

Local level resource curse: The “Cholo Disease” in Peru

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Initial comment

The growth of the mining and hydrocarbon sectors in Peru in the last decade has been quick and significant. And these activities have undoubtedly had important impacts on the territories in which they take place.

This paper is an attempt to gather information about one specific impact: local economic distortions generated by revenues from mining, oil and gas, which are spent in by local governments.

A short article which summarized the main findings of this research was published in Quehacer magazine. It was commented by César Bedoya¹ who pointed out there were other kinds of impacts from mining such as social, political, institutional, among others. He also highlighted the need to continue researching this issue.

We completely agree on this point. In fact, more and more information is available which shows both positive and negative impacts of these activities. For example, ECLAC published earlier this year figures showing that in Latin America, the real exchange rate had fallen 16% from its average between 99 and 2009, suggesting the possible existence of a “Dutch disease” in the countries of the region.

In Peru there have been recent studies published that show that mining - through recruitment of local workers, purchase of goods and direct contributions to fund local development projects - has had a positive impact on the income of local populations in producing regions.

En el Perú se han hecho diversos estudios que muestran que la minería, a través de la contratación de personal, la compra de bienes y distintas contribuciones directas a las localidades como fondos para proyectos de desarrollo local, ha tenido un impacto positivo sobre los ingresos de la población de las regiones productoras.

For instance, a recent study by Aragón and Rud from Yale, for the case of the Yanacocha mine in northern Peru, finds there is a positive impact of mining activity on the income of local populations that increased 1.7% for each additional 10% of local goods purchased by the company.

Nevertheless, as mentioned by Bedoya, these benefits have a downside in the "new risks political and institutional risks, since they can generate political instability and erode political institutions." Based on research conducted by Cecilia Perla², impacts are mentioned as "setting new interest groups that fight over access, control and use of revenues; weak institutions to process new social mobilization ..." among others.

Certainly, all these situations should be researched in more detail, with case studies that produce local information.

¹ DESCO: Revista Quehacer, Nº 185. “Otros síntomas de la “enfermedad chola”. Aportes de las industrias extractivas y el desempeño de la institucionalidad política local.” César Bedoya G.

² Perla, Cecilia, “¿Empresas mineras como promotoras del desarrollo?” En: Carlos Meléndez y Alberto Vergara (eds.), La Iniciativa de la política. Lima, Fondo Editorial de la PUCP, 2010.

In this particular case, we were interested in looking into an economic distortion that affects local actors such as agricultural producers and also, local populations that have to pay higher prices for consumer goods. However, this impact takes place parallel o others, both positive and negative, which should also be discussed and documented further.

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I. Introduction

The Peruvian Constitution establishes that producing regions should access a portion of the public rent generated by the extractive activities that take place in them. In a restricted interpretation of the constitutional mandate, the Peruvian Canon Law enacted in 2001 established that subnational governments in producing areas would receive all of the royalties and 50% of the income tax paid by the companies. Initially, the law established that that these funds could only be used by sub national governments in investment projects, but now 20% can be used to pay for project design and the maintenance of public infrastructure.³

By the middle of the decade, international commodity prices rose significantly, some companies started paying income tax after their tax exemptions ran out and others started paying royalties after the respective law was put into practice, so did the investment budgets in these local governments and they struggled to spend, in some cases, over 30 times what they normally spent in the previous years. Investments focused in infrastructure these local areas lacked, such as roads, schools, hospitals and large municipal buildings.

As the international demand and prices for minerals and oil increased, so did some initial questions and debates around the perils of the resource curse and, more specifically, the Dutch disease. Will Peru fall prey of the curse? With the performance of other productive sector be affected by exchange rate modifications resulting from the massive affluence of dollars into our economy?

At the same time, RWI counterparts started to gather evidence of some new phenomena taking place at the local level, basically the way public works by local governments, funded with extractive rent, were competing with rural producers for non qualified labour in the rural areas.

In response, the RWI Latin America Office decided to develop research on a possible local version of the Dutch Disease, what we now have denominated as Enfermedad Chola⁴ or Creole Disease. The working hypothesis, based on evidence collected along the last years by ourselves and others, was that infrastructure investments by sub national authorities were paying higher wages than those agricultural producers could afford, thus leaving producers without access to local labour force. The end result is similar to that of the Dutch Disease, as higher wages cannot be assumed by small scale farmers and agriculture as such becomes non competitive. But the mechanism is different, based not on changes in the exchange rate but on changes in the labour markets.

Now, the evidence gathered so far also suggested that local authorities had been reacting to the pressure placed on them by the local producers. For example, in the gas producing Amazon areas of the Cusco Region, coffee cooperatives had complained to local mayors about

³ 1993 Political Constitution, Article 77, Canon Law (Law 27506 from 2001 and bylaws from 2002) and Mining Royalty Law (2004).

⁴ Cholo is a racial term that refers to a half-caste or Creole person, resulting from Spanish and Indian parents. It is usually an insulting racial slur, but is sometimes used in a friendlier manner between people who have a close relation.

the situation, and local mayors had reacted in one case by cancelling public works during the harvest season, and in other by not hiring women in public works, in order to force all the labour force –or at least women who are usually paid lower wages - back to the coffee harvest.

So, we had evidence that there was a problem and that there were public policies being implemented in response to such problem.

In order to explore this hypothesis, RWI Latin America –with technical and financial support from RWI- field research to collect information on the following guiding questions: i) Is there something we can call the “Cholo Disease” in Peru? ii) What is being and can be done about it?

To answer these questions we present a brief description of the main points in the literature on the Dutch Disease in section II, and then, in section III, we will discuss the main findings in the field research carried out in the five districts with the highest EI revenue transfers. Finally, we present some preliminary conclusions and policy recommendations.

II. The Natural Resource Curse and the Dutch Disease

The natural resource curse theory states countries that are rich in non renewable natural resources like oil and minerals have performed relatively worse in terms of economic growth, development, governance and welfare than countries that are not endowed with these natural resources. In other words, it establishes a link between natural resource wealth and slow economic growth, relatively higher poverty levels, corruption, conflict, authoritarian regimes and weak accountability.

The term “Dutch disease” was coined by “The Economist” in 1977 to describe the process through which a major gas discovery in the Netherlands in 1959, led to the dismantling of the country's industrial sector. Indeed, when Holland began exporting gas, the massive inflow of foreign currency led to an appreciation of the real exchange rate, which in turn caused exports of the country's industrial sector to become less competitive. Since the value of the national currency increased, it made the prices of industrial goods more expensive outside.

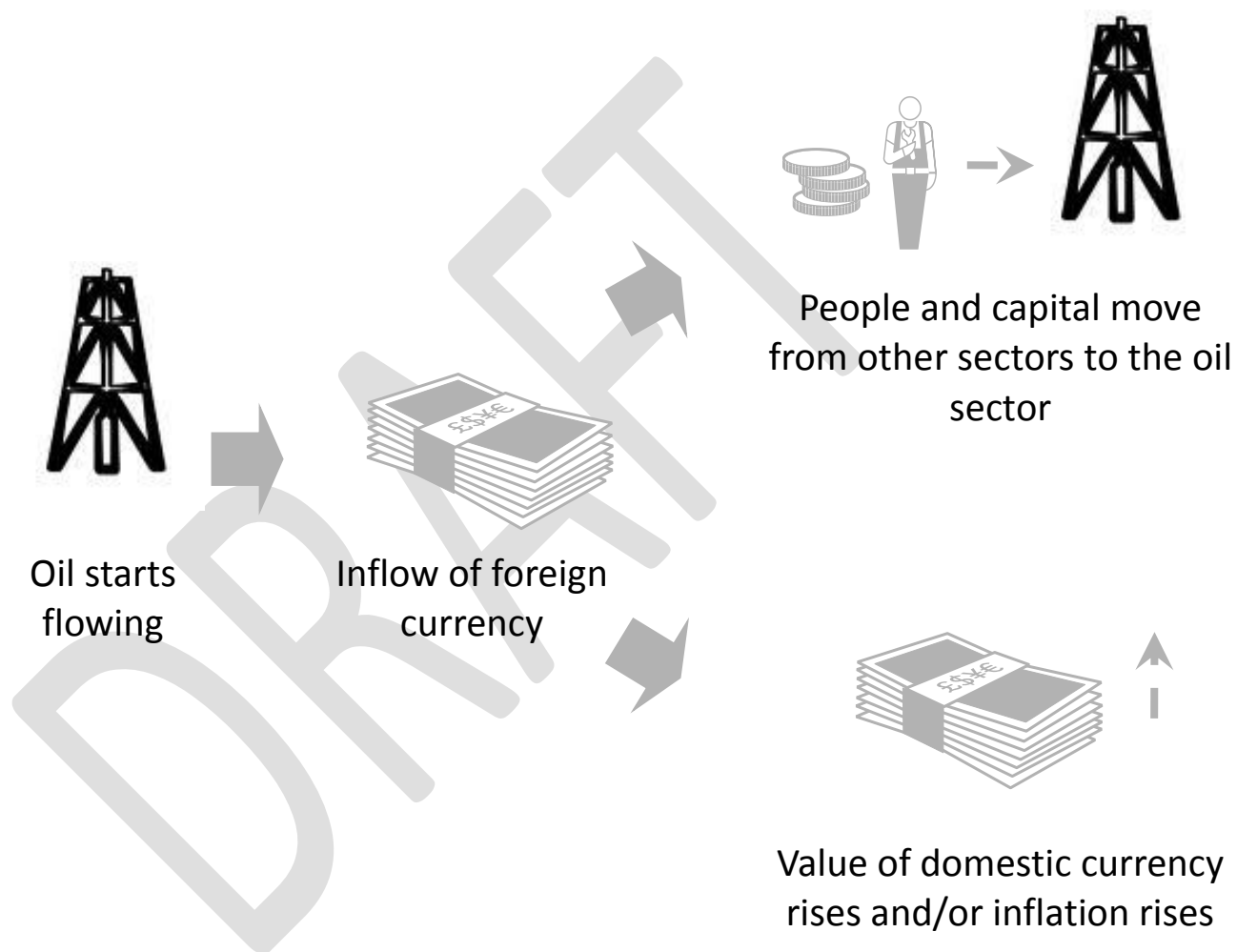
In the eighties, authors like van Wijnberger (1980) Corden and Neary (1982), Bruno and Sachs (1982), among others, published articles formalizing the explanation of Dutch disease with economic models which included three economic sectors. There is a non-traded good sector and two traded good sectors: the booming sector and the non-booming tradable sector.

This formalization shows the channels through which the boom in the extractive sector generated a loss of competitiveness in other sectors of the economy.

Indeed two channels are described. The first way is the most discussed one: the abrupt entry of revenues in foreign currency from exports of oil or mining makes the national currency stronger (real exchange rate appreciation). This makes the goods from the non-booming tradable sector more expensive in the international market, thus reducing its competitiveness.

The second channel is complementary to the first: the booming tradable sector's purchase of non-traded goods causes prices to rise. Consequently, the non-booming tradable sector has to pay higher prices, increasing its production costs and reducing its competitive even further. The same applies to employment: the booming sector hires more workers paying higher salaries, so it takes away workers from the non-booming tradable sector, which also has to pay higher wages. This is known as the "crowding out effect".

The following diagram describes the two channels through which the dutch disease affects the non-booming tradable sector.



Source: Revenue Watch Institute

Although the literature related to the Dutch disease has focused on the impact that is generated at the country level, it also applies at the local level. Indeed, locally, the labor demand from the booming extractive sector increases and takes workers away from other sectors of the local economy. In addition, their increased demand causes a rise in wages and in the price of other inputs that in turn causes price increases (inflation) locally.

In Peru, this is definitely one of the direct impacts of mining and hydrocarbon extraction in producing districts. However, this direct impact appears to be less than the indirect impact

that is caused by the local public sector (district municipality) through expenditure of mining and hydrocarbon revenues on local infrastructure.

The municipality seems to be playing the role of the "booming sector" at the local level and is generating distortions in the local economy. Indeed, thanks to the massive influx of funds from taxes on mining and hydrocarbons, district municipalities producers are making infrastructure in the town demanding jobs and drive up wages and input prices in the local economy.

Because of this difference with the Dutch disease in its traditional form, we have called this phenomenon the "cholo disease". However, it is only the actor that causes the distortions which is different. The crowding out effect is the same as described in the Dutch disease.

Below we present the main results of the case studies carried out in five districts of Peru where we describe what we call "cholo disease" as well as the policies that the local governments have put in place to face this phenomenon.

III. Local level research in Peru: description and main findings

a. Country context.

Peru: mining boom with decentralization

After the privatization of the entire mining sector in the early nineties, investment and production in this sector took off with large foreign private companies developing large scale projects. Peru quickly became a major silver and copper producer, ranking first and second in the world, respectively. Later, gold has become increasingly important and Peru became the first gold producer in Latin America and the sixth in the world.

Mining activities in the country mostly take place in rural areas in the highlands, where the main economic activity of local populations is subsistence or small scale agriculture, poverty rates are high, and public service provision is low. Indeed, the 2010 UNDP Human Development Report devoted one section to analyzing an indicator of the State's presence in the country and mining areas match with areas of very low State presence⁵.

But together with the boom in the mining sector, the Peruvian State began a decentralization process which allocated a fixed percentage of the revenues generated by these extractive activities to subnational governments in the producing regions. However, it did not decentralize any competencies related to decision making on the mining activities themselves, namely where and when concessions were granted, with what criteria, the approval of environmental impact assessments, among other responsibilities that remained in the central government, specifically in the Ministry of Energy and Mines.

In Peru, there are two subnational levels of government: regional and local governments. Regional level governments were established in the late eighties, dissolved in the early nineties

⁵ UNDP Peru: "Informe de Desarrollo Humano Perú 2009, Por una densidad del Estado al servicio de la gente"

and created again in 2002 through Law 27867. They have no tax collecting responsibilities. Local governments, known as municipalities, are divided into two kinds: province and district municipalities. Municipalities were created in 1891 and the latest changes to their Organic Law happened in 2003, to adapt them to the decentralization process being launched then (Law 27972). They do have tax collecting responsibilities; in particular home and vehicle property taxes, taxes on transactions related to property and taxes on gambling.

Even though the country's 1993 Political Constitution states that subnational governments are entitled to a share of the revenues generated by natural resource extraction, only in 2001 the Peruvian government enacted a law to establish which revenues would be distributed and how. This law is called Canon Law (Law 27506) and it establishes a mechanism through which subnational governments in producing areas receive a portion of revenues generated by the extractive sector according to be spent only in capital spending. This percentage of extractive revenues allocated to subnational governments was called "canon" and has a fixed distribution scheme described in figure 1. Subnational governments in non producing areas received nothing from these revenues.

Figure 1. Distribution scheme for canon transfers

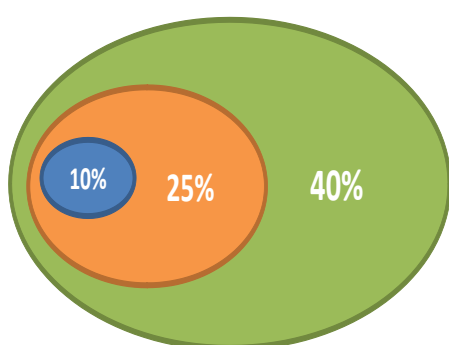
10% to the municipality in the producing district
25% to the municipalities in the producing province
40% to all the municipalities in the producing region
20% to the regional government in the producing region
5% to the public universities in the producing region

Source: Canon Law Nº 27506

This distribution scheme did not just exclude non producing areas from participating in a growing source of revenues, thus generating large contrasts among regions, but also generated extremely large contrasts within the regions themselves, since it prioritized producing districts. As figure 2 shows, producing districts didn't just receive the 10% allocated to them, but also benefitted from public spending from the province municipality where it was located, as well as the regional government.

Furthermore, as prices mineral and hydrocarbon prices rapidly increased since 2004, so did the amount of revenues these districts received year after year and the stark contrast with other local areas. And the challenge related to their management also became even more complex for districts with limited institutional capacities that were used to managing budgets below one million dollars and suddenly received over hundreds of millions a year.

Figure 2. Overlap and concentration in canon distribution within the regions



To illustrate this point, we present a couple of examples. Ilabaya is a small district of 4 thousand people in the southern region of Tacna where the Cuajone mine of Southern Peru Copper Corporation is located. It saw its revenue transfers from mining (canon minero) multiplied over 37 times between 2004 and 2008. Indeed, in 2004 it received 4 million soles (USD Equivalence will be interesting) and in 2008, when copper prices hit their record level, it received 149 million soles. In 2010 transfers were 55.82 million soles, which is lower, but still a considerable increase compared to the levels prior to 2004.

But the most extreme case in the country is the one of the district of Echarate in the Amazon area of the Cusco region. This district of 42 thousand people is the location of the largest natural gas extraction project in the country, the Camisea Project, which began operating in 2004. In this year, Echarate received 7 million soles in transfers, but in 2008, it received 140 million and kept on growing to reach 241 million in 2010.

After almost a decade of receiving and spending these huge amounts of revenues in local areas, the question about the impact this spending has had on local economies emerges. Have they improved local living standards? Has the increase in public spending caused distortions in the local economies such as price hikes in locally consumed goods or labour market distortions?

This research project focuses on local level economic distortions, trying to determine whether the expenditure of natural resource revenues by local governments at the district level is a source of problems that affect the well being and living standards of local populations in resource rich areas by competing for consumption good and local labour and making them more expensive.

It is important to note that, although this research focuses on public spending of extractive revenues, the demand from extractives companies themselves can also generate this kind of distortions at the local level if they purchase goods locally and hire local workers. We acknowledge this effect and the fact that it can interact with the impact of public spending by municipal governments, nevertheless, the surveys we conducted in the field focused specifically on the impact of public spending and the demand of workers for public construction projects and other municipal labour since they seem to be a more important source of distortions.

b. Description of field work and research variables

Field work was conducted between September 12 and October 30, 2011 in the five districts that receive the highest per capita canon transfers in the country: Ite, Ilabaya, Torata, San Marcos and Echarate. Chart 1 shows the gross level of revenue transfers these local

governments received between January and October of 2011 and the per capita transfers in the same period.

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Chart 1: Gross transfers and per capita extractive revenue transfers to selected district municipalities

District Municipality	Mining and natural gas canon transfers in soles (Jan-Oct 2011)	Population (2007 census)	Per capita transfers in million soles (Jan-Oct 2011)	National ranking according to per capita transfers (Jan-Oct 2011)
San Marcos	106 847 259	13 607	7 852	4
Ilabaya	58 085 313	4 414	13 159	2
Torata	53 627 951	6 591	8 137	3
Ite	44 053 481	3 299	13 354	1
Echarate	281 226 063	42 676	6 590	5

Source: Ministry of Economy and Finance (Transparency Portal), National Statistics Institute (INEI)

In terms of American Dollars, at a rate of exchange 2.7, the per capita income in these municipalities ranges from USD 2,440 to USD 4,945 in 2011, without a doubt a high level of public revenues for a municipality in the Latin-American context.

Another feature of the districts studied is that they capture different characteristics of the district municipalities throughout the country in terms of their geographic location and the type of natural resource extracted. Specifically, the first three districts are located in coastal areas in southern Peru, while the fourth is located in the north western highlands and the last one is in the southern Amazon area. Four of them are mining districts, while one of them, Echarate, holds the largest natural gas reserves and the only large scale natural gas production project in the country.

Data collection in these districts was carried out in these five districts through the following methods:

1. Surveys to 6 groups of economic actors:

Surveys were applied to actors from six different groups based on the economic activities they develop. The groups surveyed were:

- a. Construction workers (public and private)
- b. Agricultural producers
- c. Small store owners or employees (bodegas or stands in local farmers market)
- d. Restaurant owners or employees
- e. Lodging facilities (owner or employee)
- f. Transport service providers (taxi drivers, bus drivers, etc.)

Formats with specific questions for each group were designed by the RWI research team and used in all the districts where field work took place, so the same information was obtained across all cases.

Approximately five actors from each group were surveyed in each district, except in the case of lodging facilities because in most districts there was only one lodge or hostel. Also, local

transport was scarce due to the size of the districts, especially in those in Tacna and Moquegua, where distances are short within the district so there are no buses or taxis. In total, 102 people were surveyed. The breakdown of these surveys by district and group is shown in chart 2.

Chart 2. Number of people surveyed per group and district

District	Agricultural producer	Construction worker	Small stores	Restaurant	Transport	Lodging	Total per district
Ite	5	5	7	3	2	1	23
Ilabaya	4	4	3	2	2	2	17
Torata	4	4	2	2	1	0	13
San Marcos	5	5	5	3	4	2	24
Echarate	5	5	5	5	3	2	25
TOTAL							102

Surveys were conducted with assistance from local researchers. This was extremely important as they provided insights on local dynamics and made local people more open to responding to surveys and giving information.

2. Interviews to municipal government officials to request labour and wage data, as well as their appreciations of the impact of municipal investment of extractive revenues.

The research team scheduled and conducted meetings with key municipal officials to request information from the municipality databases on the amount of employment generated by the municipality broken down by the type of jobs (manual labour, cleaning and maintenance jobs, heads of sites, etc). Information on wages was also requested.

Besides directly requesting data, interviews also included a guide with open questions to obtain the official's opinion of municipal investments and their impact on the local economy, if there was an express priority in the municipality to hire local population and which investment projects they prioritized (roads, sanitation, others).

A limitation regarding these interviews was that the current administration has only taken office in January of this year (2011), therefore most officials were new and would only speak for their own administration. In fact, in most cases they express animosity towards the previous administration and don't have data from the previous years systematized or available. Therefore, in most cases, except in San Marcos, only the most recent data was collected. The following chart details the names and titles of public officials interviewed in each district⁶.

⁶ Unfortunately, we could not get in touch with officials from the Municipality of Ilabaya.

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Chart 3. Interviewees per district

Ite	
Carlos Gonzáles	Manager of public infrastructure projects
Rubén Oviedo García	Head of Personnel
Rolando Álvarez	Head of Statistics and Information Office
Torata	
Alexander Bellano	Head of Personnel
Luis Colque Guerra	Deputy head of the Programming and Investment Office
Juan Madueño Mamani	First Alderman and Head of the Environmental Commission
Elisbán Torres	Head of Institutional Image Issues
Echarate	
Ronny Diaz Tello	Head of Personnel
Rick Dennis Guzmán	Head of Remuneration
Erick Bustamante Valencia	Manager of the Economic Development Office
San Marcos	
Leoncio Marcial Asencio	Deputy head of human resources

The variables we wanted to obtain from interviews and surveys are the following:

- Annual average price level of a basket of goods and services
- Annual average of the daily wage levels paid by the agricultural sector
- Annual average of the daily wage levels paid by the district municipality
- Number of workers hired by the district municipality per year

The 2011 figures were obtained; however, we could not obtain a series for the previous decade. But we included in the interviews questions about price and wage levels in 2003, before the boom in canon transfers, as a reference level to compare against and determine general growth rates.

c. Background on case studies

As mentioned in the previous section, the five districts in which in depth field work was conducted vary significantly in terms of their geographic location and characteristics, as well as in the type of extractive resource produced there. In particular, the districts studied are:

- Three copper mining districts in the southern coast
- One gold mining district in the northern highlands
- One natural gas producing district in the south west Amazon area

But despite their differences they hold some common traits, namely high rural poverty rates and agriculture as the most important economic activity in the local economy.

In the following section we will briefly describe the main characteristics of the five districts which can provide some insights into the results of the field work presented in the next paragraphs.

Ite

The district of Ite is located in the Tacna region in the southern coast of Peru, 95 kilometres away from the capital city of Tacna and right off the “Costanera” highway which runs along the ocean line. Although land in the coastal area is arid, in the 1930s irrigation projects began in Tacna and agricultural production increased with crops such as cotton, alfalfa and corn. Gradually, agricultural producers in Ite bought livestock and focused on producing forage to feed them and producing milk as their main economic activity. As a result, this town became a cattle area. Milk produced in Ite is mainly sold to the large scale Peruvian firm, Gloria S.A. who then processes it. More recently, crops like chilli peppers, paprika and onions for exports have become important products in the district since they generate relevant levels of income and adapt to local climate conditions. Figures from the most recent National Census (2007) show 29.1% of Ite’s Economically Active Population (EAP) works in the agricultural sector.

There is no actual mining site in this district, but it is in the influence area of the Toquepala mine located in Ilabaya. Still, there are reports of environmental impacts, specifically related to water contamination. Other than this impact, there does not seem to be any direct relationship between Ite and the mine, except from the fact that it receives revenues from its activities. According to the interviews and surveys, local population is not hired to work in the mine and no local goods are purchased by the mine. Data from the 2007 National Census shows only 57 people (3% of Ite’s total Economically Active Population (EAP) works in mining.

Ilabaya

Also in the Tacna region, the district of Ilabaya is located 133 km from the capital city of Tacna, but in contrast with Ite, this district is not close to the coast, but to the east of Ite, on the way to the highlands. It is 1425 metres above sea level, while Ite is only 175 metres above sea level. Again, agricultural production is the main economic activity, with a wide range of crops grown, such as alfalfa, corn, onions and fruit. A large part of agricultural production is for subsistence or sold in nearby markets, especially in the capital city of Tacna.

The Toquepala copper mine, operated by Southern Peru Copper Corporation – a private mining company property of Mexican capitals – is located in the district of Ilabaya. This is one of the oldest large scale mining projects in the country whose production began in 1960. As in Ite, there are reports of water contamination in the district from Southern’s operations. Although the company has worked to mitigate and reduce its impact on water quality in the past decade, the local population is still suspicious of their water management methods.

According to the 2007 National Census, 471 people in Ilabaya, 14.4% of the district’s EAP, works in mining. This is indeed higher a higher percentage than in Ite, but its relative importance is lower if we consider 40.5% of Ilabaya’s EAP (1022 people) works either as non-qualified workers or in construction and a significant portion of the projects that demand this kind of workers are carried out by the district municipality.

Southern Peru provides no information in its annual reports regarding local purchases; however, locals claimed the mining company did not buy goods or services in Ilabaya.

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Torata

Torata is located in the Moquegua region in southern Peru, right next to Tacna. Southern Peru Copper Corporation has its second mine, Cujone, in this district. This mine began its production of copper and molybdenum in 1976. Additionally, this district holds another important copper deposit named Quellaveco, which is yet to be exploited. Anglo American has been granted in concession this deposit and plans to begin its operations in 2014. This could mean even higher revenues for this district of 6 thousand people.

The majority of the population are subsistence farmers: 25.2% of the districts population works in agriculture and there is an additional 7.32% of the population that is denominated “eventual worker”, who also work in agriculture during harvest periods. There are reports of migration from this district to the cities of Moquegua and Arequipa, due to scarce work opportunities since the 1980s, especially young people who go to study and work in the main cities. Indeed, there is only primary education in Torata, so Torata’s population is mostly aging or infants. Recent estimates by the National Statistics Institute (INEI) say the population in 2015 could fall to 5,874 from the 2012 estimate of 6,231.

The mine’s activities have affected the quality of the water supply to Torata, which has been the cause of conflict and resistance of local populations to the exploitation of the Quellaveco mining project. The municipality has even developed capacities to measure heavy metal content and other substances in the water to monitor the mine’s environmental impact and demand this be corrected.

According to the 2007 Census figures, only 1.4% of Torata’s EAP (48 people) work in the mining sector; therefore, the impact on labour demand from the mine itself seems to be very limited. As in the two previous cases (Ite and Ilabaya), Southern Peru provides no information in its annual reports regarding local purchases, but locals say they do not take place.

San Marcos

In the northern highlands, in the Ancash region, the district of San Marcos is located 125 kilometres away from the capital city of Huaraz at 2,960 metres above sea level. This district is comparatively larger than Ite and Ilabaya, with a population of approximately 13 thousand people. Agriculture and cattle are the main sources of income for the population of San Marcos, and the main products are potatoes and corn for local consumption or to sell to nearby markets like Huari. This district is also home to the largest copper and zinc open pit mine in the country, Antamina, a joint venture between BHP Billiton, Xstrata and Teck. The amount these companies invested is reportedly the highest in a mining project in the history of Peru.

The CSR activities of Antamina in San Marcos are very relevant. In fact, they have a Fund called the “Fondo Minero Antamina” through which they channel CSR spending on social and

productive projects. Examples of this spending are the installation of an irrigation system for 120 families and vaccination of 20 thousand cows in the towns within San Marcos.⁷

Furthermore, Antamina works to provide capacity building and technical assistance to local producers they choose as their “strategic partners” to strengthen their business and increase their scale.

As far as direct hires of local population, Census figures say 19.3% of the district’s EAP work in the mining sector. This is by far the case where the mining company is a relevant source of labour demand for the local population. Also, Antamina states local purchases are a priority within the company’s strategy and in its 2010 annual report they state they spent USD 95.5 million in the Ancash region. Even though they don’t say what percentage of these purchases comes directly from San Marcos, it is still a high level of regional purchases and some of it may also be affecting the district.

Echarate

Initially an area inhabited by indigenous communities of the “Machiguenga” peoples, the district was founded after the migration of “colonos” who displaced indigenous peoples and created haciendas to grow sugar cane and later cocoa and coffee. After an agricultural reform, workers were granted property of the lands and several cocoa bean and coffee producer cooperatives were developed. The case of coffee is remarkable. Today there is a large number of coffee producer cooperatives and 22 of them have joined to form a “second tier” cooperative called COCLA⁸. In total, 68% of the district’s EAP works in the agricultural sector, the highest percentage of all the districts included in this study.

Although agriculture has historically been the sector responsible for the local economic dynamics, in 2004 the Camisea project located in Echarate, began producing natural gas and liquids in this district. This is the only large scale natural gas production project in the country and has generated huge amounts of revenues for the Peruvian government in the form of income tax and royalties, half of which is transferred to subnational governments in Cusco. The Camisea project is operated by a consortium, where the largest shareholder is Pluspetrol (Argentina), together with Hunt Oil, Repsol, SK Energy, Tecpetrol and Sonatrach.

Pluspetrol, the company with the majority stake in the Camisea project, informed in its annual report that in 2010 it hired 93 people from the local communities adjacent to the project. Although they do not report on local purchases, research carried out by Armando Mendoza on local content in the extractive industries in Peru⁹ suggests these are also negligible because hydrocarbon companies operating in the Amazon area deliberately restrict their linkages to local populations to reduce the impact environmental and social impact they have on the

⁷ <http://www.desarrollandoancash.blogspot.com/>

⁸ <http://www.coclaperu.com/>

⁹ Mendoza, Armando: “Mejorando los Esquemas de Contenido Local en el Perú: Lecciones y recomendaciones.” Consultancy for Revenue Watch Institute. January 2011.

nearby territories and populations. This is also supported by 2007 Census figures that say 331 people in the entire district, which represent 2.2% of the EAP, work in the mining and hydrocarbons sector.

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Summary

There are some characteristics we would like to highlight about the districts studied in this paper. The first is that in all cases, agriculture is the most relevant economic sector for the local population and, even further, the only viable economic activity other than mining that exists in these areas. Also, the actual mining company does not have significant linkages to these local areas either through hiring local population or through purchase of local goods and services. The case of San Marcos appears to be different, since the company is taking on CSR initiatives to build capacities among local producers and also directly hiring local population. This district is the case with the highest reports of local population working in mining. Therefore, this seems to be the only case in which the influence of the mine itself could also have an impact on price increases or wage increases.

Existing research has also pointed towards this lack of linkages between mining companies and local economies. For example, Juana Kuramoto's research on Newmont's mine in Cajamarca¹⁰ showed the mine's activities did not have an impact or form linkages with neighbouring communities. And the aforementioned research by Armando Mendoza, which surveys five experiences to determine if they have developed any local content policies show these policies are not being implemented in the sector and, when they are, they have many shortcomings and do not appear sustainable. This further suggests that the impact that municipalities are having on local areas through their spending of extractive revenues is more important than the impact of mining companies themselves.

d. Main findings

This section will try to summarize the main findings obtained from the field work in the five districts, both through surveys and through interviews with local actors and official data provided by the municipality.

We will present the information related to the target variables described in section 1b and also discuss information given by interviewees and local people surveyed on why these variables have changed, how these changes have affected them and what is being done to face them, as well as any public policies taken on by the municipal governments to respond to a new outlook.

i. Prices

Surveys were carried out in Ite, Ilabaya, Torata, Echarate and San Marcos to record the current prices of relevant consumer goods, as well as get an estimate of price levels before the boom in canon revenue transfers to these municipalities. The year chosen to make a comparison was 2003. We had to rely on people's estimates of price levels in one specific year in the past because there is no price information at the district level produced by the INEI systematically. It is worth mentioning that other research projects hired by companies themselves to measure

¹⁰ Kuramoto, Juana: "Las aglomeraciones productivas alrededor de la minería: el caso de minera Yanacocha S.A" GRADE, 1999.

the impact of the mine on local prices have made the comparison using price levels of a basket. They were able to do this because the company provided a baseline they carried out themselves at the beginning of their operations. However, not all companies have this available or disclose it. The section of the Environmental Impact Assessments related to socioeconomic impacts does not include prices as one of the variables of interest, therefore not all companies record this data. For this research, we were not able to obtain these baselines to compare against since we did not have contacts within the companies who could inform us whether they exist and provide them if they do. However, we consider using them is the most adequate way to make the comparison with current prices and in a more in depth research project we could reach out to company representatives to ask for this information.

The information for both current and 2003 prices was obtained from surveys to workers or owners of local stores (bodegas), restaurants and transport service providers (taxi or bus drivers). The summary of the prices collected from these surveys and estimates of the increase between 2003 and 2011 is presented in chart 4. The price levels in each municipality for each good are the average price level of all the surveys collected for each good.

Chart 4. Average price of relevant consumer goods and services in the districts studied (in soles)

District	Sugar			Rice			Transport			Menu		
	2003	2011	% Increase	2003	2011	% Increase	2003	2011	% Increase	2003	2011	% Increase
Ite	2.00	3.50	75.0%	2.33	3.27	40.0%	0.75	1.00	33.3%	3.50	5.83	66.7%
Ilabaya	2.50	3.50	40.0%	2.50	3.50	40.0%	1.00	1.00	0.0%	4.00	5.50	37.5%
Torata	2.50	3.50	40.0%	1.80	3.00	66.7%	2.50	3.00	20.0%	4.00	5.00	25.0%
Echarate	2.50	3.18	27.0%	1.88	2.90	54.7%	4.33	6.88	58.7%	3.50	5.00	42.9%
San Marcos	3.20	6.20	93.8%	1.72	3.00	74.4%	4.60	10.00	117.4%	2.83	5.50	94.1%

The chart also shows that both average prices and percentage increase between 2003 and 2008 are systematically higher in San Marcos than in the rest in municipalities. This suggests that this district is facing a stronger local inflationary process.

The price increase of these two consumer goods (sugar and rice) for the whole country in the same time period (comparing 2003 with 2011 average prices), is 35.3% in the case of rice and 84.0% in the case of sugar with data from the INEI. These percentages do not differ that much with the ones found in the five districts, but San Marcos is also above this level.

The surveys also asked the following three questions related to price levels which intended to gain further insight into the dynamics of local prices:

- Why do you think prices have increased since 2003?
- Are prices were higher in the district than in other nearby markets or in the capital city?
- If they are higher in the district, why do you think they are higher?

Regarding the first question, in the case of food (both goods and meals) 72% of people surveyed in all districts said this increase was external or imported and that it was not something unique to the district. However, in San Marcos 42% said it was due to economic growth in the district since the increase in canon transfers. Two people specifically mentioned it was due to “the mine”. In Echarate 35% said it was due to more people coming to the district every day, buying lunch and other goods. In the other districts, people did not mention this as the reason for the price increase. The general inflation rate in the country between 2003 and 2011 was 20.9%.

In the case of transport costs, 100% of those who declared there was a price increase attributed it to oil prices. There were some people who said there had been no increase and they stated this was due to the fact that more vehicles had entered the market due to an increase in passengers, so supply had followed the increase in demand and kept prices stable. All people surveyed did acknowledge the amount of people travelling daily to these districts. A bus driver in Torata who covered the Moquegua (capital city) – Torata route, which lasts approximately 45 minutes and costs 3 soles (USD 1.1) said:



“I drive about 200 people up there a day, go up 4 times. People from here (Moquegua city) are the ones who work there (Torata), so they go early, early in the morning and come back down at night. But like me, there are a whole lot of new people working this route. Not like before. There were few cars before going up. Only the small ones like station wagons.”

Regarding the second and third questions, 54% said prices were higher in the district and 46% said they were the same. Of who said they were higher in the district, 80% said this was due to transport costs because all goods were brought there from nearby markets. Only in San Marcos, 33% said this was due to the fact that people had more money in the district and also because municipal workers had increased in number and their demand in the district was higher.

This information collected in the field suggests that external factors are the main factor that has driven up prices in the districts and the price level is not significantly higher there in comparison to nearby markets and cities.

To verify this impression, we compared the district level prices collected to data on average price of consumer goods the INEI presents for cities in regions that have no extractive activities and thus do not receive any canon revenues. This data is shown in chart 5.

Chart 5. Average price of relevant consumer goods in cities with no extractive activities (in soles)

City	Sugar			Rice		
	2003	2011	% increase	2003	2011	% increase
Amazonas	1.25	2.74	119.2%	1.53	2.36	54.2%
Lambayeque	1.17	2.52	115.4%	1.26	2.28	81.0%
San Martin	1.17	2.83	141.9%	1.06	2.39	125.5%

Source: National Statistics Institute (INEI), Average consumer prices.

This information shows that prices in the five districts studied, compared to cities in non producing regions, were in average 1.03 soles higher in 2003 and 1.04 cents higher in 2011. Therefore, there seems to be no evidence that there are local inflationary processes in the districts studied. If canon transfers had generated local inflation, the price difference with the main cities in the region would be higher in 2011, but the gap seems to be stable.

However, as mentioned before, this analysis is limited because it is only based on two consumer goods whose prices were available for the main cities. The price difference in San Marcos for one of these goods (sugar) has increased well over its increase in Huaraz, which could suggest there is inflation in some goods.

A more in depth study over time that collects information on a whole basket of consumer goods representative to each district is needed to have certain results about the existence or lack of local inflation.

ii. Wage rates

Information of current wage rates was collected both through surveys and through requests to municipal officials who could provide access to databases. Unfortunately the municipalities were not able to provide this information in time, but only for the past two years.

The surveys asked about the wages in municipality infrastructure projects of cleaning and maintenance jobs, but most answers were that there was no work in the municipality before canon transfers began (2003). Therefore our analysis is limited here to the comparison of current wage levels (2011) in municipal jobs and in the agricultural sector, which is the most important source of work and income for the population of these districts.



Municipal construction Project about to start in Ite (left) and road construction in Torata (right)

Chart 6 summarizes the wage data obtained from municipal officials. Specifically, the documents they provided access to were the official “scale of remuneration for investment projects” which establishes the wage rate for each type of job available in public investment projects. Also, officials gave us access to budgets of specific public investment works where salary data was available. Since there are several different levels of wages according to the job and years of experience, we present three relevant wages for jobs in construction.

Chart 6. Daily wage rates in municipal construction works (from municipal database)

	Ite	Torata	San Marcos	Echarate
“Peon” (Regular construction worker)	83.84	56.67	83.20	61.20
“Operario” (higher rank construction worker)	104.24	76.67	92.00	75.20
Head of site or Topographer	114.64	106.67	103.20	91.87



Local women working for the municipality in park cleanup jobs in Ilabaya.

Even though there are differences between municipalities, with Torata and Echarate being slightly lower than Ite and San Marcos that have very similar wage rates, all wages are above S/. 50 a day, approximately USD 18.5.

But alone, these figures are not as revealing as when we compare them to wages in the agricultural sector. Agricultural wage rates were obtained from surveys to local land owners and agricultural workers.

We also asked these same actors and construction workers in the sites the wage rate in construction and the average of their responses is presented below.

The wage levels in municipal construction work obtained from the surveys are similar to those from the official data, except for the case of San Marcos, where it is lower. Chart 7 also presents data on “maintenance and cleaning jobs” because it was another important source of work for local people in the municipality.

Chart 7. Wage rates collected in surveys (average amounts from responses)

	Ite	Ilabaya	Torata	San Marcos	Echarate
Agriculture	32.5	30	30	20	26.3

Municipal construction work	86.4	82	77.5	52	58
Municipal maintenance jobs	63.8	58.8	55	40	49

The figures collected in the surveys show that wages in municipal construction are at least twice as much as in agriculture in all five municipalities.

But an additional fact that came out of the interviews and surveys was that the wage rates in agriculture have actually been pulled up by the higher wages in municipal jobs (even maintenance and cleaning jobs are better paid than agricultural jobs). Although the surveys asked about past wage levels in agriculture (in 2003), we cannot present this information systematized because most workers had not worked for that long and did not know how much they paid before. Most landowners surveys could not give a ballpark figure for 2003 either and those who did gave very different amounts.

But some testimonies were enlightening to show that wage levels in agriculture have had to increase due to the level of municipal wages.



Local chili pepper producers in Ite stuffing their products in bags to sell abroad.

“Paying *jornales* today is too expensive, no longer pays off to hire people. Before it was S/. 7, now S/. 25, like the Municipality. It’s too expensive and we can’t afford it.” (Abdon Aliaga, small agricultural producer from Echarate)

A recent study carried out by the Instituto del Perú of the San Martin University (USMP)¹¹ also gathered information on wage rates in the agricultural sector in the last decade through surveys in 45 rural districts. The information they obtained says the average wage rate in agriculture has increased from 11.4 soles in 2001 to 19.6 soles in 2011. They attribute this increase to the improvement in communications, especially the improvement in road infrastructure and the fall in the time taken to travel from one place to another.

¹¹ Richard Webb, Presentación “La Revolución Comunicativa y el Desarrollo Rural” disponible en <http://institutodelperu.org.pe>

According to these figures, wages in agriculture are increasing all over the country, and not just because of increased demand in producing regions. However, the wage rates found in that study are 10 soles lower than the wage rates we found in our research (an average of 27.7 soles an hour). Therefore, according to this information, it seems that wages in agriculture in the 5 districts visited have grown even more than in the rest of the country. This suggests that there is indeed a distortion caused by higher labor demand from the municipality.

The responses to the surveys also suggest the high levels of wage rates in the municipality are indeed generating a distortion at the local level. 100% of people surveyed said workers are moving from agriculture to municipal jobs and 79% of agricultural producers interviewed said they had at some point gone to work in the municipality themselves. This has created labour shortages in the agricultural sector.

One additional point obtained from interviews was the importance of job stability. Locals said municipal work offers a secure pay check at the end of the month for a given period of time (6 months, a year). The agricultural sector is less safe and seasonal; therefore this is a key factor to decide to move to this work, even if salaries were not very different. 27% of people surveyed said “stability in time” was the reason why people leave agriculture and go to work for the municipality, and not wages.

Finally, people acknowledged that municipal works were only temporary and this is why land owners do not sell or rent out their land. Instead, they leave them barren or work outside their work hours in municipal jobs or resort to family labour. 60% of people surveyed said their strategy to face the labour shortage was to leave their land barren, while 30% say they work on it nights or weekends. The remaining 10% were producers from Ite who mentioned they requested workers from the municipality and sold their cows to cut costs.

In summary, wages are definitely a strong factor generating wage distortions at the local level, but seasonality is an additional factor that explains the important migration of workers from agriculture to the municipality and also explains why agricultural landowners don't sell or rent out their lands.

However, in districts where cattle was an important activity (Ite, Ilabaya, San Marcos and Torata) people did report they had sold their cattle because costs to maintain them were too high in comparison for what they received for selling milk or meat. In the case of Ite, local owners sold their milk to the largest national milk processing company, Gloria, for only 9 cents per litre (in local currency), which was extremely low, compared to the costs they had to keep them.

iii. Employment

Employment databases in municipalities proved to be complex. We could only obtain this information in two municipalities: Torata and Echarate, because databases are not disaggregated or available for past years.

The two figures we could obtain show the extent of the importance of the municipality's demand for workers. Indeed, in Torata, municipal projects carried out only between January and September of 2011 employed 2,312 people. In Echarate there was 2,739 people employed in municipal works between January and September 2011, while in 2010, Echarate's district municipality hired 2,813 workers. In terms of the total Economically Active Population (EAP), this is quite significant. In Torata it represents 80.7%. In Echarate the percentage is lower, due partly to the larger relative population of the district, but still important: 18.6%.

The origin of workers is a very important issue locally. Wage levels have evidently generated migration to these districts from other provinces or regions. However it is not always people moving to actually live in the district. Some people commute from the nearby cities and others live in municipal hostels that rent out rooms for months.

Ite has a municipal lodge which was completely occupied when field work was carried out. The research teams asked about prices for rooms and they provided a monthly rate, but said the lodge was full and rooms would be taken the rest of the year because they were for "long term stays" by municipal staff. It is therefore obvious that several people from outside the district are working in the municipality.

Municipality officials say it is their policy to hire local workers, even establishing as a requirement that the worker's ID shows he is from the district. However, to bypass this requirement, people have changed their addresses in the National Registry (RENIEC), but don't actually live there. This is why locals say the population figure given by the INEI is inflated. In Ite for example, we heard several times that the number of people that were in fact from Ite were only 800 people, while the figure from INEI is 3,299 people. This claim is very plausible since this small district that looks like a ghost town with shiny new buildings.



New infrastructure in Ite: a playground (left) and a market (right) with no people to use them.

People who come from other regions to work in the municipality or commute are known as "golondrinos" (swallows) in reference to the migrating birds, and there is animosity towards them because they are perceived to be taking job opportunities away from locals.

In Echarate, the research team was able to obtain data on the origin of workers and it showed there were a significant number of workers from other local areas within Cusco (Cusco,

Acomayo, Calca, Urubamba, Sicuani, Anta, Paucartambo) as well as from cities outside the Cusco (Huancayo, Puno, Andahuaylas, Ucayali, Loreto, Ancash, Arequipa, Moquegua, Ica).

It was also obvious that there was an excess demand of workers who waited around close to the municipality expecting to be called to work in a new project or temporarily in maintenance. Although some of these workers were locals, most of them were from other cities both from the region and from outside the region.



Workers waiting to be called to work in the municipality in Ilabaya (left) and Ite (right).

DRAFT

iv) Other symptoms of the resource curse

a. Fiscal laziness

One of the manifestations of the natural resource curse is the fact that governments don't have an incentive to collect taxes from their citizens because they receive revenues from the EIs with no effort of their own. At the subnational government the same thing takes place. In Peru, Regional Governments cannot collect taxes, but Municipalities do. Therefore, we wanted to determine, with data available on the Ministry of Finance's transparency portal, if this was taking place in Peru.

Data on tax collection by municipality is available, but only since 2007. Still, these figures show that, during the period of highest commodity prices and highest canon transfers, the five richest districts still increased their tax collection, as shown in chart 8.

It is important to mention that one of the factors that have allowed these 5 municipalities to collect growing amounts of taxes is indeed an increase in the local economic activity. People now receiving higher wages are buying properties, for example. So the increase might not be a result of an increased effort to collect taxes taken on by the municipality, but just due to the better local economic context, which also has to do with the dynamics of the mining and hydrocarbons sector and the revenues generated.

Given the fact that these municipalities collected very small amounts of taxes before the boom, any increase would seem very significant if we only looked at the growth rate. Therefore, to compare the level of tax collection with all the municipalities in the country, we use the per capita level of tax collection.

Certainly, these 5 municipalities have per capita tax collection levels that are below the average country level. However, in recent years, three of them (Torata, Echarate and San Marcos) have more than doubled their collection between 2007 and 2011. On the other hand, per capita tax collection in Ite and Ilabaya has not increased much and is still far from the average national level.

This could suggest that in these two municipalities, whose population is small and have the largest per capita canon transfers, fiscal laziness could be taking place.

Chart 1. Growth rate of Municipal Tax Collection¹²

	2007	2008	2009	2010	2011
TORATA					
Total tax collection	52,828	533,202	547,714	187,435	216,887
Per capita tax collection	8.0	80.9	83.1	28.4	32.9
ITE					
Total tax collection	19,122	34,565	37,573	22,513	25,326
Per capita tax collection	5.8	10.5	11.4	6.8	7.7
ILABAYA					
Total tax collection	20,554	18,290	26,289	33,055	37,549
Per capita tax collection	4.7	4.1	6.0	7.5	8.5
ECHARATE					
Total tax collection	786,638	1,730,445	1,104,467	1,276,884	1,945,344
Per capita tax collection	18.4	40.5	25.9	29.9	45.6
SAN MARCOS					
Total tax collection	-	6,500	40,277	194,791	201,340
Per capita tax collection	-	0.5	3.0	14.3	14.8
AVERAGE OF ALL MUNICIPALITIES IN PERU					
Total tax collection	1,128,155,309	1,436,794,729	1,687,527,553	1,896,420,102	1,895,049,657
Per capita tax collection	40.0	50.9	59.8	67.2	67.2

Source: Ministry of Economy and Finance (MEF). Transparency Portal

¹² Municipal taxes include: Real estate property tax, Tax on sale of real estate properties, Car ownership tax, Tax on gambling, Tax on non-sports public events, Tax on casinos, Tax on slot machines

b. Corruption



The new municipal building in Ite now at risk of collapsing.

The huge amounts of revenue flows to subnational governments create opportunities for corruption and there are accusations that this has happened in the municipalities studied. Locals describe this phenomenon as a major negative impact of canon and recent news reports have supported their claims. Some examples are presented in the following paragraphs to illustrate this idea.

Only weeks after field work was carried out in Ite, a news report came out saying that municipal officials had to be moved out of the building of the municipality because it had structural damage that put them in danger. This building is only 1 year old. The former Mayor of Ite is being investigated for the construction since they suspect the poor quality could be due to corruption.¹³

Also, in November, the former Mayor of Ilabaya was involved in a failed scam to transfer over S/. 2 million from Ilabaya to Ticaco, another municipality in the Tacna region by claiming Ilabaya had a debt with Ticaco, which did not in fact exist. The former Mayor of Ilabaya is now under investigation for this case.¹⁴

One important issue is that Municipalities execute the majority of their infrastructure projects through “direct implementation”. This means that they don’t carry out a bidding process and hire a construction company to build the project, but they buy the machinery themselves and hire workers to build the infrastructure. People express a concern that this creates too many opportunities for corruption, especially in the purchase of large and costly goods and services. Furthermore, there are reports of Municipalities renting these assets to private companies or other Municipalities.

¹³ <http://www.larepublica.pe/17-11-2011/reubicar-oficinas-de-municipio-ite>

¹⁴ <http://www.larepublica.pe/28-11-2011/municipios-involucrados-en-estafa>
<http://www.larepublica.pe/01-12-2011/pobladores-de-ilabaya-hoy-protestaran-en-ministerio-publico>



Machinery purchased by the municipality of Ite.

IV. Public policies undertaken to face local level distortions

The labour shortage in the agricultural sector has become evident in these districts and some municipalities have started to take on actions to face this problem. However, these actions are particular to each district and depend on each Mayor, since they are not part of a planned public policy, but rather the result of improvisation and creative thinking.

Indeed, in Ite, we found out from agricultural producers surveyed that they had reached out to the municipality saying that they had no workers during the harvest and the Mayor had decided to solve this by sending groups of municipal workers or “cuadrillas” that were on the Municipality’s payroll to work in the field. Effectively, the Municipality was subsidizing private producers that requested this help with public resources.

However, this was an action that was only reported in Ite. In the other four municipalities visited, we asked in the surveys if this had ever happened and 100% said no.

As mentioned in the introduction, there are reports of other actions taken on to face this problem in other districts, such as halting all municipal construction work during harvest or banning female labour in the municipality’s public works, so women could stay and work in the fields. This research team did not find information on any practice like these two mentioned, but there seems to be a tendency to develop case-by-case creative solutions to this problem.

On the other hand, there are some municipalities that have seen that municipal investment is having an impact on agriculture and have therefore consciously decided to prioritize investment in the agricultural sector and included this in their planning process, implementing infrastructure projects that benefit this sector, increase its productivity and allows them to give their production value added, so this activity can generate higher levels of income.

For example, Echarate has over 20 projects to promote the local agricultural sector through different strategies: irrigation systems to expand the extension of agricultural land, work to improve the quality of seeds that are then given to local producers, pest control, processing

plants for coffee and cocoa, technical assistance on crop management, generating linkages with international buyers, among others.

Engineer Erick Bustamante, the Head of the Local Economic Development Office of the municipality said:

“The projects that have been running include the installation of 5 coffee processing plants, to obtain a good quality product, located in the zones of Echarate, Palma Real, Kiteni and Kepashiato Ivochote. The goal is 9 plants. Farmers benefiting from these projects receive technical assistance for their crop production management, since most of the workforce is leaving the fields, which has led to the abandonment of the farms; these projects are expected to reverse this situation.”

V. Conclusions: Cholo Disease, not local level Dutch Disease

In a context of booming mineral and hydrocarbon prices, the Peruvian legislation that established the distribution of a share of extractive revenues to subnational governments in producing areas, prioritizing local governments in districts where extraction takes place, together with a restriction to spend these revenues in capital investment projects, has resulted in distortions to the local labour markets in the five richest producing districts.

Indeed, based on the information collected from field work in these districts, investment projects taken on by the municipalities have become a significant and highly paid source of labour demand in these local areas. On average, municipal jobs in the five districts pay 2.5 times current wages in the agricultural sector, the most important alternative source of work.

This effect of local public spending of extractive revenues fits exactly with the “crowding out effect” described in the Dutch Disease literature: the labour demand from the booming sector takes workers away from the other sectors in the local economy. However, the “booming sector” in this case is not the mining or hydrocarbon sector itself, but the public sector with the revenues generated by the extractive sector. The direct impact of the mining or hydrocarbon sectors on employment seems to be limited, since the exploitation phases of mines and hydrocarbon extraction are very capital intensive and generate few jobs which rarely go to local workers.

In short, the way in which the “crowding out effect” operates describes the situation in these local governments perfectly; however, the source of the effect is different.

The other effect the literature on the Dutch Disease describes is the “wealth effect”. This effect implies an increase in the price of local non tradable goods and services such as land, water or wages. But the information collected in the field suggests this is not taking place in the districts. We present some explanations of why this might not be happening.

First, consumer prices do not seem to be increasing in the district more than in other cities. The explanation given by people surveyed and confirmed by the research team is that almost all goods sold locally come from outside the district and access to large markets in nearby cities is easy, therefore if prices are too high in town, people would just buy from those

markets. Very little local production is sold in the district, except in Echarate, the only one of these five districts that actually has a local farmers market. Still, a lot of what is sold in this market is brought from outside the district because production in the district is poor, for their own subsistence or is sold abroad (for example coffee and cocoa produced in Echarate is not sold there, it is only exported).

Second, prices of land are not increasing more than in other cities. This is mainly because there is no local land market developed in these districts. The majority of parcels of land are very small and landowners are not willing to abandon their land, they would rather work on them partially or leave them barren for some time, but will not sell or rent them. And since the “booming sector” in this case is not the mining or hydrocarbon sector, but the public sector, it does not create a demand for land which would otherwise drive up prices.

Third, prices of local services (meals, transport) do not increase more than in other cities because in these cases, even though demand is higher due to a larger number of people travelling daily to the districts, the supply has also increased with both local workers and workers from other cities. This offsets the increase in demand and therefore there is no increase in prices.

Finally, the increase in labour demand from the municipality increases, but even though there is an increase in the supply of workers (labour migration from outside the district), this does not offset the increase in wages because, since the “booming sector” is public, wages are fixed at a certain level and are not subject to market forces.

This analysis leads us to think that this is not the classic Dutch Disease, but a different kind of disease we have named the “Cholo Disease”. The main reason to state this is indeed different is the fact that the “booming sector”, the source of all the effects on the local area is the local public sector and this introduces particular traits into the analysis. Especially, the fact that wages are fixed at levels that are significantly over the market wages in other sector is the main trigger of the local labour market distortions, the most important effect in the local economy. If the “booming sector” was private, increase in supply would offset the wage increase and the most important distortion would be a large influx of migrant workers to these districts.

Of course, it is also possible that some of these producing areas could also be affected by the more classical Dutch Disease. This could be the case of, for example, coffee producers of Echarate, in La Convencion, Cusco. As we have seen, they are for sure impacted by the Cholo Disease, but it is probable that they also affected by the appreciation of the exchange rate as the dollars they get for their coffee in the international markets loses value in face of the soles they need to pay their local costs, including increasingly expensive wages. Further field research in which export oriented agriculture happens along with minerals or hydrocarbons production should tell us if both phenomena –Dutch and Cholo Disease- might be happening at the same time.

VI. Other empirical research

Today, there are a growing number of studies carried out in Peru linking mining with better living conditions of the local populations. Some of them say that the impact is insignificant or differentiated between urban and rural areas, while others do find evidence of improvement in general.

For instance, research by Zegarra (2007), which carried out an impact assessment on households in mining districts, using both data from the National Household Survey (ENAHO) and surveys, found "a positive association of mining revenue and expenditure of urban households, but not for the case of rural families."

A recent study by Aragon and Rud (2011) for the case of the Yanacocha mine, says that mining has a positive impact on the incomes of local areas and markets near the mine. The impact is generated through the increase in the price of locally produced goods which are purchased by the mine.

Although there are few studies on the impact of canon revenues on local areas, Aragon and Rud study also evaluated this variable and discard that the positive impact on household income is generated by canon transfers that municipalities spend.

This would contradict our findings because in fieldwork in five districts, we found that the links between the mining sector and the local economy were scarce, while local public spending of canon revenues had more relevance in the local economy.

It is therefore important to carry out further research on the linkages of mining and hydrocarbon companies in local economies through purchases of local goods and services, as well as the interaction of this effect with the expenditure of canon revenues by local governments.

VII. Policy recommendations

The distortions at the local level on which we have collected information stem from the legislation related to the distribution and use of extractive resources, namely, the fact that the producing district receives a large percent of the extractive rent, which is in turn, restricted to capital expenditure and associated maintenance works. As prices and revenues rose exponentially, district municipalities had to race to build all the infrastructure they could to spend their rapidly growing budgets. To do so, they bought machinery and hired an increasing number of workers, paying them very high wages.

The main source of the distortion is national legislation. However, we have also found at least two cases of local level policies in response to the problems generated by the national policies regarding the distribution and use of the extractive rent. Therefore, we consider policies should be taken on not only at the national level, but also at the local level to deal with the distortions.

Both at the national and local levels, it is important to make the distinction between short and long term policies.

A. Long term national policies

1. Amend legislation regarding the distribution of EI revenues

The obvious solution would be to amend the legislation on distribution of extractive revenues, and this is indeed being discussed in the country. However this is far from simple. Peru has already experienced violent conflicts related to changes in the distribution between regions, like the one between Tacna and Moquegua in 2008, and has learnt that this can be very costly both socially and politically. Producing regions are not willing to give up their canon, since they see it as a right.

But there is a growing consensus that the distribution scheme within each producing region should be amended, especially the amount allocated to producing districts, which is considered disproportionate. This change will not be an easy task either because producing districts consider the revenues they receive are a compensation for the impacts (environmental and social) they have to deal with. But with a better distribution scheme that doesn't generate as many overlaps as the current one; they could still receive large transfers and be compensated without the amount being so extreme. And this process should be taken forward in a participatory manner, with a lot of debate in each region.

2. Amend legislation regarding the focus on infrastructure spending

Current legislation on the use of extractive revenues states they can only be used in capital expenditure, thus creating an incentive to spend all these revenues in building infrastructure, especially roads, even when this is not the kind of expenditure that will have the most impact on the local population's wellbeing.

Furthermore, municipalities, especially rural ones, generally have a low level of institutional capacities and therefore find building infrastructure as the easiest way to spend the revenues they receive. Since the excessive focus on infrastructure projects is one of the factors generating the distortions at the local level, there is a need to amend the legislation that is contributing to this situation. This could force local governments to spend their revenues on other investment.

3. Amend legislation to allow local governments to establish savings funds

A further policy that should be discussed and could mitigate the distortions at the local level is the creation of local stabilization or intergenerational funds. This could allow municipalities to save a portion of the revenues they receive in boom years, lowering the pressure to spend and the labour demand in the district, and have an amount available for slow years.

In the longer term, the country should move towards a national integrated strategy to invest in economic diversification, promoting the sectors with the most potentialities in each region,

thus reducing the dependency on extractive revenues and the vulnerability to volatility and the inevitable exhaustion of the resources, since they are non-renewable by nature.

B. Short term local policies

But while these long term policies are debated and the legal amendments needed to apply them are approved, there are real impacts for local people in the agricultural sector that have to face higher labour costs and labour shortages and are increasingly halting their production, which should be mitigated.

1. Use EI revenues to promote economic diversification locally by investing in sustainable economic sectors

Thinking more strategically, investment projects like the ones in Echarate could also help mitigate the increase in costs to the agricultural sector by making their production more profitable through technical assistance, investment in seed improvement, processing plants to generate value added, irrigation systems, etc. And the latter goes together with the district's development plan and also strengthens an economic sector that is sustainable, thus reducing the dependency on the extractive industries.

C. Long term local policies

In addition to having an important role in short term policies to mitigate impact of distortions at the local level, Municipalities also need to take on long term policies that can prevent the generation of further distortions and impacts, while promoting actions and mechanisms that maximize the benefit local areas can obtain from extractive activities.

1. Strengthen citizen participation mechanisms and accountability

Even with the legal limitations in the framework related to spending, local governments have a relative amount of discretion to determine the use of resources from EI. However, to ensure this spending is as effective as possible and has a real impact on the wellbeing of local populations, mechanisms for citizen participation, transparency and accountability are crucial. Therefore Municipalities should work to improve their transparency, increase and improve the quality of participation in existing mechanisms such as participatory budgeting.

2. Promoting local content policies

Extractive activities can benefit local populations through linkages with local economic sectors, for example through purchase of local goods and services. These linkages increase economic activity in the local area and generate higher income levels for the local population. This could in turn protect them from the distortions mentioned, since they could receive levels of income that could compete with municipal wages and prevent the shift of labour from other sectors to public works.

In Peru, the legal framework does not establish any obligations in terms of local content. Mining companies have developed some initiatives related to local purchases and hiring local workers, but their success has been limited.

In this context, local governments can play an important role as to facilitate, monitor and articulate local content initiatives from companies.

3. Strengthening local institutional capacities to link investment with long term Local Economic Development goals

One of the hardest challenges in terms of local government management is to effectively promote local development. There are various difficulties which have to do with structural weakness and legislative limitations, as well as the need to define and execute far reaching public policies.

Private initiatives taken on by mining and oil companies through their CSR actions have also had limited impact to promote local development in neighbouring areas. Some successful local development experiences have been based on public-private partnerships, where the local government has taken on the role of facilitator and coordinator of initiatives and projects that are developed by civil society and the business sector.

A kind of public management based on a participatory and inclusive strategy to promote local economic development can act as a guarantee to avoid the resource curse at the local level.