

Are the new rules of play between States and Multinationals in Latin America beneficial? An analysis of the impact of extractive multinationals in Bolivia

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¹ English version of '¿Son beneficiosas las nuevas reglas del juego entre Estados y multinacionales en América Latina?: análisis del impacto en el desarrollo de multinacionales extractivas en Bolivia' (DT 6/2012, Real Instituto Elcano), originally published on 28 May 2012 and available at http://www.realinstitutoelcano.org/wps/portal/rielcano/contenido?WCM_GLOBAL_CONTEXT=/elcano/elcano_es/zonas_es/cooperacion+y+desarrollo/dt6-2012.

List of Acronyms

| | |
|----------|--|
| AA-IUE | Utilidades de las Empresas |
| ADM | Archer Daniels Midland |
| AECID | Agencia Española de Cooperación Internacional para el Desarrollo |
| ANAPO | Asociación Nacional de Productores de Oleaginosas |
| APG-IG | Asamblea del Pueblo Guaraní de Itika Guasu |
| BOP | Balance of Payments |
| BCB | Banco Central de Bolivia |
| BG | British Gas |
| WB | World Bank |
| CNC | Cámara Nacional de Comercio |
| CANALMIN | Cámara Nacional de Minería |
| ECLAC | Economic Commission for Latin America and the Caribbean |
| CPE | Constitución Política del Estado |
| COB | Central Obrera Boliviana |
| COMIBOL | Corporación Minera de Bolivia |
| EADI | European Association of Development Research and Training Institutes |
| EMAPA | Empresa Apoyo a la Producción Agropecuaria |
| ENDE | Empresa Nacional de Electricidad |
| ENTEL | Empresa Nacional de Telecomunicaciones |
| ESM | Empresa Siderúrgica del Mutún |
| TNC | Transnational Corporation |
| FAO | Food and Agricultural Organization |
| IMF | International Monetary Fund |
| FBCF | Formación Bruta de Capital Fijo |
| FENCOMIN | Federación Nacional de Cooperativas Mineras |
| FNDR | Fondo Nacional de Desarrollo Regional |
| FSTBM | Federación Sindical de Trabajadores Mineros de Bolivia |
| PLG | Petroleum Liquified Gas |
| NGV | Natural Gas Vehicle |
| IBCE | Instituto Boliviano de Comercio Exterior |
| ICM | Impuesto Complementario de la Minería |
| FDI | Foreign Direct Investment |
| ISO | International Standards Organization |
| MAEC | Ministerio de Asuntos Exteriores y Cooperación del Reino de España |
| MAS | Movimiento Al Socialismo |
| Mcmpd | Million cubic metres per day |
| MDG | Millenium Development Goals |
| PAE | Pan American Energy |
| PDVSA | Petróleos de Venezuela SA |
| GDP | Gross Domestic Product |
| PLUS | Plan de Uso del Suelo |
| PND | Plan Nacional de Desarrollo |
| RIE | Real Instituto Elcano |
| MR | Mining Royalty |

| | |
|--------|---|
| CSR | Corporate Social Responsibility |
| SOBOCE | Sociedad Boliviana de Cemento SA |
| TIPNIS | Territorio Indígena y Parque Nacional Isiboro-Secure |
| TDE | Transportadora de Electricidad |
| UDAPE | Unidad de Análisis de Políticas Económicas y Sociales |
| UNCTAD | United Nations Conference on Trade and Development |
| YPFB | Yacimientos Petrolíferos Fiscales de Bolivia |

Summary

Changes in the recent history of Bolivia have drawn attention to the role that Foreign Direct Investment (FDI) has in development, and to the impact of new rules that are redefining the relationship between the State and transnational corporations. These changes in the rules of play represent a trend that has appeared in various countries in the region and which could continue to deepen, as demonstrated by recent events concerning Repsol in Argentina and Red Eléctrica Española (REE) in Bolivia. As a result of the accumulation of their investment and the strategic relevance of the sectors in which they concentrate, Spanish multinationals play a crucial role on the continent, and it is therefore imperative to analyze the impact of their activity when checking the consistency of their claims to legitimacy, in both past and potential disputes. This paper provides a step forward in the ongoing analytical assessment of the presence of foreign investment companies and investment projects in specific developing countries (in this case, Bolivia), and toward that purpose it applies the Elcano Royal Institute's Foreign Direct Investment (FDI-D) analytical framework. We analyze three sectors that have been major recipients of foreign investment in Bolivia and which play a crucial role in the economy: hydrocarbons, mining, and agribusiness. In addition to contributing to the theoretical reflection on methodological and epistemological capabilities when evaluating such phenomena, this paper provides some practical conclusions for the country. Although the effects vary, there is tension between an increasingly positive contribution in areas easily modified by legislative action, such as fiscal action, and the need (at the expense of generating risk for development if it fails) of a greater contribution to development-related aspects, more specifically those linked to the domestic market.

(1) Introduction: the political role of transnational corporations

Bolivia is a major recipient of both Foreign Direct Investment (FDI) and Spanish cooperation, and it is considered a country of "comprehensive partnership" by the Spanish Agency for International Development Cooperation (*Agencia Española de Cooperación Internacional para el Desarrollo, AECID*)². This combination makes Bolivia a particularly relevant case when applying the "FDI-D analysis framework" prepared by the Real Instituto Elcano (RIE), a framework rooted in the experience of the RIE in economic policies for development (Olivié and Sorroza, 2006). A first version of the framework was produced as a working paper of the RIE (Olivié et al., 2010).³ The framework is constantly being modified in light of the findings resulting from the fieldwork where it has been applied: first in the Dominican Republic (Macias and Perez, 2011), then in Brazil (to be published as a RIE working paper), and currently in relation to a working paper on Bolivia. The final version of the framework was presented at the congress of the European Association of Development Research and Training Institutes (EADI) held in York in September 2011 (Olivié et al., 2011). The FDI-D framework makes it possible to reflect on the impact of FDI on development based on an analysis

² Defined by the *Plan Director de Cooperación Española 2009-2012*, MAEC, 2009.

³ With the financial support of the Ministry of Foreign Affairs and Cooperation (*Ministerio de Asuntos Exteriores y de Cooperación (MAEC)*).

at the investment project level. This working paper analyses some selected cases ranging from the traditional to the primary-exporting sectors, which play an important role in discussions concerning the structural change in Latin America (Ocampo, 2006). The selected sectors are hydrocarbons, mining, and agribusiness. The specific cases analyzed in more detail are the investments of Repsol-YPF in Campo Margarita (Tarija), the investment of the Indian company Jindal in the Mutún iron reserves (Santa Cruz), and the oilseed agribusiness (also in Santa Cruz), a complex cluster formed by several companies with foreign capital. In the Conclusions section of the paper, a summary is presented of the contribution of the framework to understanding the cases analyzed, as well as of their contributions to the development of Bolivia.

The political role of transnational corporations

The relevance of analyzing the impact of transnational corporations (TNCs) in a country like Bolivia is justified by the political, social, media, and of course economic significance that foreign investments enjoy in the country, especially since the capitalization of public enterprises – that is, the participation of private and State capital in joint ventures. This was a way for foreign capital to enter the country in the 1990s, meant to privatize the public sector and reduce the State's role in the economy. This privatization process, and the impact of transnational management, represented an era of understanding and collaboration between the State and the multinationals, but it resulted in two well-known episodes of social unrest: the "water war" of 2000 and the "gas war" of 2003, which took their toll on various governments until the electoral victory of Evo Morales in 2005.

With the deployment of soldiers and officials in the gas fields at the beginning of 2006, Morales stepped in to nationalize Bolivia's hydrocarbons, giving way to the so-called "October agenda" that resulted from the 2003 protests. The process was similar in the mining sector, where the Mining Corporation of Bolivia (COMIBOL) had virtually disappeared (as had *Yacimientos Petrolíferos Fiscales de Bolivia* (YPFB) in the hydrocarbons field), relegated to an almost symbolic supervisory presence. Its revival gave way to a model of coexistence with transnational corporations (TNCs) and other smaller private stakeholders, assuring State control of the production process as a whole. For a time, nationalization also affected telecommunications, as was the case with *Empresa Nacional de Telecomunicaciones* (ENTEL), whose capital belonged to Euro Telecom International of Italy. Later, the electricity business was also affected when Bolivia's *Empresa Nacional de Electricidad* (ENDE) absorbed companies with French and British interests, while Spanish capital continued to be present in transport and distribution: *Red Eléctrica Española* (REE), until the nationalization of its subsidiary *Transportadora de Electricidad* (TDE) was announced in May 2012; and Iberdrola, in the distribution business in some urban centres, but with less presence.

Table 1. Nationalizations in Bolivia

| Date | | Company | Sector |
|------|-----------|---|----------------------|
| 2006 | May | Chaco; Andina; Transredes | hydrocarbons |
| 2007 | January | Aguas de Illimani | water and sanitation |
| | February | Vinto | mining |
| | May | Empresa Nacional de Telecomunicaciones (ENTEL) | telecommunications |
| 2008 | May | Compañía Logística de Hidrocarburos de Bolivia (CLHB) | hydrocarbons |
| 2009 | May | Air BP | hydrocarbons |
| | September | Corani; Valle Hermoso; Guaracachi | electricity |
| 2010 | April | Empresa de Luz y Fuerza Eléctrica (ELFEC) | electricity |
| | May | Corani; Valle Hermoso; Guaracachi | electricity |
| | | Planta de Fundición de Antimonio; Allied Deals PLC | mining |
| | September | Sociedad Boliviana de Cemento S.A. | Cement |
| 2012 | January | Pan American Energy (PAE) | hydrocarbons |
| | May | Transportadora de Electricidad (TDE) | electricity |

Source: Prepared by the author using Millennium Foundation (2011) data.

This change in the rules agreed upon by the State and the TNCs also sets the period of time examined in this working paper, from the mid 1990s (with the process of capitalization of public enterprises, and the opening-up to massive FDI) to the present, from which point we can evaluate the initial results of nationalization and how it has affected certain strategic sectors of the Bolivian economy. To be clear: not all sectors where foreign capital is present have been nationalized. In fact, the performance of the agribusiness sector is vital to the Bolivian economy –specifically the production of oilseeds in the eastern region– and this has remained in private hands, including major transnational companies. However, one can see that the State has not refrained from taking measures that indirectly guarantee political or social goals beyond the logic of private business.

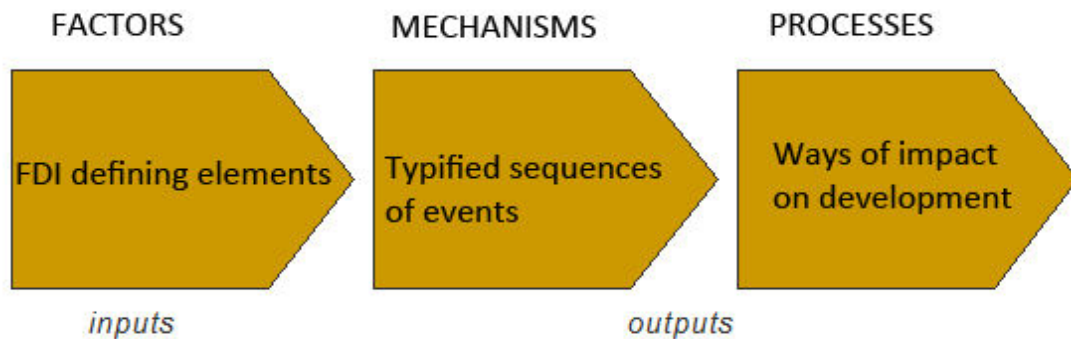
The FDI-D framework

To explain the impact of FDI on development, the framework highlights the underlying relationships developed, from the arrival of foreign investment to its ultimate impact on development (Figure 1). The impact of FDI (high, low, or neutral) is considered the end result of a sequential chain of factors.⁴ Firstly, some factors define the investment project, the legal framework, and the socio-economic structure of the country in which investment is made. The combination of specific factors in a given investment project triggers the mechanisms that explain, ultimately, the impact of FDI on some of the five domains or development processes identified in the framework. These five processes are the main methods of influencing development: (1) the equilibrium of the balance of payments (BOP), (2) the provision of public goods, (3) the provision of private goods, (4) improvement of the employment structure, and (5) structural change. Thus, a given

⁴ Annex 1 includes a complete list of the processes, mechanisms, and factors of the FDI-D framework.

investment project could have a positive effect on some of these processes, a neutral effect on others, and a negative effect in the remainder.

Figure 1. The sequence of the FDI-D framework



Source: Olivié, Perez and Macias (2010).

Since an impact of investment will be present in one, several, or all processes, and given that this impact can be explained, in turn, thanks to the successful combination of factors, this working paper is divided into sections. Each section corresponds to one of the processes and describes the impact on the sectors and the cases observed. The proposal is not to assess the role of each sector on development as a whole (as if this impact were the result of something intrinsic to the sector), but to examine the variables that explain, for each process, why a particular case in a particular sector has the effect that it has. The aim is to draw conclusions about the relevance of promoting some factors, or to contest the persistence of others. To meet this aim, each section will recreate the connection (or absence of connection) between factors that gives way to the triggering mechanisms that explain the impact on the process in question.

The process of gathering diverse information involves a combination of desk research work (the analysis of primary and secondary sources) and fieldwork consisting of semi-structured interviews with key stakeholders. A total of 36 interviews were conducted in two visits to Bolivia between December 2011 and February 2012. Those interviewed were in charge of foreign investment companies in the country, political representatives of the government, representatives of the national public administration, analysts of the various sectors examined, representatives of the Spanish public administration (including the business environment and development cooperation), and representatives of Bolivian civil society.

(2) Investments that stabilize the balance of payments

The influx of FDI may promote stabilization of the balance of payments (BOP), which does not necessarily mean that the BOP should have a positive balance on the current account. FDI inflows can be used precisely to sustain a current account deficit which is offset by surpluses in the financial account. Moreover, FDI flows related to export activities have the virtue of reducing the trade deficit by increasing exports. In addition, the contribution of currency that involves FDI flows or exporting activity derived there

from plays an important role in maintaining the stability of the country's reserve level, ensuring the necessary liquidity for a positive macroeconomic climate.

We believe that the balance occurs when the BOP structure is sustainable and does not erode the country's macroeconomic stability. In the event that the BOP is affected by some kind of imbalance, it is necessary to evaluate the role played by the various types of FDI received and their ability to correct this through inflows of currency, funding, and/or current deficit reduction.

Net capital inflow: declining investment, long before the crisis

The net inflow of capital is an essential mechanism for FDI to have a stabilizing effect on the BOP. We are interested in the period that commenced with the strong inflow of FDI in the mid-1990s (see Table 2) and that is characterized by the capitalization or privatization of all State enterprises, and by new foreign investment in gas extraction.

The instability resulting from social protests and the referendum on the (re)nationalization of gas in 2003 caused a marked reduction in FDI flows. This reduction is the result of a decline in confidence in the country's governance and legal security. Thus, based on UNCTAD data,⁵ the country's FDI stock grew from \$1,500 million in 1995 to \$6,500 million in 2002, but it did not reach the maximum (\$6,850 million) until 2010.

The importance of FDI was particularly noticeable when reviewing the Gross Fixed Capital Formation (GFCF) in the late 1990s and early 2000s, when it represented more than 50%. This phenomenon shows a model with heavy reliance on foreign investment to accumulate capital. This dependency has reduced in recent years: despite flows returning to high levels in the 1990s, it represented just 17% of GFCF in recent years. In other words, gross domestic investment to GDP has become relatively independent of FDI; therefore the low weight of FDI in GFCF has been compensated for by private and public investments in Bolivia.

Another consequence of the net inflow of FDI and where it can play a crucial role is in stabilizing the BOP financial account. Table 2 shows that although there appeared to be a correlation between both variables in the 1990s, the arrival of Morales created an instability of the financial account independent of the inflow of new FDI.

⁵ United Nations Conference on Trade and Development.

Table 2. Financial account balance and FDI net inflow (millions of dollars)

| | Financial accounts balance | Net FDI |
|-------------|-----------------------------------|----------------|
| 1995 | 505.2 | 390.7 |
| 1996 | 701.0 | 472.0 |
| 1997 | 889.9 | 728.2 |
| 1998 | 1 181.6 | 946.5 |
| 1999 | 868.2 | 1 007.7 |
| 2000 | 461.8 | 733.6 |
| 2001 | 440.7 | 703.3 |
| 2002 | 649.0 | 674.1 |
| 2003 | 28/03/12 | 194.8 |
| 2004 | 375.0 | 82.6 |
| 2005 | 128.8 | -290.8 |
| 2006 | -1 819.7 | 284.5 |
| 2007 | -723.0 | 362.3 |
| 2008 | 368.6 | 507.6 |
| 2009 | -139.2 | 425.7 |
| 2010 | 860.1 | 650.8 |
| 2011 | 1 295.2 | 746.6 |

Source: UNCTAD and ECLAC.

However, when flows began to increase again, the financial account returned to surplus. Consequently, we can see that this mechanism has lost relative importance over the last decade, although FDI continued to arrive.

Despite the international financial crisis, the recovery of flows has put the focus of attention on investment in natural resource extraction (Table 3). In its totality, investments in hydrocarbons exceeded the \$1,200 million of 2011, and the investment planned for 2012 represented more than \$2,050 million. However, 70% comes from the state-owned YPF, and the percentage dedicated to the exploration of new reserves has been reduced.

Table 3. FDI distribution by sector in Bolivia (millions of dollars)

| | 2005 | 2006 | 2007 | 2008 |
|--------------------------|-------------|-------------|-------------|-------------|
| Natural resources | 363 | 146 | 441 | 862 |
| Manufacturing | 31 | 52 | 89 | 102 |
| Services | 274 | 308 | 343 | 368 |

Source: ECLAC.

Despite the political rhetoric of the leaders of Evo Morales' *Movimiento al Socialismo* (MAS) party, the truth is that, in times of political mobilization of their bases, the government has continued to express the need to increase FDI inflows in collaboration with TNCs: either those already present (Repsol-YPF, Petrobras, PDVSA, Total, and British Gas (BG)) or others that may arrive. In this sense, Repsol-YPF is carrying out an investment plan of \$1,200 million in Campo Margarita until 2014. This is one of the

few private investments for ensuring increased production of gas, the country's main export.

Growing exports

Bolivian exports have increased at a growing rate in recent years, turning the current account deficit around. However, FDI did not translate into an increase in exports during the period of privatization, but only after the State began to tighten its control over gas exports (Table 4) in 2003. Likewise, FDI did not help to reduce the trade deficit until that same year.

Table 4. Impact of exports of goods on the current account (millions of dollars)

| | The current account | FOB exports | Balance of trade |
|-------------|----------------------------|--------------------|-------------------------|
| 1995 | -302.5 | 1 041.4 | -182.3 |
| 1996 | -404.3 | 1 132.0 | -236.0 |
| 1997 | -553.5 | 1 166.6 | -477.0 |
| 1998 | -666.1 | 1 104.0 | -655.5 |
| 1999 | -488.0 | 1 051.2 | -487.8 |
| 2000 | -446.4 | 1 246.1 | -364.1 |
| 2001 | -274.0 | 1 284.8 | -295.2 |
| 2002 | -351.9 | 1 298.7 | -340.0 |
| 2003 | 84.9 | 1 597.8 | 100.2 |
| 2004 | 337.4 | 2 146.0 | 421.4 |
| 2005 | 622.5 | 2 791.1 | 608.5 |
| 2006 | 1 317.6 | 3 874.5 | 1 242.5 |
| 2007 | 1 591.2 | 4 458.3 | 1 214.8 |
| 2008 | 1 992.7 | 6 526.5 | 1 762.4 |
| 2009 | 813.5 | 4 917.5 | 773.9 |
| 2010 | 902.5 | 6 290.5 | 906.8 |
| 2011 | 877.8 | 8 271.2 | 650.2 |

Source: ECLAC.

Exports of goods related to extractive sector recipients of FDI that were examined in this paper have been the most important. Table 5 shows the respective roles of hydrocarbons, mining, and agribusiness.

Table 5. Value of the top 10 Bolivian exports in 2011

| | current Million USD |
|--------------------------------|------------------------|
| Natural Gas | 2.797.774 |
| Zinc and zinc concentrates | 87.489 |
| Silver and silver concentrates | 683.746 |
| Soybean meal | 308.706 |
| Rough tin | 291.996 |
| Soybean oil | 157.908 |
| Lead and lead concentrates | 156.689 |
| Crude oils | 144.237 |
| Rough silver | 99.640 |
| Brazil nuts | 94.543 |

Source: Bolivian Institute of Trade (Instituto Boliviano de Comercio Exterior - IBCE)

Agricultural exports doubled from \$625 million in 2005 but maintained a relative share of total exports of around 18%. Since 1990, the cultivated surface area has grown at an average of 8%, although in recent years it has not increased significantly. International prices, rather than the yield per hectare, explain this situation. When examining the soy cluster –the set of agro-industrial activities related to planting and processing soy– exports exceeded \$600 million in 2011 (soybean meal, refined or unrefined soybean oil, soy flour, soy seeds, and soybeans).

Following hydrocarbons and minerals, soy exports are the most important for Bolivia (Table 6). This is a relatively recent cultivation introduced by Mennonites and Japanese colonies in the 1950s. Various public policy plans have focused on agricultural development in Santa Cruz, such as the Lowlands Development Project for infrastructure financed by the World Bank (WB) in the 1980s. These plans explain the current situation of the region. Since 1990, the sown area has multiplied six-fold. According to the 2009 *Uso del Suelo* plan (Use of the Soil, PLUS) of Santa Cruz, there is no land available for intensive cultivation of soybeans. In fact, for several years the cultivated surface appears not to have increased, although there is improved use of winter campaigns.

The arrival of foreign companies in the last decade cannot be ignored when explaining the role of soy. The main investments were acquisitions of existing businesses, such as the acquisition of SAO by ADM (Archer Daniels Midland). However, investments for expansion were made at a later stage. Gravel, of mainly Colombian and American capital, was settled with greenfield investments and later acquired by Venezuelan capital. The multinational Cargill is also present, but other major players are Bolivian companies like Industrias Oleaginosas SA, Intergrain SA, El Productor SRL, and the Peruvian-Bolivian Industrias de Aceite SA. Agricultural supplies companies, such as the multinationals Monsanto and Syngenta, sell seeds and agrochemicals to local distributors, who make direct sales to farmers.

Table 6. Exports of soy or derivatives in 2011

| | Current million USD | Export ranking |
|---------------------|------------------------|-------------------|
| Soybean meal | 308.706 | 4 |
| Soybean oil | 157.908 | 6 |
| Soybean flour | 34.133 | 19 |
| Soybean refined oil | 20.702 | 25 |
| Soybean | 19.433 | 26 |

Source: IBCE.

The international price of commodities is a variable that must be considered given its weight in Bolivian exports, although it is not a factor of the FDI-D framework used for this analysis. Gas export prices to Argentina and Brazil depend on secure contracts that guarantee supply from Bolivia. However, these contracts have mechanisms for the regular renegotiation of export prices, which in recent years has made possible a significant increase in prices.

In the case of mining, prices started to fall sharply from the mid-1990s, following the global trend until 2003; they started to recover in 2004. When considering total mining extraction, mining exports represent an even higher percentage than hydrocarbons, since there is practically no production for the domestic market. However, their share in exports has reduced as a result of the significant growth of hydrocarbons. Consequently, not only have exports increased, both in volume and value, but the terms of trade for the country have improved. On the other hand, net inflows of capital and increased exports explain the spectacular growth of reserves of the Central Bank of Bolivia (BCB), adding to the macroeconomic stability. Reserves rose from \$1,714 million in 2005 to more than \$12,000 million at the end of 2011, or nearly 50% of GDP. This made it possible for the BCB to grant loans to strategic sectors, mainly to new investments in hydrocarbons.

(3) Investments that provide public basic goods and basic and non-basic services

A process that may favor FDI, and which is more interesting from the social and environmental standpoint, is the greater availability of goods and services that represent a society's capability to better meet its needs.

The impact is regardless of whether goods and services are provided by public or private institutions. However, in this analysis we deal with a concrete, real case and must therefore refer explicitly to the actors that manage these goods and their accessibility. Thus, certain goods and services stem from the efforts of the public administration in its role as provider of social services and benefits to ensure growth with equity. This analysis is performed in this section.

The institutional factors that guarantee public benefit from the wealth derived from TNC activity play a key role in the direct or indirect contribution that FDI can have in the provision of public goods (literature in this regard is very abundant, see Willem te Velde, 2001, and for the Bolivian case, Paz and Ramirez, 2011). The contribution of FDI

in the direct or indirect provision of public goods plays a role. The Political Constitution of the State (*CPE Constitución Política del Estado*) defines the State as the manager of strategic sectors and the country's natural resources, prioritizing the needs of the domestic market and considering exports as a secondary use of the surplus. Legislative changes have had most impact in the hydrocarbon sector. Hydrocarbons Law 3058, Supreme Decree 28701, and contracts between oil companies and the State (renegotiated in 2006) represent the key changes in the legal framework. These have an effect on tax burden, nationality requirements, and guarantees of universal access.

The opening of the oil market is determined by both agreements to export gas to Brazil and Argentina and by potential future agreements. These bilateral agreements are necessary, due to the technical characteristics of the sector; the transportation of oil is done mainly through expensive pipelines, making it necessary to secure markets for large volumes, which implies long-term negotiations. In fact, the current export agreement with Brazil was forged in 1974 and did not enter into force until 1999. Regarding taxation and public spending, these changes involve a marked increase of tax revenue and royalties on hydrocarbon exports (see Table 7). Since YPF is the gas exporter, these revenues do not come for the most part from TNCs. The role of TNCs is to enter into a partnership with subsidiaries of YPF (Repsol-YPF has 48.9% of YPF Andina) or to provide services to YPF. Both alternatives have involved a major change in the nationality requirements. Repsol-YPF provides services to YPF in Tarija, Chuquisaca, and Cochabamba as Repsol YPF E&P Bolivia SA. Recent data indicates that YPF's oil revenue has generated a total of \$12,424 million since the arrival of Morales. In 2011, revenue reached \$2,945 million, up 33% from the previous year. The five years prior to changes to the legal framework generated \$1,600 million for government coffers.

Table 7. Payment of royalties and shares from the oil sector (thousands of dollars)

| DETALLE | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| DEPARTAMENTOS | | | | | | | | | | |
| COCHABAMBA | 20.329 | 18.422 | 23.268 | 29.405 | 29.427 | 30.849 | 35.189 | 46.360 | 28.346 | 30.177 |
| CHUQUISACA | 5.122 | 3.176 | 3.584 | 4.629 | 4.961 | 8.291 | 11.818 | 23.710 | 14.765 | 19.559 |
| SANTA CRUZ | 25.196 | 23.478 | 25.005 | 28.901 | 30.794 | 38.312 | 40.943 | 62.544 | 42.623 | 66.205 |
| TARIJA | 14.754 | 19.491 | 38.410 | 66.036 | 115.205 | 157.912 | 180.552 | 270.017 | 179.080 | 251.699 |
| A. TOTAL REGALÍA 11% | 65.400 | 64.566 | 90.268 | 128.972 | 180.387 | 235.365 | 268.502 | 402.631 | 264.815 | 367.641 |
| BENI: 2/3 | 3.964 | 3.913 | 5.471 | 7.816 | 10.933 | 14.265 | 16.273 | 24.402 | 16.049 | 22.290 |
| PANDO: 1/3 | 1.982 | 1.957 | 2.735 | 3.908 | 5.466 | 7.132 | 8.136 | 12.201 | 8.025 | 11.145 |
| B. TOTAL REGALÍA NAL. COMPENSATORIA 1% | 5.945 | 5.870 | 8.206 | 11.725 | 16.399 | 21.397 | 24.409 | 36.603 | 24.074 | 33.435 |
| C. TOTAL REGALÍAS (11% + 1%) (A+B) | 71.346 | 70.436 | 98.474 | 140.697 | 196.786 | 256.761 | 292.912 | 439.234 | 288.889 | 401.076 |
| PARTICIPACIÓN T.G.N. (2) | 79.583 | 65.871 | 72.941 | 80.724 | 28.380 | 128.381 | 146.456 | 219.617 | 144.444 | 200.612 |
| PARTICIPACIÓN Y.P.F.B. (3) | 37.025 | 36.345 | 48.265 | 65.890 | 92.215 | 282.261 | 134.175 | 0 | 0 | 0 |
| D. TOTAL PARTICIPACIONES T.G.N. - Y.P.F.B. | 116.608 | 102.216 | 121.207 | 146.614 | 120.595 | 410.641 | 280.631 | 219.617 | 144.444 | 200.612 |
| TOTAL ESTADO (C+D) | 187.954 | 172.652 | 219.681 | 287.310 | 317.381 | 667.402 | 573.542 | 658.851 | 433.333 | 601.688 |

(1) De conformidad con el D. S. N° 24577 (abril 1997), D.S. N° 28222 (junio 2005), D.S. N° 28223 (junio 2005) y D.S. N° 29528 (abril 2008).

(2) Durante la vigencia de la Ley N° 1689 la participación del T.G.N. provino del 13% más un porcentaje variable (aproximadamente 32%) del valor en punto de fiscalización de la producción de los campos denominados existentes. Desde la promulgación de la Ley N° 3058 el 6% correspondiente a Y.P.F.B. hasta entonces pasa al T.G.N.

(3) La participación de Y.P.F.B. fue de 6% (1/3 del 18% recaudado por regalías) hasta mayo 2005. Entre mayo 2006 y mayo 2007 la participación de Y.P.F.B. provino del 32% de los ingresos de Sabalo y San Alberto. A partir de mayo 2007 la participación de Y.P.F.B. proviene de la distribución de utilidades emergentes de los contratos de operación.

Source: Unidad de Análisis de Políticas Económicas y Sociales (UDAPE).

We observe later that the main problem for the industry is the lack of new investment in exploration. This is explained by the limitations encountered when triggering a crowding-in, which results from issues within the legal framework. This lack of investment is limiting the increase of the investment stock in the sector because, although FDI is still flowing, it is doing so at a comparatively slower rate than might be expected, as proved by the increasing flows in this sector to other countries in the region.

The absence of new investments suggests that there is untapped potential for repatriation of capital, which would negatively affect the BOP. However, this is not the case in Repsol-YPF's investment in Margarita; their investments require the reinvestment of profits, avoiding taxes on repatriation of profits.

Contribution to expanding public spending

The impact on the provision of public goods through government spending occurs primarily through progressive taxation and has resulted in an increase in the budgets of those institutions with access to taxes derived from economic activities involving foreign investment. In the case of hydrocarbons, this is a complex and diverse set of local and national institutions, along with other institutions such as the police and public universities.

This complex distribution of surpluses leads to regional tensions when determining the beneficiaries. Income derived from gas produced in Margarita has been a source of confrontation between Chuquisaca and Tarija. In the short term, Margarita's gas production will increase from 3 million to 9 million cubic meters per day. Currently, exports are around \$300 million, 50% of which have an impact on Tarija, and an increase in production could mean a rise to as much as \$900 million. The central government is promoting studies to determine whether some gas reserves are located in neighboring Chuquisaca, which would benefit from it.

The Juana Azurduy protection program receives contributions from the World Bank and is intended to assist more than 200,000 pregnant women and mothers of children under two years of age. This program sets its sights on Millennium Development Goals (MDGs) 4 and 5, in which Bolivia has made significant progress, although challenges remain in this area. The infant mortality rate stands at 41.5 (per 1,000), while the MDG is set at reaching 27.3 by 2015. The gap is considerable, but so have been the advances: in 2005 the rate was 50.1. Maternal mortality was 220 per 100,000 births in 2005. In 2008, that rate had dropped to 180, and by 2015 it should reach 104. The Juancito Pinto program, meanwhile, is intended to assist over 1,800,000 school children, and its objective is to discourage absenteeism, which has been reduced by 50% in recent years, according to government data.

With the large influx of resources, the State has also launched a series of public enterprises in order to ensure basic supplies. There is much debate about the suitability of these companies, since very few are financially sustainable. These initiatives result

from the view that it is legitimate to protect and subsidize the internal market. In this sense, the subsidizing of imported gasoline to supply the internal market has been the main measure taken. In 2004, a decree set a price band for oil between \$24.53 and \$27.11 per barrel. The top price is well below the international price of recent years, and so the changes in petroleum product prices in Bolivia are disconnected from international markets. Bolivia produces natural gas, but little oil. Gasoline and diesel are the main imports, up from \$650 million in 2011. At the end of 2010, a presidential decree eliminated, without advance notice, subsidies on gasoline, thus avoiding a cost that would have exceeded \$350 million in that year. Gasoline and diesel prices rose by 73% and 82%, respectively, in a single day, causing considerable social ferment. The so-called "gasolinazo" was finally overturned, representing a major political defeat for Morales. The financial problem, however, persists.

In mining, there have also been significant changes in the legal aspects that affect tax revenues. The 1997 Mining Code was amended at the end of 2007, and in 2008 Tax Regulation was approved. The Complementary Mining Tax (*Impuesto Complementario a la Minería, ICM*) was replaced by the Mining Royalty, or MR (*Regalía Minera, RM*), which is currently at 60%. On the other hand, the tax reform of Corporate Income (*Impuesto de las Utilidades de las Empresas, AA-IUE*) sets high export prices. In this case, the percentage of exports to be paid increases, making the most of positive international contexts. At least 85% of MR is meant to be used for public investment and is distributed directly to local and regional governments (85% to departments and 15% to productive municipalities). At least 10% of what is received by the prefectures must be invested in exploration, production recovery, and environmental monitoring. The draft of the new Mining Law, which is expected to be approved in the near future, aims to solve the lack of investment in exploration, at only \$20 million in 2011. Thus, new investments in Bolivia will have to contribute a percentage to new explorations when obtaining a contract for use and development of a mining area.

Social consensus and environmental sustainability of investments

Other mechanisms that may be contributing to the availability of public goods include social dialogue, good management of natural resources, and the uptake of clean technologies. The environmental policy of Repsol-YPF in Margarita is even more restrictive than national legislation dictates. However, there are important legal reforms that should further demonstrate their effectiveness, like the Agro-environmental Court (*Corte Agroambiental*), which would have jurisdiction over the three sectors examined in this paper.

Investment projects require not only environmental permits but also the consensus of the community (when development occurs in areas that belonging to a given community, which is very common). In a country of such significant demographic diversity, TNCs are not the only ones facing community resistance in such negotiations; some of the government's own initiatives have been likewise resisted. One of the major projects of YPFB, the liquid separation plant in Rio Grande (for Liquefied Petroleum Gas), has been challenged due to issues related to consultation with the Guaraní

communities in the area. The most famous case was a dispute between certain communities in the Indian Territory and the Isiboro-Secure National Park (TIPNIS) and the government held in 2011. The local communities managed to block the infrastructure project, which involved a strategically relevant highway for connecting the country with Brazil, improving export routes.

These are not isolated cases. In terms of social dialogue, both the hydrocarbons and mining sectors have been characterized by a long history of controversy over the social and environmental impact of their activities. The organizational level of civil society varies from one region to another, but it has been comparatively strong in Bolivia, which explains why many of these disputes have turned into confrontation. However, TNCs have actively sought consensus.

In the mid 1990s, conflicts arose with Guaraní communities near Margarita and Huacaya. These fields are operated by Repsol-YPF, although 37.5% of them belong to BG and 25% to YPFB-Chaco. Until January 2012, YPFB-Chaco's site was occupied by Pan American Energy (PAE, originally from Argentina, although most of its capital was from British Petroleum). Nationalization of the PAE investments in January 2012 was justified by the Bolivian government for breach of commitments regarding investment. Surprisingly, this news was ignored by the media: it had little coverage at the international level or even the regional level. The Argentine government did not comment from Buenos Aires, nor from its embassy in La Paz. On the other hand, analysts interviewed agreed that the event was not politically exploited by Morales, who might have benefited at a time of low popularity.

Communities organized in the Guaraní People of Itika Guasu Assembly (APG-IG) began a process of meetings and discussions to analyze their main problems, prioritizing issues related to water, health, and lack of electricity. Regarding water, the problem was related to level reductions in the local stream, diminished by greater industrial use and affecting game and livestock. As regards the inadequate electricity infrastructure, the paradox was in having to resort to diesel instead of gas for electrification, as Repsol-YPF is under legal obligation to transfer its entire production to YPFB.

In 2010, Repsol-YPF decided to implement a new policy on community relations, developing internal rules involving the formalization of relations with APG-IG. This commitment is part of its policy of Corporate Social Responsibility (CSR), meeting the requirements of ISO 26000 on Social Responsibility, and is extensible to any of the subcontractors to operate and expand the fields. The most remarkable result was the signing of the "Itika Guasu Investment Fund" between communities and the company, which has amounted to \$14.8 million in 10 years. This fund will be invested by APG-IG through the Bank of Brazil, and the return will be invested in health, education, and housing projects, as well as other projects related to alternative economic activities such as handicrafts. Some of the initiatives covered by the agreement put the communities in direct contact with the company as it considers proposals such as an on-site cooperative laundry service (currently performed externally) which could be

undertaken by communities financed by the fund. This fund is a pioneering initiative in terms of its content and magnitude throughout Latin America, and it may be of great help to Repsol-YPF in reversing the negative image derived from previous conflicts.

The degree of community organization seems to have been a key factor in achieving these agreements. However, in the negotiation process they were assisted by the NGO Equipo Nizkor, while Repsol-YPF (at the corporate level) had collaboration from Intermón to develop its policy on community relations. This shows that when we take into account the degree of organization of a civil society, we must consider more than the local society in question, because the growing transnationalization of civil societies leads to organized groups from one country to influence outcomes in another.

Still, the good relations between Repsol-YPF and Guaraní communities have also been controversial at times, because some communities (in contradiction of Morales) have benefited in certain conflicts. Repsol-YPF has been in the midst of a complicated attempt to please all parties. Judging by Evo Morales' recent comments at the opening of one of the investments in Margarita, the company has been successful.⁶ Contrary to what has happened in other countries in the region, increases in the soybean business in Santa Cruz have not led to significant tensions around: potential crop contamination through the intensive use of agrochemicals; genetic modification of crops; or the displacement of small peasant production. Consensus was built not around social dialogue but rather via the absence of organized dissent. The use of genetically modified soy varieties resistant to glyphosate (a very aggressive herbicide) was legalized in 2005, a crucial aspect for the cluster. Under President Morales, the assumption that "if it is good for the soy sector it is good for the country" has been maintained, suggesting good understanding between the sector and the central government and hinting at the level of discourse in a political project where many social movements are strongly critical of soybean production. Significantly, there are important stakeholders in the political life of Bolivia (grouped under the generic label of "NGOs") who hold highly critical and very well articulated arguments around the potential harms of soy agribusiness; apparently, however, they have not been able to mobilize to the point of inciting serious controversy.

There is also significant criticism on how current investments are extracting natural resources without making any significant progress in industrialization, which would imply an inefficient management of non-renewables. In mining, Jindal's investments intended to change the primary export pattern by industrializing iron: steel castings manufacturing. Investments of \$2,100 million have been made with the COMIBOL to jointly form the Empresa Siderúrgica del Mutún (ESM). However, investments towards industrialization of iron, a complex and expensive process, have been delayed and/or stopped, while iron ore exports have commenced. This allows the Indian multinational

⁶ As Evo Morales, together with Antonio Brufau, president of Repsol, expressed on 1 May 2012, the day that the nationalization of TDE (*Red Eléctrica Española*, with Spanish capital) was announced expresses that: "I recognize and we recognize Repsol's leadership; it is one of the largest international companies in the world, and its investment as an associate will always be respected."

to finance new investments through a resource belonging exclusively to Bolivia, on top of the important financial success that having access to the world's largest reserves represents.

(4) Investments that provide private basic and non-basic goods and services

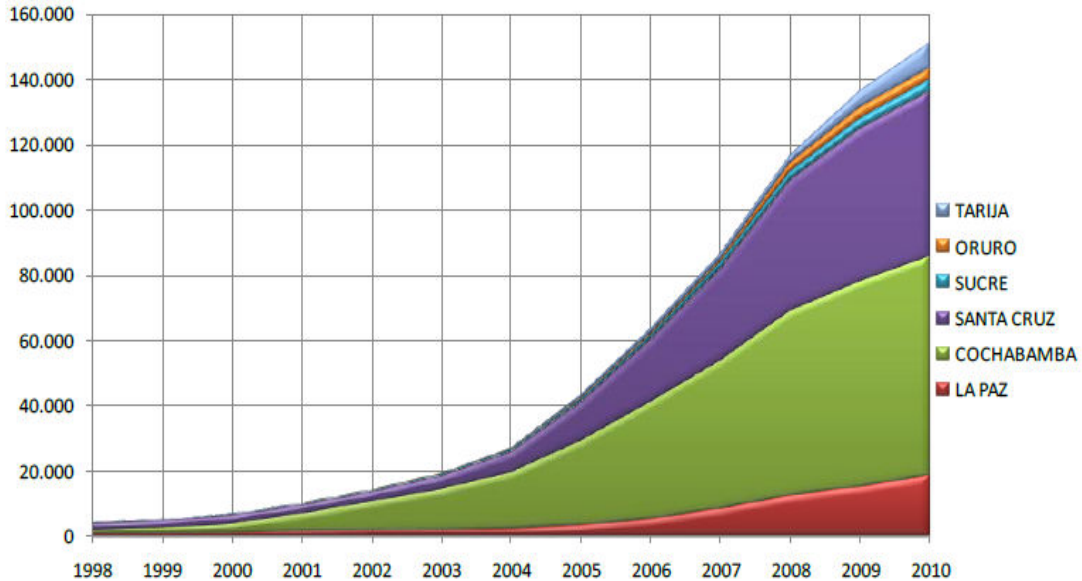
In the previous section, we addressed the ability of FDI to enhance the provision of public direct or indirect goods. In this section we examine the mechanisms which are a direct result of the current activities of a foreign company or its impact on the market and private sector through its influence on suppliers, competitors, and customers.

Contributions to the domestic market

The control that the government intends to exercise over natural resources has a clear and direct impact on the supply of oil to the domestic hydrocarbons market. This is also very important in agribusiness, but almost negligible in mining. The new legal framework allocates a percentage of hydrocarbons production to the domestic market in order to ensure "sovereignty over energy." Although this makes investments less attractive as the legal framework limits the price, it does favour the country, provided that there is no inefficient use of the resources (energy, in this case).

About 21% of the natural gas extracted in Bolivia goes to the domestic market, representing just over 8 million cubic meters per day. Nearly half of this is intended for electricity generation. Industry is the second largest consumer, accounting for 22%. In the third place, at just over 17%, is the vehicle fleet that runs on natural gas (NGV), which has grown exponentially in recent years. Given the limited domestic oil production, the State has promoted the conversion of car manufacture to NGV (the anticipated investment is \$300 million) in an attempt to reduce dependence on imported gasoline and diesel, which pollute more and are up to 60% more expensive for the consumer. Technology used for this production is not complex and has been used in Bolivia and other countries in the region (such as Argentina and Brazil) for more than a decade. More than a technological spillover, this process has been the government's attempt in the last few years (Figure 2) to reduce dependence on imported gasoline and diesel.

Figure 2. Number of vehicles authorized to use NGV



The oil supply to the domestic market is a priority and is guaranteed by YPFB. Foreign oil companies do not have a profit target in the domestic market due to the presence of a price limit. The return on investment comes from exports, but these are in turn regulated by international export contracts. Bolivian deposits are located at great depth, well below 4,500 meters. This involves large capital investments of between \$25 and \$40 million (or more) to drill boreholes. Investments in exploration are therefore a high risk borne by the TNC, while the requirement of having to partner with YPFB in the case of success is non-negotiable. These regulations limit repeat investment; therefore TNCs are not investing in exploration. Drilling is taking place in areas already in operation, with proven reserves. For example, at the end of January 2012, Total drilled the Incahuasi II borehole in Santa Cruz; the depth exceeds 5,000 meters and the cost exceeded \$90 million. It is not expected to be operational before mid-2013.

Most of the mining production is exported. As for soy, it is also intended for export, mainly to countries of the Andean Community (Venezuela, although no longer a member, but also Peru and Colombia). Soy consumption is not traditional, and therefore there is not a high demand for it in the domestic market. On the other hand, a large amount of soy product is used in the meat and poultry industries; but these are still underdeveloped in the country, so there has been no impact on domestic demand. However, it is expected that domestic demand for soy and soy products will grow in the next few years, even more so if soy is employed as animal feed.

There are export controls that give priority to the supply of the domestic market in the agricultural sector, limiting export volumes. This is because changes in international prices can affect domestic supply negatively. Different stakeholders involved in the production and export of oil have stated that streamlining of permits is a request that they regularly raise with the government. The issue with permits, meanwhile, is that the time-frame for obtaining them and the deadlines of international sale contracts do not align. However, sector leaders admit that the international demand for soybean is

so high that this situation does not cause significant risks. Currently, only 25% of the soy cluster's total production is intended for the domestic market, especially for solvents and whole soybean flour, which is intended for the poultry (54%), dairy (29%), and swine industries (17%).

In addition to international prices, yield per hectare also explains the soy trend, although progress in this field has been less noticeable. According to official UDAPE data, the metric ton per hectare in the mid-1990s was as high as in the first decade of the new millennium, reflecting the importance of climate. Weather aside, an increase of the yield is still far from the 2.5 tonnes that demonstrate competitiveness in the sector at the international level (according to ANAPO, yields rarely reach 2 tonnes per hectare). The relatively high land prices in Brazil and Argentina explain why investments continue to be made.

Table 8. Soybean processing companies in Santa Cruz

| Agroindustrial company | Origin | Producción para el mercado interno | Export oriented production | Main markets | Means of transport |
|--|---------------|------------------------------------|----------------------------|---|-------------------------|
| ADM-SAO | Multinacional | 20,00% | 80,00% | Venezuela; Colombia; Perú; Chile; Ecuador | Terrestre y fluvial |
| Gravetal Bolivia SA | Venezuela | | 100,00% | Venezuela; Colombia | Fluvial |
| Industrias Oleaginosas SA | Bolivia | 20,00% | 80,00% | Venezuela; Colombia; Perú; Chile | Terrestre y fluvial |
| Industrias de Aceite SA | Perú/Bolivia | Aceite (50%); Harina (20%) | Aceite (50%); Harina (50%) | Perú; Chile; Venezuela; Colombia; Ecuador; República Dominicana | Terrestre y ferroviario |
| Cargill Bolivia SA | Multinacional | | 100,00% | Colombia; Venezuela; Perú; Argentina | Terrestre y fluvial |
| Hugo Spechar González/Granos | Bolivia | | | Perú; Chile; Venezuela; Colombia | Terrestre |
| Cop. Agro. Integral Colonias kinawa/CAIC | Bolivia | | | Perú | Terrestre |
| Empresa de Transformación Agroindustrial | Bolivia | | | Perú | Terrestre |
| ITIKA | Bolivia | | | Chile; Venezuela; Colombia | Terrestre |

Source: IBCE and Asociación Nacional de Productores de Oleaginosas (ANAPO).

The presence of multinational suppliers of agricultural inputs does not seem to have had a significant impact on yields. However, the emergence of foreign companies in the processing business has not eradicated the presence of companies of national capital, which were competitive enough to withstand and even exploit the new competitive conditions.

Meanwhile, soy consumption is growing and is encouraged by the government. One example is the State's soy yogurt processing plant, funded by the United Nations Food and Agriculture Organization (FAO) and with technical support from Cuba. Starting from very low levels, soy consumption may represent an innovation as it is a very valuable source of protein. In turn, using soy feeds for local livestock (cattle and poultry) has a downward impact on the price of commodities such as eggs and milk. Therefore it is of great interest to the government to ensure domestic supply at a time of high international prices.

The government has also tried to control prices by setting up state enterprises. Sugar is a strategic business with access to loans from the BCB. For other basic consumer items, the *Empresa Apoyo a la Producción Agropecuaria*, EMAPA (Enterprise for the Support of Agricultural Production) is directly involved in collection and distribution processes.

Productive chain

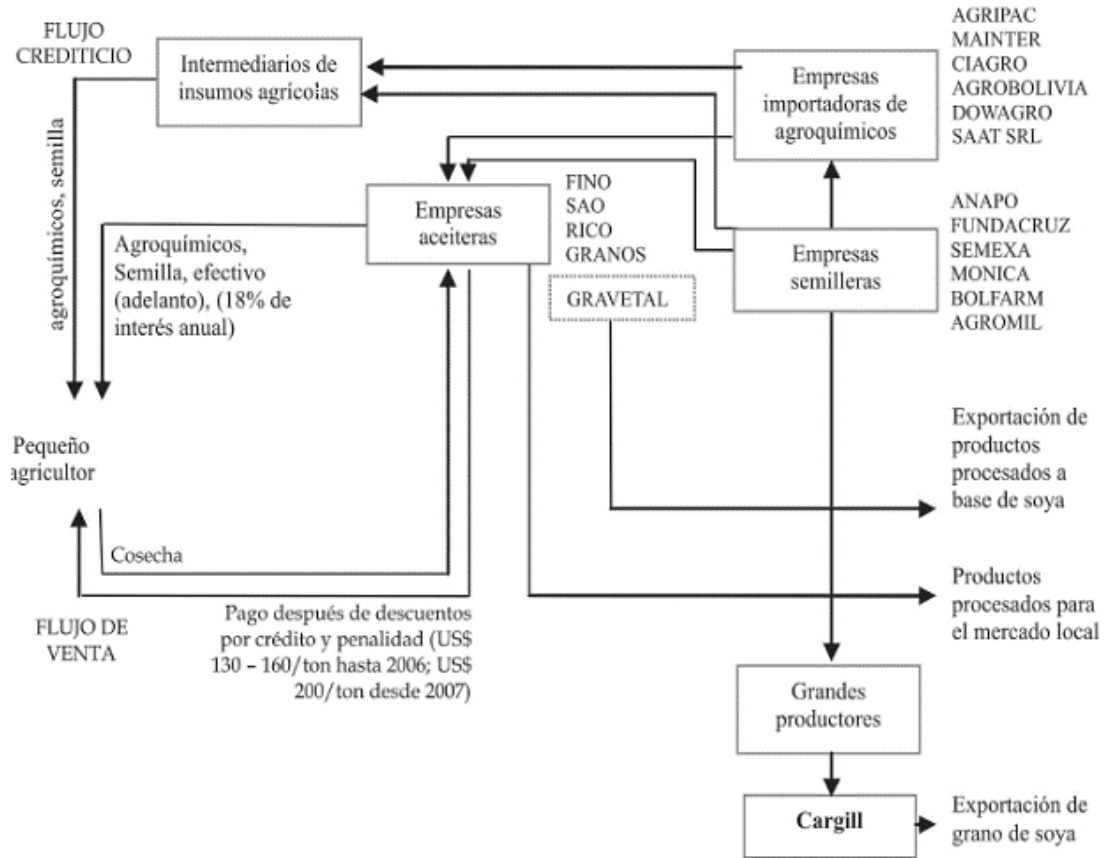
Investments in mining and oil have historically been niche investments, with little contact with the national industrial base. Nationalization and State control of the Vinto smelter represents an attempt to control the production chain as much as possible; in this case in the tin business. Agreements with Jindal for the Mutún megaproject seek to overcome the primary-export specialization. The Margarita investment clearly maintains its characteristic of being a niche, but the company's CSR seeks to limit negative impacts (such as the concerns regarding the future career paths of contractors hired by the company). The hydrocarbon industry requires a powerful supporting industry consisting of contracting, technical management, etc. Some have pointed out that the arrival of TNCs in the 1990s meant the depression of YPF's domestic supporting industry.⁷ This was replaced by more internationally competitive counterparts, whether it was due to their technical capabilities or their ability to adjust to international standards, or because of a history of delivering professional services to the contracting TNCs.

The significant investment in infrastructure needed by the hydrocarbons sector, such as the construction of plants and pipelines, explains the fact that most of the work results from the development of new plants or the expansion of existing ones. One of the beneficiaries of the expansion in processing capacity at the Margarita plant has been Spain's Técnicas Reunidas (with a contract of \$500 million), which in turn hired the Bolivian firm Bolinter and the Kaiser-Inesco consortium for execution of the work.

The investment with the most clear production chain is found in the soybean cluster. Indeed, the word "cluster" implies the linking of various stakeholders at different levels of the production process (figure 3). Thus the soybean cluster is a complex and heterogeneous group of stakeholders, from producers to processors and exporters of derivatives. As mentioned above, foreign investments focus on processors and exporters, but the foreign component is more complex and it begins with the farmers themselves.

⁷ Some of the analysts interviewed consider that a national services sector linked to the extraction of hydrocarbons was negatively impacted by the influx of TNCs, which contracted international companies already rendering them services in other countries.

Figure 3. The soybean cluster in Santa Cruz



About 80% of the 15,000 soybean farmers in Santa Cruz are small farmers with land ownership of less than 50 acres. Less than 2% of farmers have areas larger than 1,000 acres, and 70% are organized into the *Asociación Nacional de Productores de Oleaginosas* (National Association of Oilseed Producers, ANAPO), which emerged as the interface between soybean farmers and other groups, including the State. ANAPO distinguishes between farmers – Bolivian, Brazilian, Argentinean, Mennonite, Japanese, Russian, etc farmers. The Mennonites and Russian settlers are, in general, of Bolivian nationality. On the other hand, the Brazilians and Argentines arrived later (in the 1980s), when soy was already a major production in their countries of origin and the land-price difference *vis-à-vis* Bolivia was very high.

Increases in soybean production to supply to the agricultural industry reflect the ability of an intensive intermediate goods industry to create economic networks when there is capacity to supply. In this sense, it can be noted that many suppliers are also transnational companies, although there are more than a hundred companies of Bolivian capital that act as intermediaries.

Production costs per hectare are around \$460, of which \$300 is the cost of agricultural inputs. ANAPO estimates that 80% of these inputs are imported, leaving the door open for the future development of such industry in the region (while not technically complex, this would require qualified firms and sufficient investments). Another step

would be the necessary transportation infrastructure to maintain the flow of soybean, agricultural inputs, and derivatives. This would require a substantial transportation fleet (road and river), an economic activity that in itself could represent wealth for the region.

(5) Investments that improve the employment structure

Foreign investment can have a significant direct or indirect impact on the employment structure of the recipient country. The improvement of the employment structure is not limited to net job creation, which is one important aspect; it also includes aspects related to labour rights, real wages, and the professional profile of the jobs created. It is important to understand the ability of each investment to improve the country's human capital and working conditions.

The agribusiness and mining sectors have the biggest direct impact on employment of the three sectors examined. Given the small number of workers in agribusiness, the impact of this sector is less noticeable, but it has important consequences.

Relative higher wages

On average, wages in the mining sector have performed better than the Bolivian average salary, but it is in the hydrocarbon sector where the average salary is noticeably higher. Moreover, between 1996 and 2004, average earnings grew both in the Bolivian economy and in the two sectors considered (see Table 9), but the latter did so at a faster rate. This can be explained by the surprising behavior of remuneration in the hydrocarbon sector, where there was a sharp decline in 2005 due to the impact of the implementation of YPFB's low-wage policy. Wages in the mining industry tend to be lower than in hydrocarbons, largely due to the less technical, less specialized profiles of most jobs.

Table 9. Average remuneration in the hydrocarbon and mining industries, and in general, expressed in Bolivianos

| Year | General | Hydrocarbon | Mining |
|------|---------|-------------|--------|
| 1996 | 1.785 | 4.516 | 1.373 |
| 1997 | 1.940 | 4.751 | 1.571 |
| 1998 | 2.118 | 5.134 | 1.772 |
| 1999 | 2.283 | 5.565 | 1.881 |
| 2000 | 2.397 | 5.648 | 1.905 |
| 2001 | 2.556 | 6.920 | 2.068 |
| 2002 | 2.680 | 7.211 | 2.124 |
| 2003 | 2.916 | 8.812 | 2.262 |
| 2004 | 3.064 | 8.501 | 2.556 |
| 2005 | 3.121 | 5.473 | 3.436 |
| 2006 | 3.194 | 5.602 | 3.556 |
| 2007 | 3.211 | 5.768 | 3.561 |
| 2008 | 3.475 | 6.494 | 3.094 |
| 2009 | 3.572 | 6.483 | 2.765 |
| 2010 | 4.085 | 6.766 | 3.065 |

Source: UDAPE.

As pointed out by several respondents, professionals and analysts alike, the importance of highly qualified technical capital in the hydrocarbon sector should be highlighted. Human capital is often connected to an international market at international prices, which explains not only the high wages paid in the sector but also YPFB's difficulties in finding technicians interested in working for their restricted wages. These technicians, including Bolivians, may find more attractive careers abroad, so this is not necessarily a problem caused of human capital shortage but rather the effect of a policy over human capital.

Job creation and access to jobs by marginalised groups

In terms of job creation (in absolute terms: direct or indirect employment), the percentage of workers in mines and oil in provincial capitals fell from 1.9% of the employed population in 1989 to 0.8% in 2010. In the case of agriculture (not agribusiness as a whole), the figure has remained constant within that period, at 1.9%, although it peaked to 3.9% in 2003.

Table 10. Underemployment and casual labour within Bolivian employed population

| | 1996 | 1997 | 1999 | 2000 | 2001 | 2002 | 2003 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Total subemployment rate | 20.2 | 19.9 | 25.1 | 27.3 | 25.1 | 28 | 23.3 | 23.3 | 22.2 | 21.5 | 18.2 | 18.3 |
| Visible subemployment rate | 10.4 | 5.2 | 8.4 | 9.3 | 12.4 | 12 | 8 | 8.2 | 8 | 5.9 | 5 | 5.4 |
| Invisible subemployment rate | 9.8 | 14.7 | 16.7 | 18 | 12.8 | 15.6 | 15.9 | 15.1 | 14.2 | 15.6 | 13.3 | 13 |
| Informal sector occupation | 63 | 60 | 63.3 | 60.8 | 61.3 | 64.1 | 63.2 | 59.1 | 58.1 | 57.4 | 60.3 | 55.7 |
| <i>MEN:</i> | | | | | | | | | | | | |
| Total subemployment rate | 15.4 | 13.6 | 17.4 | 22.5 | 19.2 | 22 | 16.8 | 16.7 | 15.3 | 14.2 | 11.8 | 13.5 |
| Visible subemployment rate | 8.2 | 3.8 | 6.5 | 9.7 | 9.7 | 11 | 9.5 | 6.8 | 6.3 | 3.8 | 4 | 4.7 |
| Invisible subemployment rate | 7.1 | 9.8 | 10.8 | 9.5 | 9.5 | 11 | 7.3 | 9.9 | 8.9 | 10.4 | 7.8 | 8.9 |
| Informal sector occupation | 58.8 | 54.9 | 58.1 | 57.5 | 57.5 | 59.9 | 59.6 | 55.6 | 53.8 | 56.2 | 57.9 | 51.9 |
| <i>WOMEN:</i> | | | | | | | | | | | | |
| Total subemployment rate | 26 | 28.2 | 34.9 | 32.1 | 32.1 | 34.3 | 31.9 | 31.9 | 30.8 | 31 | 26.2 | 24.5 |
| Visible subemployment rate | 13.1 | 6.9 | 10.9 | 15.4 | 15.4 | 13.2 | 9.9 | 9.9 | 10 | 8.7 | 6.2 | 6.2 |
| Invisible subemployment rate | 12.9 | 21.2 | 24.1 | 16.6 | 16.6 | 21.1 | 21.9 | 21.9 | 20.8 | 22.4 | 20 | 18.2 |
| Informal sector occupation | 68.1 | 66.6 | 69.9 | 65.8 | 65.8 | 69.2 | 64.2 | 64.2 | 62.7 | 58.9 | 63.3 | 60.6 |

Source: UDAPE.

The “*Plan Sectorial de Desarrollo con Empleo Digno*” (Sector Development Plan for Decent Employment) announced by the Ministry of Productive Development and Plural Economy for 2008 highlights that casual labour was one of the main problems, but that in recent years the casual labour rate had actually been at its lowest level in decades. In this sense, the creation of formal direct or indirect employment is one extremely important way for foreign investment to help improve the employment structure. Repsol-YPF have created more than 3,500 jobs, of which 208 are staff, with most working at the company’s headquarters in Santa Cruz de la Sierra and the rest in the fields through contracts and subcontracts.⁸ Legislation limits the presence of foreigners to a maximum of 15% of the workforce, so most employees are nationals. Senior managers generally come from Argentina. Technicians and young professionals from other countries often do a placement in Bolivia as part of their training.

Most indirect job (about 2,000) are in Campo Margarita. Half of the working force in Campo Margarita is indigenous and the other half is creoles (*criollos*), but there are also workers from surrounding areas, representing an employment opportunity for groups otherwise excluded from the labour market.

There are thirty indigenous communities living near Margarita, totaling approximately 5,000 persons. Of adult men, 70% work for Repsol-YPF, and the rest work mainly in agriculture, fisheries, and livestock, sometimes hunting for a living. About 1,000 of those working at Repsol-YPF have permanent contracts; 200 are assigned to tasks such as security, catering, and maintenance, while the rest have fixed-term contracts. There is no rotation for the same job.

⁸ Data on Campo Margarita comes from a recent analysis performed by the Workers Commission (*Comisiones Obreras* (Boix, 2011)) on the working conditions at Campo Margarita. This data was compared with that obtained through interviews with leaders of Repsol-YPF in Santa Cruz.

The work is done in a remote location, meaning that working conditions oblige workers to alternate shifts at two weeks each per month. These two working weeks at Campo Margarita are spent in authorized barracks, while the remaining two weeks are spent at home. The average wage is around 3,000 *Bolivianos* (350 euros) per month. This wage is lower than the industry average, but well above the average wage paid in Santa Cruz, which is about 140 euros. Contractors and subcontractors do not participate in formal unions, but they do have forms of representation. In fact, interviewees responsible for unions affiliated to the *Central Obrera Boliviana* COB (Central Bolivian Workers) tend to be suspicious of collaboration with indigenous people; however, the latter have been able to reach beneficial agreements as a group, without the need for unions.

The number of indirect jobs being generated by Repsol-YPF's investment in Campo Margarita is for a limited time only. The investment plan to expand gas processing, due to be completed in 2014, explains the current need for labour, but upon completion of expansion, production will require relatively few workers. Bearing this in mind, Repsol-YPF is engaging with workers' communities for the implementation of further education plans to retrain workers.

In the mining sector, the impact on employment is much more relevant. It is estimated that mining generates 50,000 direct jobs. With the reactivation of COMIBOL there are currently over 4,000 people employed. *The Federación Nacional de Cooperativas Mineras* (National Federation of Mining Cooperatives, FENCOMIN) along with "small mining" (small businessmen grouped in CANALMIN, or National Mining Association) generate about 40,000 jobs.

Cooperatives first appeared after the closure of mining companies in the 1980s. "Relocation" was encouraged, to take advantage of some unprofitable mines as a way of maintaining employment.⁹ Mining work is often performed in precarious conditions, with little or no safety equipment. Agreements such as the supply of equipment by the COMIBOL cooperatives and tax exemptions make this activity possible, helping to maintain employment in areas where neither FDI nor domestic private investment could ensure the economic viability of projects.

Therefore, we can say that TNCs do not play a significant role in the creation of jobs in this sector, even if a large portion of the production is involved. Jindal's investments in Mutún would involve the creation of 18,000 direct or indirect jobs – an enormous capacity to create jobs compared with foreign investments to date. Not all jobs would be strictly in the mining sector, because industrial processes are also involved, and there would be a significant amount of highly qualified technical staff by Bolivian standards. The acquisition of Minera San Cristobal by Sumitomo (Japanese capital) is one of the latest foreign investments in mining. Unlike with Jindal, this investment involved the

⁹ A considerable number of miners were placed in other sectors. This is the origin of a pressure group known as "cocaleros".

purchasing an existing mine; therefore, it has little capacity to create jobs unless new investments are brought in the future.

The level of organization of mine workers (non-cooperative workers) is very strong. The *Federación Sindical de Trabajadores Mineros de Bolivia* (Mine Workers' Trade Union of Bolivia) is an historic union in Latin America and is part of the COB. The FSTMB was founded in 1944, played a leading role in the Revolution of 1952, and has been active at critical moments in the nation's history. Beyond the viewpoints expressed in the interviews, it is common for cooperatives to engage public confrontations, and they have been criticized for having lost class-consciousness and for being "parasites" dependent on subsidies and tax exemptions granted by the State.

In the case of soy, there is no official data; however, ANAPO makes reference to 70,000 direct jobs and 30,000 indirect jobs. Soy has been an important alternative produce for impoverished small farmers, who operate at subsistence level and are a peripheral part of the cluster in the sense that they are not specialized soybean producers. Soybean is for them an easy-to-sell alternative, as there is always demand, making it possible for these farmers to obtain liquidity. A more complex issue concerns the purchase of land by foreign interests, because the strong growth of the soy sector cannot be explained without considering the massive influx of Brazilian and Argentine producers, both individual family producers and large corporations. These have truly revolutionized the cultivation of soybean compared to more traditional methods (which may be less harmful to the environment, as with methods followed by the Mennonites). ANAPO's current discourse focuses on the importance of crop rotation to prevent soil depletion, and it recognizes the contribution of Argentinean and Brazilian farmers in the improvement of techniques. Their arrival has been the result of a pull factor around the difference in land prices, and it appears that even a decreased margin would not make Bolivia less appealing to these foreigners, since their own arrival has helped to increase land productivity.

(6) Investments that contribute to structural change

If by structural change we understand the transformation of Bolivia's economic profile, then it is not possible to affirm that FDI contributes to change in a significant way. On the contrary, FDI may be reinforcing the primary-resource export profile of the country, gambling on the possibility that the government's policies concerning production demonstrate effectiveness (with the exception of the Mutún project, if it goes ahead). However, the cases examined here have shown a continuing contribution to the modernization of production within their respective sectors. This indicates a contribution to structural change understood as a pattern of production with higher added value and based on increased productivity.

In 2006, through the National Development Plan, Bolivia formally presented its own definition of development with the introduction of the concept of "living well", understood as "the access and enjoyment of material goods and the effective, subjective, intellectual and spiritual fulfillment in harmony with nature and the

community", as opposed to the Western concept of "living better" which refers to consumption growth (*Ministerio de Planificación del Desarrollo*, 2006). It is no coincidence that Carlos Villegas, current president of YPF, signed the plan's preface, since the strategy for "living well" also involved "planting gas".

The government is clearly aware of the limitations of the primary-resource export model and the need to overcome it to achieve true development. Of the investments examined here, the advantage of providing high tax income can be highlighted (with the potential for spending on public goods, and to stabilize the BOP). But the ability to produce a structural change depends more on Bolivia's strategic capability to convert these investments into new types of investment that can break niche activities and enhance the development of productive chains.

Bolivia's GDP structure has changed little in recent years. The share of each sector in GDP was practically the same in 2010 as in 1990, and the three sectors examined here are no exception. The influence lost by agriculture (from 15.35% to 14.22%) was partly absorbed by the extractive activities (mining and hydrocarbons), which rose from 10.24% to 12.20%.

In the case of mining, its share has remained stable (at around 5%) for the last two decades. A growing impact has been noted in the balance of payments, and in its ability to maintain employment; however, patterns of structural change that may have been triggered remain uncertain. Projects like Mutún and, above all, lithium mining can offer new perspectives. The job creation capacity of these investments is remarkable but does not in itself break the growing primary-resource export profile. The goal is to add more value-added activities which, in turn, empower other future investments in a pattern of growth of high standards.

With the relaunch of the Vinto smelter, progress was made towards industrialization, but this smelter processes tin – a product in relative decline compared to iron, lithium, or zinc. Therefore, the *Plan de Emergencia Minero* (Emergency Mining Plan) (UDAPE, 2009c) proposed a new basis for reactivation of the sector. In the case of "small mining" and especially cooperatives, one strategic objective is to ensure modernization and greater access to funds (to allow new investments) as well as minimal productivity gains, to ensure better working conditions and to avoid tax exemptions. The Plan made progress with the creation of the "*Cuenta de Estabilización de Precio de Minerales*" (Mineral Price Stabilization Account), which aims to compensate for instability in the international price of zinc in addition to the delivery of the equipment. The plan also intends to increase the influence of COMIBOL by increasing production of tin at Huanuni by expanding Vinto. Even if tin prices were to fall, increased production and processing could ensure viability.

The government's strategy appears to be twofold. On the one hand, the surplus of these exporting sectors could be used to provide strategic investment (productive, social, and infrastructure) that would enhance modernization of the socio-economic

structures. On the other hand, the negotiation of new investment must be linked directly with the industrialization of resources. The tension is between investments that by their nature limit niche activities and investments involving greater participation in the production chain.

From the start, Jindal's mining investments have attempted to take the necessary steps so as not to follow a primary-resource export pattern. Investments include not only the extraction of iron, but also steel smelting, which could increase the added value of exports and provide inputs to other productive activities that currently depend on imports: iron bars or non-alloy steel are the country's second-largest import, at \$130 million in 2010. These investments represent an interesting summary of the country's current situation and its relationship with FDI. On the one hand, there is a need for funding and technology to exploit iron reserves and to advance the industry's industrialization. But on the other hand, there are important issues that prevent a major impact on structural change. The weakness of the State to negotiate beyond the political dialogue has caused significant delay for Jindal's investments; even worse, as argued by the company publicly, the bottleneck faced by the country's gas supply raises concerns regarding the feasibility of large industrial projects. The gas required by the Mutún investment exceeds the current consumption of Bolivia's entire domestic market. Thus, without a revival of investment in the hydrocarbon sector to increase production, the Mutún project is in serious danger.

Clearly, the situation for the Bolivian government is not so simple as negotiating investments that go beyond the primary-export pattern. Paradoxically, the lack of investments related to the primary-export pattern (exploration and extraction of gas) would put the investments beyond this pattern at risk, and that would significantly impact other processes.

Within the mining sector, reserves of lithium at Salar de Uyuni necessarily require FDI. These strategic reserves are the largest in the world, at 8.9 million tons of lithium, along with more than 194 million tons of potassium, 7.7 million tons of boron, and 211 million tons of magnesium. Essential for batteries and cell phone components, all are very attractive for FDI. However, these investments are not essential to the first and most simple operating phase of lithium. Unlike what was done in Mutún with iron, Bolivia took on the first stages of lithium processing, while holding talks with Japanese and Korean foreign investors for further phases of the processing, which require more sophisticated technology.

There is already a pilot plant in place with an investment of just over \$8 million, showing that Bolivia can negotiate the influx of FDI from a better position, to focus on more complex processes in order to achieve maximum resource utilization on Bolivian soil. This negotiation was characterized by the fact that Bolivia refused to allow FDI access to the first phase of exploitation of lithium, even though the country did not have the technical capacity to undertake the task itself. Thus negotiations have proceeded slowly, with Bolivia deciding to develop technology unavailable in the

country which might have been provided through FDI (it was believed that the technology could be developed within a short period of time). A technological spillover was considered less likely than investing strategically in the technological development by the State, indicating that the technology gap is small enough for the country to learn, but not so small that the country cannot bridge it by other means, provided that they ensure a better use of resources.

However, this attempt by the State to control the process, within a context of crisis, has been delaying operations but has shown that Bolivia can negotiate from a better basis with the FDI necessary to undertake further steps in the more complex production processes.

In the case of the soybean cluster at Santa Cruz, we must remember that it only a part of a larger production process; the next step in the process is the production of meat products (mainly pigs and poultry), toward which soybean exports are directed. It seems that the growth of the soybean sector in Bolivia has not necessarily resulted in the growth of the meat industry, in part due to the high external demand for soybeans. The business constraints are related to the need to improve local competitiveness vis-à-vis major regional soybean producers, whose yields per hectare are higher. Without FDI it would have not been possible for the sector to develop in the way it has.

The other way is through government spending and State enterprises, financed largely through taxes and royalties from oil exports and intended to change the production model directly or indirectly. Institutions such as *Pro-Bolivia* (which strengthens the technological profile of local industry), *Promueve-Bolivia* (which promotes national exports), *Insumos-Bolivia* (which ensures access to agricultural inputs and raw materials), or programmes such as the *Fondo Nacional de Desarrollo Regional* (National Fund for the Regional Development) of the Ministry of Development Planning all aim to implement projects derived from the National Development Plan. YPFB investment in the industrialization of gas is perhaps one of the most important. At least for the moment, it would not be possible to sustain these projects without FDI.

The State still has to prove that banking for the industrialization of gas is crucial. The liquefaction plant project at Entre Rios has been delayed, due to administrative problems and negotiations with indigenous communities. This project, along with the even more powerful Chaco plant, aims to use LPG that is currently lost in exports. That is, the project seeks to reduce dependence on gasoline and diesel, but not to actually change the production matrix. The development plans at Carrasco, Gran Chaco, Patacamaya, and Puerto Suárez are even more ambitious. Carrasco will need gas for its ammonia-urea plant, a very useful agricultural input that is currently being imported.

It can be said that the Bolivian government's social policies have been of a welfare nature. The State has increasingly become a rentier state, and the social policies do not contribute to any structural changes. Table 11 shows that current public expenditure has grown faster than GDP, which results in an increase of its weight on GDP.

Table 11. Trend of GDP, the State's public expenditure, GDP *per capita*, and share of public expenditure on GDP

| | Gross internal product growth (%) constant prices, base 1990 | Public sector, current expenses growth (%) | Gross internal product p.c. growth (%) constant prices, base 1990 | Public sector expenses / GIP |
|------|--|--|---|------------------------------|
| 1995 | 4,68 | ~ | 1,77 | 25,78 |
| 1996 | 4,36 | 17,65 | 1,46 | 26,05 |
| 1997 | 4,95 | 20,46 | 2,04 | 28,3 |
| 1998 | 5,03 | 19,16 | 2,11 | 29,97 |
| 1999 | 4,27 | 0,76 | -1,94 | 29,36 |
| 2000 | 2,5 | 7,65 | 0,14 | 29,31 |
| 2001 | 1,7 | 12,91 | -0,63 | 31,95 |
| 2002 | 2,5 | 9,79 | 0,17 | 33,29 |
| 2003 | 3,1 | 4,94 | 0,82 | 32 |
| 2004 | 2,65 | 13,72 | 0,41 | 32,34 |
| 2005 | 6,8 | 13,49 | 4,54 | 33,18 |
| 2006 | 2,8 | 7,1 | 0,67 | 28,83 |
| 2007 | 5,32 | 19,71 | 3,18 | 31,81 |
| 2008 | 6,15 | 27,43 | 4,03 | 34,6 |
| 2009 | 3,35 | 3,42 | 1,34 | 35,47 |
| 2010 | 4,12 | 0,57 | 2,12 | 31,5 |
| 2011 | 5,1 | 35,33 | 3,09 | 34,6 |

Source: IMF.

However, these policies have been successful in reducing inequality. The Gini index remained stable from the mid-1990s to the mid-2000s (at around 0.6), but it dropped to 0.5 in the first five years of the Morales government. Success of this sort is not always easy to combine with economic growth.

It seems unlikely that investments such as those examined here, or the current State strategies to manage them, can bring the country closer to reaching its NDP objective of building a new pattern of development, defined by diversification and a new production matrix of greater added value.

(7) Conclusions: Converting FDI into an ally, to overcome the primary-export pattern without sacrificing tax revenues

With the recent recovery of the moribund YPF and COMIBOL, and with the development of a legal framework changing the State's relationship with TNCs, Bolivia has regained a leading role over those areas of greatest influence within the economy. But that "leading role" does not in itself necessarily equate to "control of the production chain", as Evo Morales proposed at the outset. For this, the State must prove its capabilities to undertake the necessary investments to realize the potential of resource exploitation. Development is about how to approach the negotiation between the State and FDI.

This is demonstrated by the cases reviewed in this paper, all of which present interesting peculiarities. Repsol-YPF's investments at Margarita are of strategic importance for the country in ensuring gas exports, and they make it possible for the

State to concentrate resources into areas of the productive chain that are not attractive to TNCs. Mining, despite already being Bolivia's best sector, may yet have greater potential. Jindal's investment project shows that there is a basis for closer cooperation on more complex projects between the State and TNCs to guarantee major investments. The soy agribusiness has demonstrated an ability to develop the regional economy of Santa Cruz, growing to become the country's third largest export sector. This shows that it is possible to create a secure environment for private investment where there is no direct intervention of the State.

The importance of investment in the three examined sectors is highlighted in the five processes. Investment contributes to the stability of the balance of payments by promoting the country's main exports, and by maintaining inflows of capital to the country. It also affects access to important State tax revenue, activating government spending both in social services and infrastructure. At the same time, it ensures supplies of basic goods to the domestic market at preferential prices. Contributions to the creation of employment are small but positive, and with great potential in the case of Mutún. It is to be expected that the impact on the supply of private goods to the domestic market has been limited, because these are among the more export-oriented sectors. However, the soy agribusiness can play an increasingly important role in this regard if the processing of soy is encouraged. This links directly to investments in the mining and hydrocarbon sectors (and to a lesser extent in agribusiness). The productive chain is still mainly dependent on public investments that provide tax revenue. It does not derive from the investments' technical conditions but from the tax implications thereof, because the earnings from the oil and mining exports allow large investments for a country of the size of Bolivia. However, there is another side to it – the significant increase in domestic demand, driven by public investment, needs private investment in certain sectors to be sustainable. Those responsible for the National Chamber of Commerce and the Ministry of Public Works agree that the estimated \$3+ billion of public investment in 2012 will require a further \$1.2 billion of private investment. This seems less than feasible given bottlenecks in the supply of basic goods and services (cement, pipes, but also skilled labour and electricity). In any case, the scenario seems highly optimistic, given that only 50% of the 2011 plan was actually implemented.

This relationship with the domestic market in mining and hydrocarbons is closely related to structural change, which is complex for several reasons. It implies a relationship between different phenomena; therefore, it is not sufficient to limit it to the weight of the sector on the GDP. The very internal composition of these sectors, their employment, and the roles that they play in determining the pattern of growth must be taken into account. That is, it should be considered whether structural change is already taking place within other processes. In this sense, the cases of FDI and the overall analysis of FDI in Bolivia suggest that there is a change in production within the primary-resource export sector, but that its relative weight does not vary. If we look at the relative weight of the sectors as processes and as the goal of the government, these investments have little contribution and may even be strengthening the country's primary-resource export pattern. However, this is not the path to which Bolivia is

destined as a result of the historical, geographical, and social structure. The Mutún project is clearly triggering changes. The failure of this project, if limited to the exploitation and export of iron by foreign private capital, would result in a dangerous degree of primary-resource export specialization. Thanks to the input of the State's fiscal resources, the Margarita investment is promoting other projects, such as the production of LPG and chemical inputs for agriculture that enable gas industrialization. However, tensions between the needs of the domestic market, the resources for industrialization, and the understandable temptation to support social policies through the success of exports all require a complex balance that could easily tend toward the deepening of the primary-resource export profile.

FDI-D in the light of the case studies

The analysis performed demonstrates how investment projects tend to cluster into trend patterns: given a country with certain factors that define its legal and socio-economic structure, and given investment flows that define the specific factors of TNCs, we find a limited number of patterns which can be considered ideal types of investment, which can often trigger a repeated set of mechanisms, creating a comparable effect on the processes. The fact that the factors repeat themselves for different investment projects, thereby explaining the patterns, justifies the notion that investments should be considered more than just individual phenomena to be studied individually. But factors are not static, nor is there a complete determinism of factors over the existing patterns. Changing these patterns depends on whether the policies implemented by those involved in an investment project can transform the nature or weight of the factors.

The Bolivian case teaches interesting lessons. The ways in which the country has evolved in recent years shows that the types of investments that were historically made in natural resources (such as hydrocarbons) are easily modifiable when the legal framework factors are modified. The contribution that these can make to development is increased significantly when trading conditions with the State change. However, Bolivia also seems to need two conditions for its success that are external to the framework. The first is a precondition – an international context of high prices. These prices do not necessarily have to ensure the competitiveness of the sector, as it seems sufficient for prices to confirm the appropriateness of TNCs not abandoning investments already made (as Repsol-YPF), or of securing strategic reserves (as Jindal) within a logic of global competition. Under FDI-D, this is identified as the "dependence of local assets". The second condition is the State's ability to connect or redirect these types of investments into new types –whether public or private investments– in the context of a deeper structural change.

In other words, the improved macroeconomic situation that results from redefined investments in oil or mining must be combined with strategic development policies that enable more profound changes to investment that go beyond the changes to the legal framework. While the exploitation of the Mutún reserves may have been a missed opportunity (even if it is on paper), lithium may become the paradigm of a new policy

to attract investments that make possible the breaking of the primary-resource export pattern.

Similarly, investment patterns here analyzed are distinguished by their export bias. The importance of the domestic market for the TNCs considered is limited, and to ensure its supply was one of the basic changes introduced by the State in recent years. However, for the patterns examined, the Bolivian domestic market presents more of a problem than an opportunity.

So, what FDI should be enhanced to promote development?

FDI that reproduces the patterns examined will contribute favorably to important developmental processes. Repsol-YPF is a paradigmatic example of complicated efforts in search of understanding with the government. There are potential risks, but they depend more on the (possible lack of) political will to seize opportunities than on the economic consequences of investments. However, based on lessons learned from the application of the FDI-D framework, it is possible to determine which procedures would be attractive in the near future.

One option could be the necessary modernization of the energy matrix, which has nothing to do with the efficiency of the electrical system but rather with the energy sources used. In terms of efficiency, the government aims to modernize the transport and distribution infrastructures (that being the context of the nationalization of *Transportadora de Electricidad*, TDE), especially after frequent power outages in recent months proved its limitations. The challenge, along with the limitations of the Bolivian electrical system, resides in electricity supply. Bolivia already exploits its hydroelectric potential and continues to strengthen it (about 50% of production to the national grid). Advancing the use of renewable energy, which reduces the need for gas for the domestic market, would reduce the stress of possible gas shortages by ensuring availability for export or for industrialization projects. This represents an opportunity for new investments aimed at the domestic market with a bigger technological profile. In 2011, investments in alternative energy (excluding hydro) did not exceed \$9 million. This could be an interesting avenue to explore. The Bolivian authorities interviewed expressed an interest in deepening contacts and moving forward with future agreements between the government and a private sector that can provide the necessary technologies around renewable energy, including solar energy and wind power, where Spain has considerable experience.

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(9) Annex 1. List of processes, mechanisms and factors**Figure 1. Development processes**

| | |
|---|--|
| 1 | Equilibrium of the Balance of Payments |
| 2 | Public goods and services |
| 3 | Private goods and services |
| 4 | Employment structure |
| 5 | Structural change |

Figure 2a. Factors of the recipient country

| Economic Structure | Institutional framework |
|--------------------------------|---|
| 1. Market competition | 9. Governance and transparency |
| 2. Local competitiveness | 10. Labour and environmental legislation |
| 3. Local supply capacity (1) | 11. Fiscal pressure |
| 4. Size of the internal market | 12. Organization of civil society and public spending (3) |
| 5. Trade liberalization | 13. Support to the productive sector (incl. Nationality requirements (4)) |
| 6. Human capital qualification | 14. Regulations on universal coverage |
| 7. Demand for workforce (2) | |
| 8. Physical infrastructure | |

(1) Capacity of the economy to supply the necessary inputs for the economic activity of a TNC.

(2) Volume of the workforce with similar qualifications required by the local economy inside and outside the sector.

(3) Ability of the civil society to organize its requirements and exercise pressure.

(4) Regulations that require that some of the sectors in the production chain be national (i.e., the obligation to form joint-ventures).

Figure 2b. Factors of the investment project

| Policies | Strategies | Technologies |
|--------------------------------|--|-------------------------------------|
| 15. Staff development policy | 19. Investment in new plant/ Merger and acquisition | 23. Work/capital intensity |
| 16. Salary policy | 20. Basic/strategic production | 24. Intensity of intermediate goods |
| 17. Community relations policy | 21. Dependency on local assets | 25. Technological superiority |
| 18. Environmental policy | 22. Internal/external market orientation | 26. Clean technologies |

Figure 3. Mechanisms

| Employment | Economic activity | Technological spillover | Balance of payments | Socio-political mechanisms |
|---|---------------------------------------|------------------------------------|-------------------------------------|-----------------------------------|
| 1. Direct employment | 7. Increase of market competition (1) | 13. Adoption of clean technologies | 18. Improvement of trade balance | 20. Social dialogue (2) |
| 2. Direct employment | 8. Crowding in/out | 14. Spillover from subcontracting | 19. Improvement of capital transfer | 21. Public spending |
| 3. Improvement in working conditions | 9. Competitiveness | 15. Spillover from training | | 22. Natural resources management |
| 4. Local supply for qualified jobs | 10. Investment stock | 16. Spillover from new products | | |
| 5. Rotation of qualified staff | 11. Productive chain | 17. Spillover from joint-ventures | | |
| 6. Access to the labour market by excluded groups | 12. Productive innovation | | | |

(1) By opposition to monopolization or oligopolization of the market.

(2) The community is involved in the Project or in the resolution of potential conflicts.