten, 2008).

In its planning, the Correa government embraced income from the extractive industry as a driver of development in the country and subsequent redeployment of production (SENPLADES, 2009; 2013). When assessing the economic effectiveness of this decision, we took the explanations for the RCH mentioned above into account.

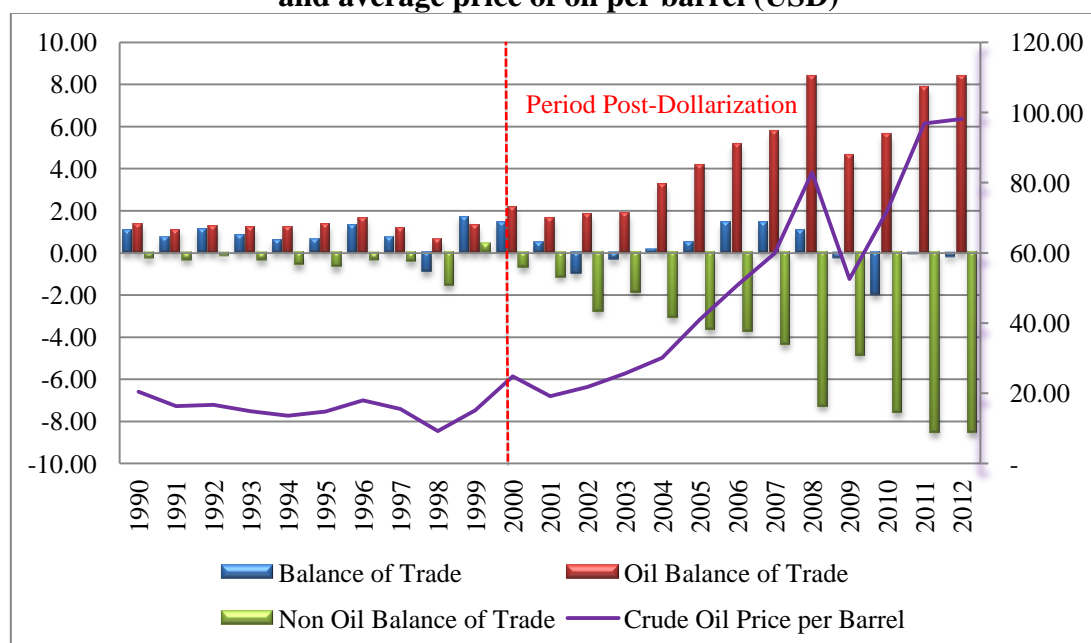
2.1 Dutch disease

Understanding if an economic system has really been affected by Dutch disease is an extremely complicated task that requires a much longer period of analysis than that provided by the recent *Revolucion Ciudadana*. What is important to consider in this context is the role at theoretical level that the effects of Dutchdisease⁴ may have in an analysis of the Ecuadorian

⁴ The term *Dutch disease* comes from the effects of economic stagnation that occurred in the Netherlands after natural gas reserves were discovered in the 1960s. The explanation was linked to moving country resources from higher value-added activities capable of guaranteeing long term growth (secondary and tertiary sectors) to the extractive industry. The sudden rise in foreign currency, dictated by an increase in the export of raw materials, caused an increase in the exchange rate which in turn led to a loss of competitiveness in the manufacturing

government's economic planning. The construction of a society based on a fully sustainable economic system is the final objective of government planning (SENPLADES, 2009; 2013). The Ecuadorian planning concept is based on the assumption that an initial primary export phase must precede redeployment of the production system (Ramirez, 2010). By increasing public spending, generated by income from the extractive industry, there will be an increase in domestic demand and subsequent development of the industrial sector (higher added value) that will enable exports to be gradually replaced. This step, which is necessary if the Ecuadorian economic system is to achieve improved sustainability and long term growth guaranteed by development of the manufacturing industry, could be jeopardised by the possible effects of Dutch disease deriving from an increase in the exploitation of natural resources. This hypothesis is supported by data on the trade balance (Fig.1) and the rate of participation of industrialised products in the country's total exports (Fig.2).

**Figure 1 - Total oil, non-oil trade balance (millions of USD)
and average price of oil per barrel (USD)**

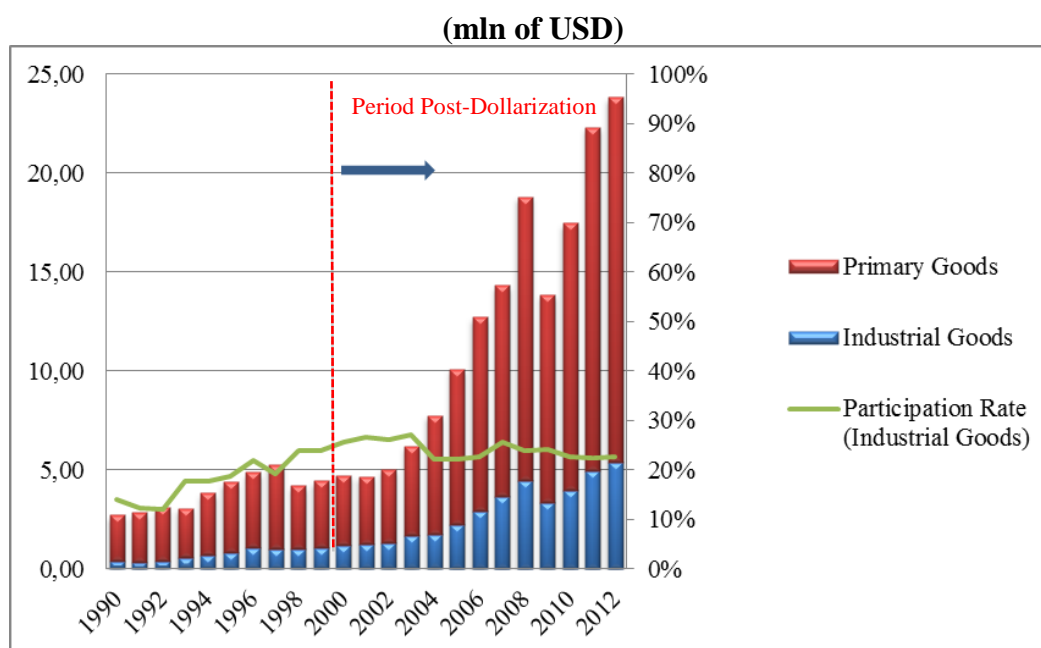


Source: Central Bank of Ecuador, 2013

industry and a drop in exports of sector products. This decline led to a concentration and shift of productive factors (capital and work) to the primary exporter sector thereby causing an increase in prices in the manufacturing sector and an increase in imports. Direct foreign investment was also attracted by the opportunities provided by the primary sector which led to a further rise in foreign currency. A significant increase in the exchange rate therefore creates inflationary pressure between the manufacturing and the raw material sectors which export a large amount of their own production. If the exports cause equally high long-term levels of inflation, this may lead to a process of deindustrialisation (Van Wijnbergen, 1984).

We can see how the trade balance for non-oil products (Fig. 1) is constantly in deficit and how this deficit constantly increases. The stable pattern of the manufacturing sector is confirmed by the rate of participation of industrialised products in total exports (Fig.2) which has remained virtually constant since 2000. These data take on greater value if we consider that, from 2007 until the present day, the Ecuadorian Committee for Foreign Trade has imposed limits on the import of manufactured goods (machinery/automotive, electrical appliances, electronics, food, food derivatives) on several occasions with a view to levelling the effects of loss of competition in the manufacturing industry and if we consider that the Ecuadorian government has adopted a process of dollarization⁵ since 2000 which has kept inflation at acceptable levels even if there have been inevitable repercussions due to the loss of monetary sovereignty.

Figure 2 - Exports of primary and industrialised products, Ecuador



Source: Central Bank of Ecuador, 2013

The examined trends show a deviation between the intermediate targets set by the government (redeployment of production and replacement of exports) and the partial results obtained. Even if this deviation cannot definitely be attributed to the effects of Dutch disease, it rules out the possibility of solid development for the country capable of overcoming the RCH, and

⁵ The adoption of dollarization (US dollar) was possible because most exports were primary ones (76% in 1999, Source: Central Bank of Ecuador, 2013)

puts achieving the final objective of government planning, i.e. the building of a fully inclusive, sustainable society, at risk.

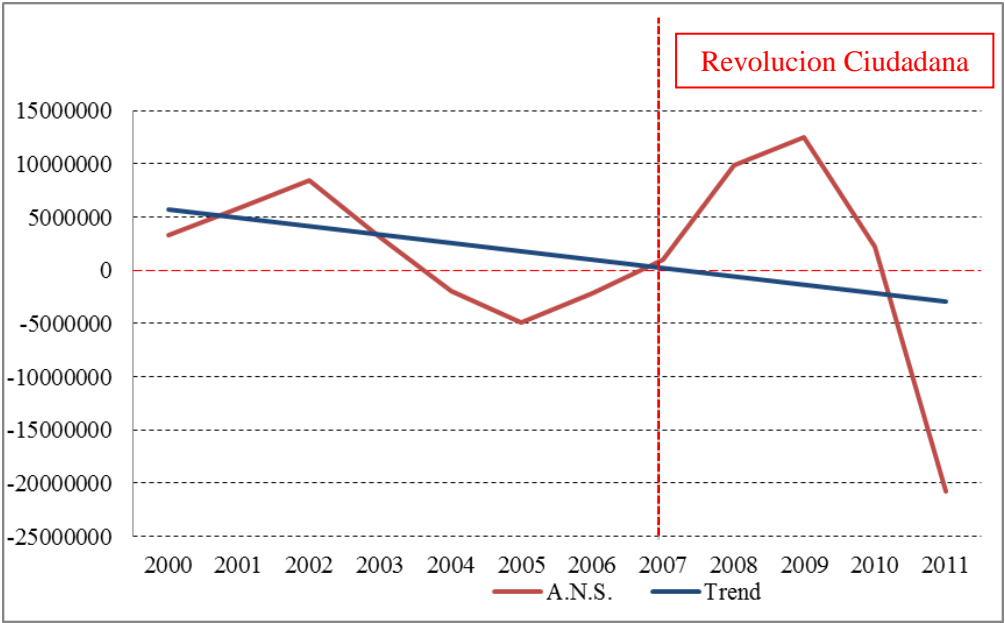
2.2 Misallocation of revenue

In order to identify the factors that have a negative effect on the growth of countries rich in natural resources, Atkinson and Hamilton (2003) carried out a study based on empirical evidence that showed how unsustainable management of income deriving from the exploitation of natural resources is directly related to low rates of economic growth in the examined countries. More specifically, sustainable management of income deriving from the exploitation of natural resources is identified by a policy of investment of income deriving from the use of natural resources in alternative activities that can generate additional sources of wealth so that the losses caused by the depletion of non-renewable resources are compensated for by this new income (Solow, 1986). Studies have shown that countries with high income deriving from the extractive industry have problems when applying a sustainable policy. Investment of this income in activities that aim to increase the human capital required for a more advanced state of service-based long term development is usually insufficient. In this sense, the theory of misallocation of revenue is closely linked to the effects of Dutch disease which account for the tendency to concentrate on investment in the primary sector⁶. This study has shown how one of the possible explanations for the RCH lies with this failure to reinvest (resources used to meet public expenditure in terms of consumption) common in countries with extractive industry-based economies which does not foster long term growth. In this respect, the Genuine Saving (GS) has been taken into account. It has been empirically shown that a negative level of GS leads in the long term to low rates of growth in the countries where it has been recorded whereas a positive level has been found in countries that have avoided the RCH. Based on this assumption and the fact that the GS indicator is the first real sign of a misallocation of revenue from the exploitation of resources (Costantini and Monni, 2008a and 2008b) we can now compare the Ecuadorian government values in order to examine the partial results of the political and economic decisions in more detail as well as future growth prospects for the country. By analysing the sustainable development index

⁶ *“Higher resource revenue then induces gradual movement of labour from the traded to the non-traded sector. This reduces learning by doing and thus lowers the rate of labour-augmenting technical progress, so that the resource boom permanently lowers the rate of growth”* (van der Plog, 2010 p.12).

values (Fig. 3), we can see that it has shown a negative trend since 2000. It is interesting to note that from the start of the *Revolucion Ciudadana* (2007), the indicator increased significantly until implementation of the development plans in 2009 confirming the government's wish to focus on the extractive industry in order to launch the country's economic growth.

Figure 3 - Ecuador Adjusted Net Saving, excluding particulate emission damage(currentUS\$)



Source: World Bank: 2011

The drop in sustainability values since 2009 is all the more significant if we consider that the indicator is positively affected by an increase in the price of natural resources and the price of oil has increased sharply from 2009 to 2011 (fig.1). In light of the hypothesis examined here, the strongly negative values recorded in recent years for the ANS indicator show that the increase in the extractive industry may well be counterproductive in the long run.

2.3 Rent-seeking

Another explanation for the resource curse provided in the economics literature is rent-seeking behaviour⁷. This behaviour would appear to be encouraged by the considerable

⁷ Rent-seeking is a phenomenon which is normally associated with the operation of political institutions in which the coordination and allocation of resources does not occur through the price system but through centralised authority. In this context, competition for rent-seeking is similar to competition for profit-seeking which

revenue from the extractive industry and by the ease of purchase that characterises it. Mehlum, Moene and Torvik (2006) explain how revenue from natural resources becomes a curse, by slowing down growth and reducing income, if the economic and entrepreneurial efforts which usually focus on creating wealth in the production sector are directed towards rent-seeking activities. All the literature that focuses on rent-seeking behaviour acknowledges that the institutions play an important role, both as a constraint on the tendency to appropriate income, and in an analysis of the effects of this tendency in countries with considerable natural resource endowment. Using regression analysis carried out by Sachs and Warner (1995) between growth performance and natural resource endowment as a basis, Mehlum, Moene and Torvik (2006) have added an institutional quality variable to the calculation to empirically show how rent-seeking and the resource curse do not occur in countries with a high level of institutional quality. If we assume that this is true, further analysis has shown how, generally speaking, countries with extractive industry-based economies suffer a negative effect at institutional level. Using the discovery of oilfields in the Democratic Republic of São Tomé and Príncipe, Vicente (2010) has attempted to examine the impact of a sudden increase in natural resource endowment on the level of corruption of the government in the country which is a clear sign of rent-seeking activity. By analysing the trends provided by the World Bank on the level of corruption and comparing the data with those of nearby Cape Verde⁸, the empirical evidence in Vicente's work shows how the levels of corruption in the two countries remained low before the oilfields were discovered whereas once the oilfields were discovered, the levels of corruption in the Democratic Republic of São Tomé and Príncipe increased significantly (unlike those of Cape Verde which have remained in line with the previous trend). By confirming his analysis with a comparison based on a survey on the level of corruption perceived by citizens before and after the discovery, Vicente's results show how natural resource abundance can compromise the ability of governmental institutions to set limits on rent-seeking activity. Once again based on empirical evidence, Ross (2001) shows how a boom in lumber prices in South-East Asia has compromised governance in the same

characterises business activities. However, unlike economic market competition, rent-seeking competition imposes dual costs on the community due to the nature of the balance that is created (allocative inefficiency represented by a reduced consumer surplus compared with a perfectly competitive situation), and the type of competition that occurs (the presence of balanced rent encourages behaviour in agents that aims to reach these rent positions by investing resources in rent-seeking activities including, for example, the financing of pressure groups and election campaigns which have no productive purpose but whose only aim is to influence decision-making authority). Rent-seeking can therefore be seen as an activity that aims to transfer resources and generates external costs which must be met by the community; it is the result of forcibly imposed distribution and therefore requires intervention of the State which is the only organisation that has these powers of coercion.

⁸ Cape Verde does not have and has never had its own oil reserves.

way in the Philippines, Indonesia and the Malaysian states of Sarawak and Sabah. In the various states, analysis has shown, in line with Vicente's study, an increase in the level of corruption and a higher level of concentration of political power, another key factor in the development of rent-seeking activity. To sum up, the studies based on empirical evidence have shown how rent-seeking behaviour which is harmful to a country's growth levels, is incentivised by the presence of abundant natural resources. These have a direct and indirect effect on this behaviour in the presence of a weak institutional framework since they are linked to phenomena that damage the level of institutional quality.

In Ecuador, which is strongly dependent at an economic level on the extraction of raw materials, we will try to understand if the increase in oil exports in recent years, with its intrinsic risks, has led to repercussions at political level and in international relations.

In this sense, the words used by La Ferrara to describe the dynamics that lead to rent-seeking behaviour in oil rich countries and in an economically backward country like Ecuador may be useful: *"Countries which have abundant stocks of mineral wealth – often dubbed 'petrostates' – tend to develop similar institutional features, linked to the economic aspects of resource extraction. Drilling for oil or gas is a capital-intensive process, and poor countries do not usually have the technology or capital needed to exploit such resources on a large scale. Thus foreign companies come in to obtain permits from local governments, encouraging that kind of rent-seeking opportunistic behaviour often found among local elites"*(La Ferrara, 2008). In this sense, if we analyse current data, in the words of President Correa, Ecuador has shown a considerable need for liquidity on several occasions⁹, something which, considering what La Ferrara has said, leads to an increased likelihood of rent-seeking behaviour. With this in mind, we will now dwell on the recent trade relationships involving China and Ecuador and examine them according to the terms indicated by the literature referred to above. Naturally, it is important to note that our examination will focus on highlighting and comparing current issues with the main concepts of the hypothesis, without making assumptions which may or may not link this information to rent-seeking behaviour, but without limiting ourselves to criticising Ecuador's government policies by stating the risks involved in this specific context.

⁹ In an interview with the foreign media on 16 February, President Correa said there was no limit to the loans from China, "the more they can lend us, the better". We need financing for development and we have profitable projects. (...) We complement China, they have a surplus of liquidity and a shortage of hydrocarbons while we have a surplus of hydrocarbons and a shortage of liquidity. China finances the USA and could pull Ecuador out of underdevelopment". Source: the Press 2012. In: <http://www.lastampa.it/2012/03/10/blogs/voci-globali/ecuador-mega-miniera-in-arrivo-investimenti-utili-o-solo-problemi-7APeCHVq83JqCNjwwTaHbP/pagina.html>

According to documents examined by Reuters (2013), China is close to monopoly control of crude oil exports in Ecuador. In November 2013 PetroEcuador, the State-owned oil company, signed an agreement with the Chinese state-owned company, PetroChina, in which Ecuador undertook to sell over 90% of its oil production to the Chinese giant until 2020. An article written by Joshua Schneyer and Nicolas Medina Mora (2013) of the British press agency, Reuters, reconstructs the history that led to this agreement which is relevant to our analysis. The first step which is vital to an understanding of subsequent events consisted of a restructuring of foreign debt by the Ecuadorian government in 2008; this led to a loss of credibility at international level and difficulty in obtaining foreign financing. PetroChina offered a lifeline in July 2009 and deposited \$1 billion in the coffers of the Ecuadorian government with an agreement that they would be returned over a two year period at an interest rate of 7.25% (very high) with a concession of 96,000 barrels of crude oil per day to the Chinese companies. That same year, which also coincided with when the Yasuní initiative was officially launched, the Ecuadorian Ministry of Economic Policy, in a private presentation to Correa's staff, reviewed by Reuters, pledged to “*make the utmost effort to support PetroChina and Andes Petroleum¹⁰ in the exploration of the ITT oilfield*”¹¹. From official documents of a subsequent opening of a \$1 billion credit line from the China Development Bank in 2010, according to Reuters, the Correa government gave PetroChina permission to resell the Ecuadorian crude oil in any market¹². In recent years, numerous credit lines have been opened and in 2013, China extended credit of approximately \$6.2 billion to Ecuador which covers roughly 61% of its financing needs. Intense exchange between the two countries does not only regard crude oil; in March 2012, President Correa announced a 25-year contract with the Chinese company, Ecuacorriente, to work the largest mine in Ecuador as part of the Mirador project which will bring approximately 52% of revenue into the state coffers (Reuters, 2012). An analysis of this information along with the words of La Ferrara and considerations made regarding a theoretical study of rent-seeking should at least make us reflect on the future of the Ecuadorian economy especially with a view to sustainable development, one of the Correa government's objectives. Worries in this sense have also been expressed by EP PetroEcuador which, according to Reuters (2013), in an official bulletin in March 2011 warned the government that PetroChina's claim to Ecuador's oil supply could

¹⁰ Chinese-controlled oil company

¹¹ The official document, in its entirety, can be consulted at the following link: <http://www.theguardian.com/environment/interactive/2014/feb/19/china-development-bank-credit-proposal-oil-drilling-ecuador1>

¹² Normally, countries that are part of OPEC, like Ecuador, do not offer this possibility for competitive reasons

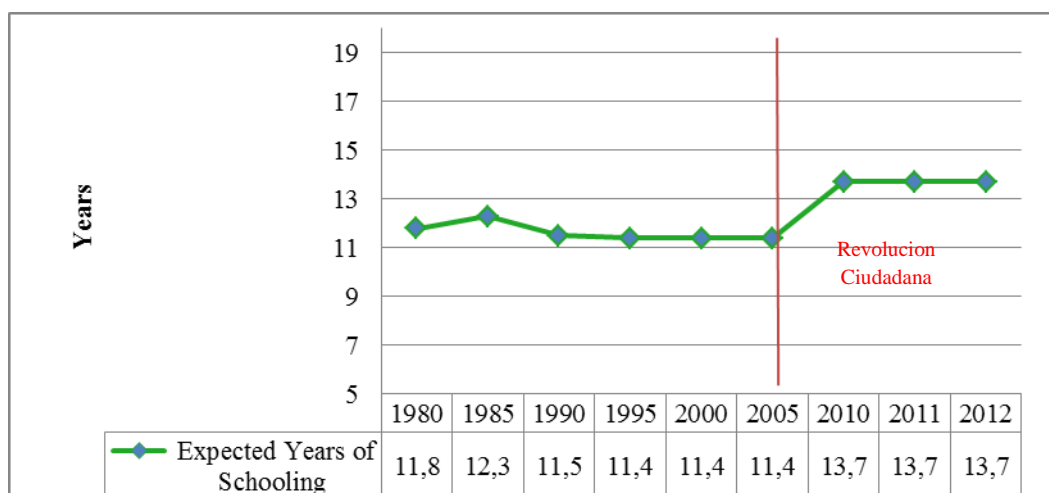
prevent the country from signing more favourable contracts. If we bring all the points of our discussion together beginning with theoretical discussions on appropriation of revenue from the extractive industry which, according to many scholars, reduces the growth performance of a country since it represents a waste of production capital, then the need for liquidity stated several times by Correa has paved the way, first of all, for huge flows of finance from China and second, according to Reuters (2013), an almost monopolistic control of Ecuador's oil exports by Chinese oil companies. To date (Reuters, 2013), China controls 90% of Ecuador's oil exports and almost all of this is resold by the Chinese companies on international markets. According to the Reuters report (2013), PetroEcuador really had little choice in signing the contract given the huge amount of credit held by China. It is not difficult to imagine the same context in the Mirador project agreement and should make us reflect on what Ecuador would have obtained if it had autonomously negotiated the sale of the crude oil on the international market and if it had exploited working the largest mine in the country in the same way. PetroChina and PetroEcuador have declined to issue statements regarding the terms of the agreement. In conclusion, we are not at present able to assess if the risks associated with an extractive industry-based economy outlined in the literature are materialising in the bargaining capacity of the Ecuadorian government but, all the same, current issues that have emerged certainly do not seem to suppress these doubts. It is clear that even if the concessions to the Chinese companies are linked to significant financing, there is a loss not only in terms of sovereignty for Ecuador but, above all, in terms of lost revenue.

2.4 Human capital

A study by Gylfason (2001) shows how investments in human capital are directly related to the economic growth of countries rich in natural resources and how these investments are a key factor in ensuring that these resources are not transformed into a disadvantage for the country. To do this, he analysed the relationship between three indicators of intensity of investment in the education sector in the various countries (percentage of public spending on education, duration of schooling and percentage of secondary school enrolment) and showed the direct relationship they have on economic growth and the negative effect that an extractive industry has on them. Using Gylfason's (2001) analysis, we examined the performance of these indicators in order to assess if, on a theoretical level, the impact of exploitation of natural resources on economic growth is negative or positive in the long run, based on issues that have been examined in the literature. In actual fact, as can be seen in the graphs in

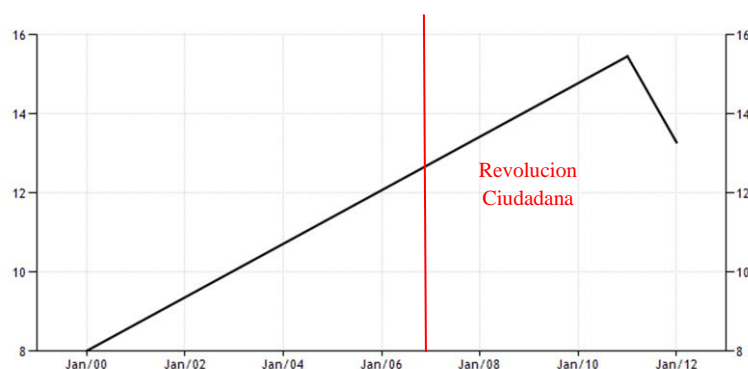
Figures 4-5-6, if the data analysed so far give rise to a call for concern as far as the RCH is concerned, in this case, the efforts of the Ecuadorian government should be viewed more positively.

Figure 4 - Expected years of schooling in Ecuador



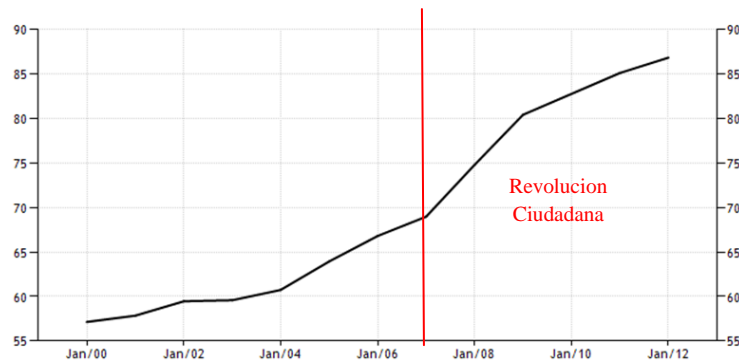
Source: UNDP, 2013

Figure 5 - Public spending on education - percentage of total government expenditure in Ecuador



Source: World Bank, 2013

Figure 6 - Gross secondary school enrolment ratio in Ecuador¹



Source: World Bank, 2013

We can see that the largest increases in terms of years of schooling (Fig. 4), percentage of public spending (Fig. 5) and gross secondary school enrolment ratio (Fig. 6) coincide with the start of the *Revolucion Ciudadana* (2007). The most significant increase can be seen in the gross secondary school enrolment ratio which on the basis of Gylfason's analysis is the indicator that is most widely used at international level to measure the relationship between performance in the education sector and economic growth since it is the one that is most closely linked to the latter. In this respect, we can therefore conclude that the data are encouraging for the future of the country.

2.5 Institutions

The role of the institutions is of paramount importance in all the explanations for the RCH that have been examined. The extensive amount of literature on the subject is basically divided into two groups; one shows how the indirect effects of natural resource abundance on economic growth, through a negative influence on institutional quality, are greater than the direct effects on economic growth (Sala-i-Martin and Subramanian, 2003; Isham et al., 2003; van der Ploeg, F. 2011); the other group sees the level of institutional quality as a factor that can transform natural resources into a disadvantage or an advantage for a country (Boschini et al. 2003; Mehlum et al. 2006; van der Ploeg, F. 2011).

Since our analysis is based on a change in government policies and our aim is to highlight the risks associated with exploitation of natural resources in Ecuador, we decided to focus on the second group as a theoretical basis for the analysis. We will therefore limit ourselves to analysing the level of institutional quality in Ecuador by comparing this with the evidence

provided in a study by Boschini et al. (2003) in an attempt to understand if the Ecuadorian economy is at risk bearing in mind that natural resources are the main source of wealth in the country but ignoring the corrosive effect that they may have on the institutions themselves.

In his work, Boschini (2003) shows how natural resources have been an advantage for countries with a high level of institutional quality (Botswana, Chile, Norway, Canada, etc.), whereas they have been a curse for countries with low institutional quality (Venezuela, Nigeria, DR Congo).¹³ Due to insufficient data, in our analysis we will use different indications of institutional quality from those used in the reference study¹⁴, but, as further tests show *"it seems unlikely that the results are sensitive to the measures of institutional quality adopted"* (Boschini et al. 2003, p.24). The indicators of institutional quality examined belong to the Worldwide Governance Indicators Report (2013) and show the percentage of countries worldwide, for the various indicators, above or below the level of the country being examined. As we can see from the graphs in Appendix, the level of institutional quality measured in Ecuador in the last twenty years, distributed among the various indicators, stands at around 20% (i.e. 80% of the countries worldwide are above the level recorded in Ecuador).

Table 1 - Rule of Law, Ecuador, Region Latin America & the Caribbean.

OVERALL SCORE	GLOBAL RANK			REGIONAL RANK	
0.45	77/99			11/16	
INDEX	FACTOR TREND	FACTOR SCORE	GLOBAL RANK	REGIONAL RANK	INCOME RANK
Constraints on Government Powers	=	0.4	85/99	13/16	23/29
Absence of Corruption	=	0.47	51/99	6/16	17/29
Open Government	=	0.4	75/99	13/16	25/29
Fundamental Rights	=	0.54	62/99	13/16	19/29
Order and Security	=	0.57	91/99	13/16	27/29
Regulatory Enforcement	=	0.48	54/99	8/16	17/29
Civil Justice	=	0.41	77/99	10/16	24/29
Criminal Justice	↓	0.33	86/99	11/16	27/29

Source: The World Justice Project, 2014

¹³ The analysis uses data from 1975 to 1998.

¹⁴ In Boschini's work, institutional quality in the various countries is measured using the mean of the indices: quality of bureaucracy, corruption in government, rule of law, the risk of expropriation of private investment and repudiation of contract by government based on a work by Knack and Keefer (2002).

This is also confirmed by the *WJP Rule of Law Index*¹⁵ as we can see in Table 1, which shows how Ecuador is ranked among the last places in the classification based on how the rule of law is experienced, both at global and regional level.

In light of analysis by Boschini et al. (2003) and Mehlum et al. (2006), we can conclude, considering the data examined on institutional quality, that the Ecuador development project may well run the risk of being exposed to the "resourcecurse"¹⁶

2.6 Human Development

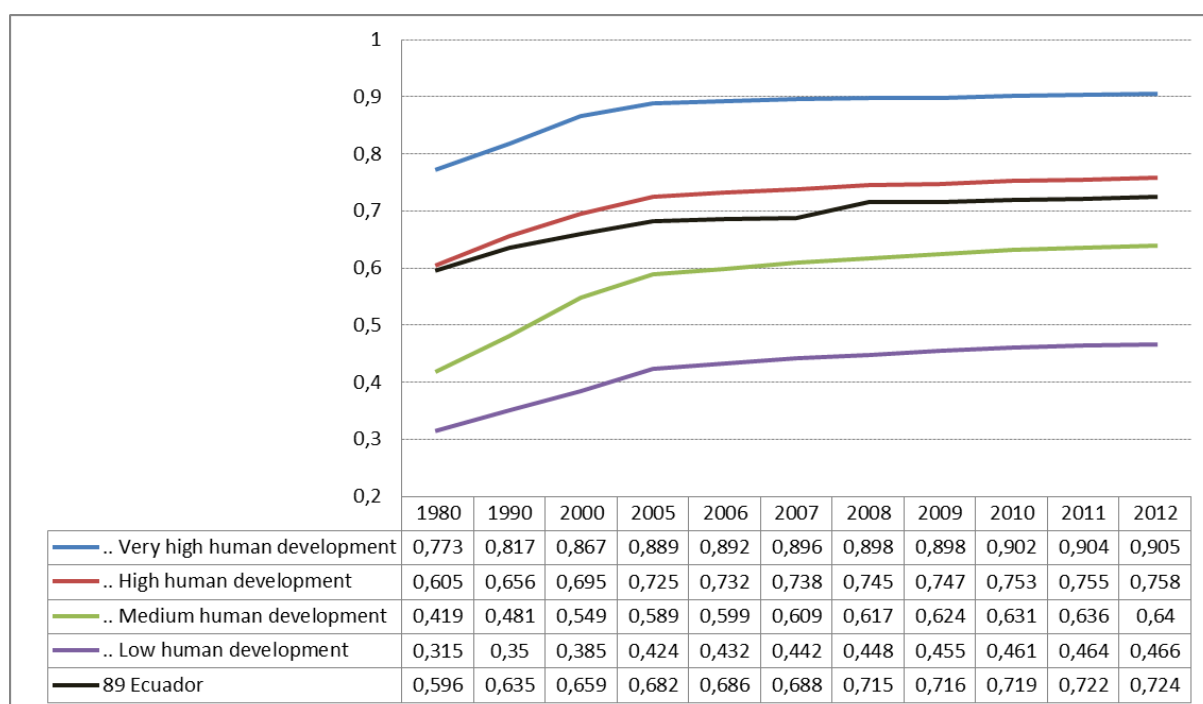
According to a work by Costantini and Monni (2008a), a high initial level of Human Development (HD) significantly contributes, albeit indirectly, to economic growth since it has a positive effect on the country's level of institutional quality and sustainability. Similarly, the possible negative effects of exploitation of natural resources on economic growth, under the aforementioned conditions, create low HD levels in the long term (Pendergast, M. S., Clarke, A. J., van Kooten, C. G. 2008). Based on the assumption that the low level of institutional quality and sustainable development values (ANS indicator) probably represent the greatest risk factors in Ecuador, we have also examined data on HD Index performance.

Ecuador currently ranks 89th in the world according to the HD Index. As we can see in Fig. 7, the HD values from 1980 to the present day are higher than the world average, whereas the index has grown over the years in line with the increase recorded at global level. However, over the years, the country has moved slightly away from the curve representing the standard for high values at global level and towards average values. In any case, in the light of the examined hypothesis, the high levels of HD represent a highly positive factor for the country's growth in the long term and a powerful check on possible negative effects caused by the exploitation of natural resources on the level of institutional quality.

¹⁵ This measures how the Rule of Law is experienced in 99 countries worldwide based on over 100,000 households and 2,400 surveys. It is the most comprehensive index of its kind and the only one to rely exclusively on primary data. Adherence to the Rule of Law is assessed using 47 indicators divided into eight themes: constraints on government powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement, civil justice, and criminal justice. The index includes country scores and rankings.

¹⁶ An additional risk factor is established in the work of Andersen, J.J. and Aslaksen, S. (2008) which demonstrates that presidential democracies, such as in Ecuador, easier to meet the RCH.

Figure 7 - HD Index performance in Ecuador



Source: UNDP, 2013

3. Conclusions

One of the reasons behind the success of Buen Vivir among the scientific community and practitioners is that it proposes an alternative development paradigm in response to the failure of orthodox growth models. In recent years, despite new perspectives of the Ecuadorian project, dependence on the primary sector does not seem to have been reduced. This paper may help to answer whether we are facing a new paradigm or just an evolution of the old model of development in Ecuador. The idea of exploiting the mining sector to support economic growth belongs to the mainstream model and, as we have seen in our reflection, involves substantial risk which is harmful if the RCH materialises. In order to test the actual risk, we analysed the following indicators that are relevant to whether the hypothesis will occur or not: the ANS indicator suffered an alarming collapse in 2009-2011 with strongly negative values; the trade balance for non-oil products is constantly in deficit and this deficit constantly increases; the rate of participation of industrialised products in total exports has remained virtually constant since 2000; the largest increases in terms of human capital, more specifically, years of schooling, the percentage of public spending and the gross secondary school enrolment ratio, coincide with the start of the Revolucion Ciudadana (2007); in terms of institutional quality, Ecuador is ranked among the last places in the classification based on

how the rule of law is experienced, both at global and regional level; Ecuadorian HD values from 1980 to the present day are higher than the world average, whereas the index has grown over the years in line with the increase recorded at global level.

On account of these results, data on the ANS indicator and levels of institutional quality have shown how Ecuador does not possess the conditions that the hypothesis considers necessary to protect itself from possible negative effects caused by an increase in the exploitation of natural resources. The period of time analysed, albeit short, also shows how the desire for an increase in the manufacturing sector (higher value added) and replacement of exports to achieve more solid growth and greater economic sustainability may be jeopardised by the increased attractiveness of income from the extractive industry. Although data on investments in human capital and HD Index levels are very encouraging and guarantee future institutional development (in contrast with the negative effect generated by the exploitation of natural resources), the analysis of trade relations with China demonstrate that even in the short term, the negative effects of an increase in the extractive industry can already been seen. In conclusion, the shift in perspective adopted by the Ecuadorian government, which gives priority to economic growth rather than the principles of *Sumak Kawsay*, represents not only a failure to comply with the ancestral principles of Buen Vivir but may paradoxically turn out to be counterproductive, above all, in terms of economic growth.

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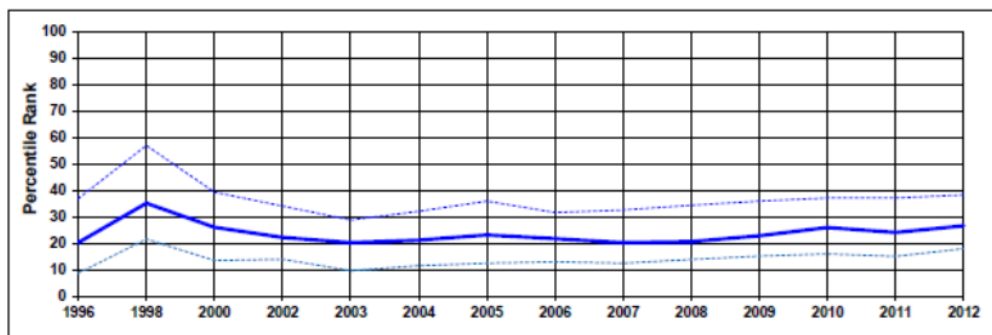
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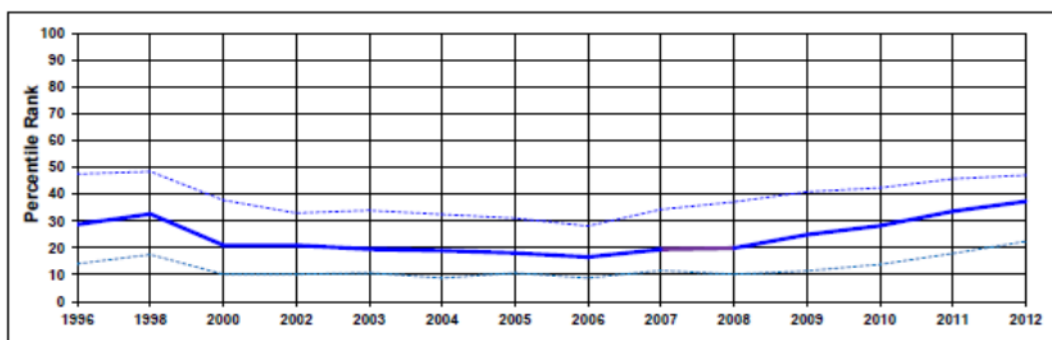
APPENDIX

Figure A1 -Political Stability and Absence of Violence, Ecuador (1996-2012)



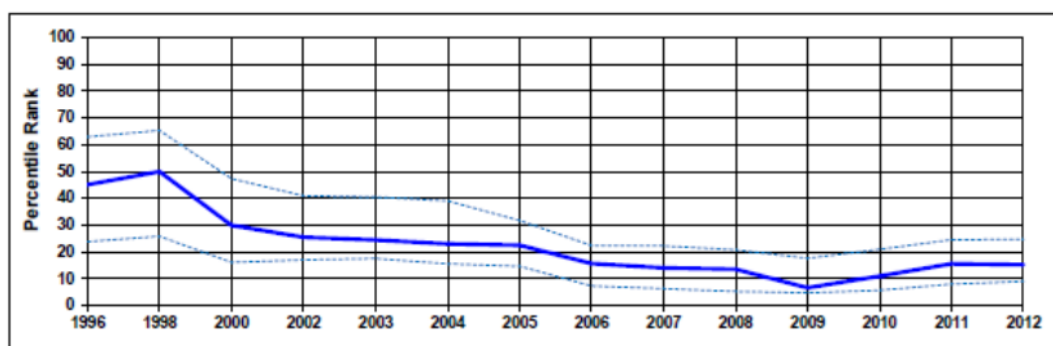
Source: Worldwide Governance Indicators, 2013

Figure A2 - Government Effectiveness, Ecuador (1996-2012)



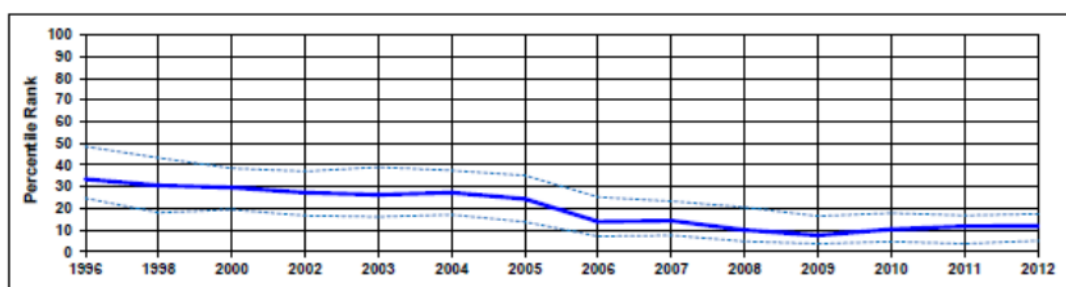
Source: Worldwide Governance Indicators, 2013

Figure A3: Aggregate Indicator: Regulatory Quality, Ecuador (1996-2012)



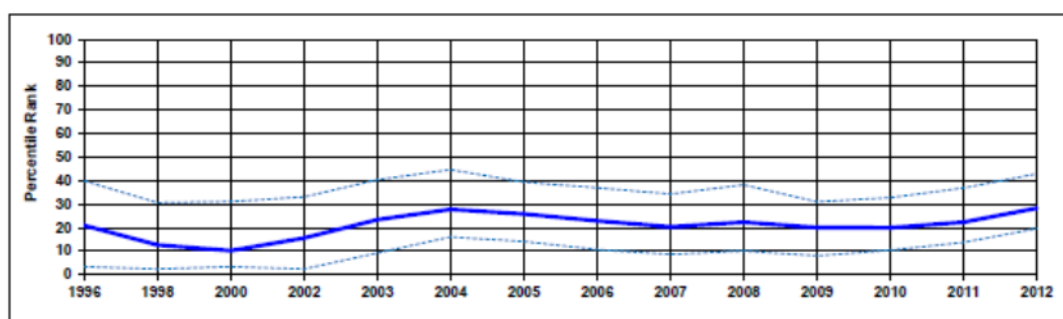
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Figure A4 - Rule of Law, Ecuador (1996-2012)



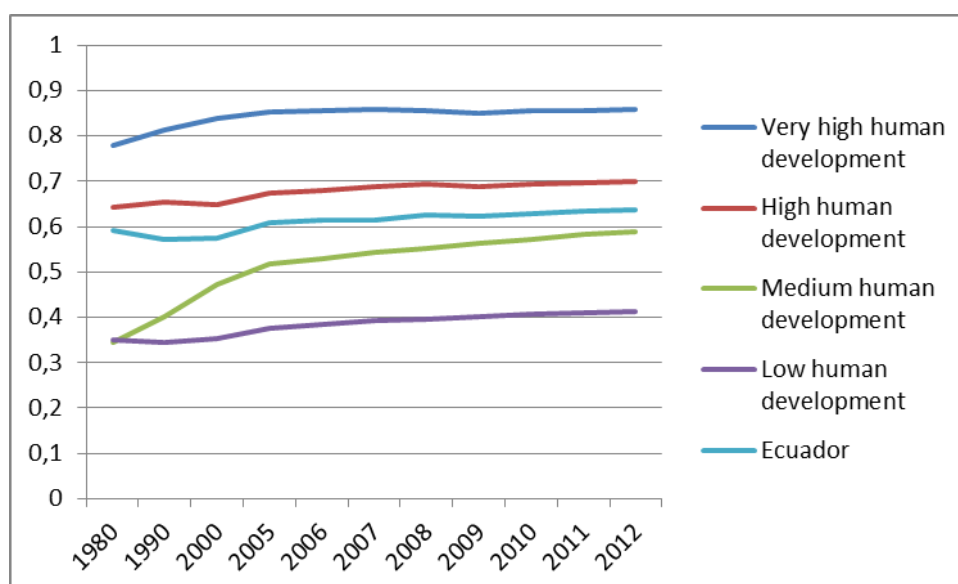
Source: Worldwide Governance Indicators, 2013

Figure A5 - Control of Corruption, Ecuador (1996-2012)



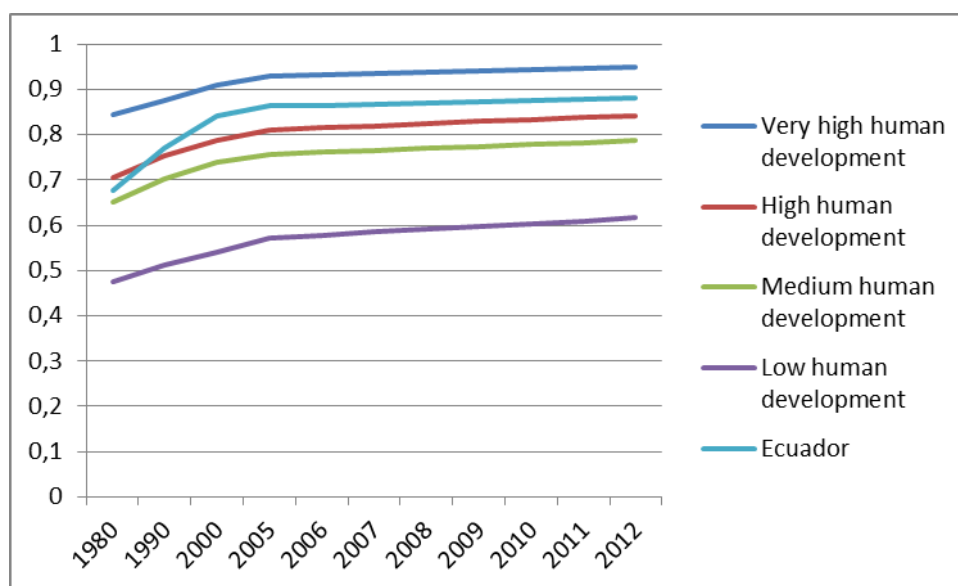
Source: Worldwide Governance Indicators, 2013

Figure A6 - HD Index Performance, Ecuador



Source: UNDP, 2013

Figure A7 - Health Level Index Performance, Ecuador



Source: UNDP, 2013