A Neoliberal Nationalization? The Constraints on Natural-Gas-Led Development in Bolivia

by

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Moving from a neoliberal ideological testing ground to part of the purported new wave of Latin American socialism, the current Bolivian state has attempted to exercise greater control over its number-one-grossing export—its natural gas—and use the sector’s profits to drive its program of socioeconomic change. While the state has been able to increase the government’s take of the country’s hydrocarbon rents, its ability to use its natural gas and associated rents to alter the country’s socioeconomic trajectory has been limited by the path-dependent effects of Bolivia’s neoliberal turn and the sociomaterial constraints of natural-gas extraction, transport, and use.

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The recent left turn in Latin American politics has been labeled a reaction to the neoliberal policies that have swept much of world over the past 25 years. But as Latin American governments have attempted to divert their countries away from market-led trajectories, they have faced a series of constraints. As Bolivian president Evo Morales noted shortly after coming to office, “I feel like a prisoner of the neoliberal laws” (quoted in Mason, 2006).

In this article I examine Bolivia’s attempt to exit its market-led development trajectory. Moving from a neoliberal ideological testing ground to part of the purported new wave of Latin American socialism, the Bolivian state has attempted to exercise greater control over its number-one-grossing export—its natural gas—and use the sector’s profits to drive its program of socioeconomic change. In this context, I ask two primary questions: (1) How, after two decades of neoliberal restructuring, has a state been able to enhance its control over a high-value, high-demand commodity in a sector that is dominated by some of the world’s most profitable transnational corporations? and (2) How successful has the Bolivian state been at using the profits from its natural gas to change its development path? I argue that while the state has been able to increase the government’s take of the country’s hydrocarbon rents, its ability to use its natural gas and associated rents to alter the country’s socioeconomic trajectory has been limited by the path-dependent effects of Bolivia’s previous
neoliberal policies and the sociomaterial constraints of natural-gas extraction, transport, and use.¹

THE PATH DEPENDENCIES OF NATURAL RESOURCE-LED DEVELOPMENT

Scholars of economic change and development have long noted the difficulties that states and other institutions face in trying to exit dominant and/or preexisting socioeconomic trajectories. As Margaret Levi (1997: 28) notes in her explanation of path dependence, “once a country, organization, or individual starts down a track, the costs of reversal are very high. There will be choice points, but the entrenchments of certain institutional arrangements obstruct an easy reversal of the initial choice” (see also O’Hearn, 2001; Garud and Karnøe, 2001; Mahoney, 2000). Examining natural resource-led development, scholars have attributed these path-dependent entrenchments to the sociomaterial constraints and policy decisions that surround natural resource extraction, transport, and use.

As scholars studying development and natural resources have shown, the sociomaterial characteristics of primary commodities affect the structure of natural resource sectors and thus the power that states and firms have in the use and distribution of both the commodities and their rents (Boyd, Prudham, and Schurman, 2001; Barham, Bunker, and O’Hearn, 1994; Bunker, 1989; Innis, 1956; 1930). A natural resource’s sociomaterial characteristics include its physical traits, underlying scarcity, variation in quality or grade, and distribution around the globe (see Sneddon, 2007; Bunker and Ciccantell, 2005; Swyngedouw, 1997 [AQ: 1]). These characteristics often create difficulties for actors attempting to procure natural resources (Barham, Bunker, and O’Hearn, 1994: 6). To overcome these difficulties and make primary commodity sectors economically viable, states and firms attempt to achieve economies of scale in processes of extraction and transport. This often requires significant technological and infrastructural investment, making many primary commodity sectors capital-intensive (Bunker and Ciccantell, 2005). Without access to the necessary capital or technology, resource-rich peripheral countries seeking to use primary commodities to enhance their development possibilities are often dependent upon external investment or loans. But within this relationship, investors frequently seek out the most lucrative markets and set up extraction and transport infrastructure to move natural resources to industrial or manufacturing centers (Frank, 1966; Bunker, 1989). As a result, resource-rich peripheral countries attempting to alter their socioeconomic trajectories often find themselves constrained by a lack of capital to overcome the sociomaterial difficulties of primary commodity sectors and/or by the inability to redirect their material resource flows toward internal use.

The path dependencies stemming from the sociomaterial obstacles associated with primary commodities are often enhanced by the state regulatory policies that surround them. While states can use primary commodities and their rents to create alternative development trajectories, the incentive to do so is limited. As the interests of local elites and international investors become
embedded within primary commodity sectors, these actors actively push for their continued development at the expense of other industries. The state’s ability to accrue windfall profits from certain primary commodities with little added investment also makes investment in other industries less attractive (Karl, 1997). In addition, the ability of resource-rich states to alter their socioeconomic trajectories is often constrained by Western visions of development, the creation of unrealistic secondary industries, and a state bureaucracy that is wedded to a primary commodity sector (Coronil, 1997; Shaik, 1980). Not developing sustainable secondary industries, resource-rich peripheral countries often become dependent upon the revenues of primary commodities and thus vulnerable to cycles of boom and bust.

More recently, state regulatory policies surrounding primary commodities have changed. As scholars studying what has become known as the “neoliberalization of nature” point out, natural resource sectors have been privatized, marketized, decentralized, and de- and reregulated (see Castree, 2008). As investors have sought out new realms of accumulation and the global demand for raw materials has increased, states have become more active in creating regulatory frameworks that facilitate transnational investment. Whereas state-owned firms were previously directly involved in many natural resource sectors, over the past 25 years transnational firms have sought to exercise more control over these sectors.

While scholars have identified these changes, they have given less attention to the potential path dependencies that are arising with this neoliberal turn, particularly from natural resource-led development. Increases in international demand and investment in primary commodity sectors lead to new transport routes. Decentralization has given both transnational and local actors different levels of power. As states have privatized and marketized their primary commodity sectors, they have given transnational investors control over the extraction, transport, and use of their natural resources. Seeking long-term contracts and investment security, transnational firms have also forced states to operate in a global arena controlled by international law and an assortment of trade agreements. All of these changes can enhance the difficulties resource-rich peripheral countries face in attempting to alter their socioeconomic trajectories.

Taking into account both the sociomaterial properties of natural resources and the changing regulations that surround them, I examine the path dependencies affecting the possibilities for socioeconomic change in Bolivia. As a resource-rich state, Bolivia attracted large amounts of international investment during its neoliberal turn. However, not having seen the benefits of such investment, the Bolivian state has attempted to recapture control of its most profitable primary commodity: its natural gas. In this context, Bolivia provides a lens through which to examine the opportunities and constraints that resource-rich states face as they try to exit neoliberal socioeconomic trajectories.

**THE NEOLIBERALIZATION OF BOLIVIA’S HYDROCARBON SECTOR**

In 1983, the Bolivian state took aggressive steps to alter the country’s socioeconomic trajectory by implementing a series of liberal market policies.
It sought to reduce its role in productive industries and thus create the conditions necessary for capitalizing its hydrocarbon sector. Over the following 20 years, three sets of changes affected its ability to use its hydrocarbon sector as an engine for socioeconomic change: a stand-by agreement with the International Monetary Fund (IMF) in the 1980s, the opening up of Bolivia’s hydrocarbon industry to external investment in the early 1990s, and the extension of the Plan de Todos (Plan for All) into the hydrocarbon sector in 1996.

In 1985, the Bolivian state began to reduce the role of the state-owned and-operated hydrocarbon company Yacimientos Petrolíferos Fiscales Bolivianos (YPFB) in its oil and natural-gas sector under the IMF stand-by agreement—a loan dependent on satisfying a set of performance criteria. Formed in 1936 when the state nationalized the assets of Standard Oil in Bolivia, YPFB had long provided the state with a source of revenue. However, the performance criteria within the IMF agreement prohibited state enterprises from investing in new capital goods (Gobierno de Bolivia, 1985). Given that the hydrocarbon industry is inherently capital intensive, the stand-by agreement effectively undermined one of the state’s primary profit making capacities by inhibiting its ability to fund and maintain YPFB.

By the late 1980s, the lack of funds going toward new investment in the state-owned enterprises limited their productive abilities, and over the following years the IMF and World Bank began to put more pressure on the Bolivian state to open up these enterprises and state-sponsored monopolies to private investment. By 1990, these organizations launched a critique that state-owned enterprises and YPFB in particular were inefficient and corrupt and merely served as rentier arms of the state. As a result, the Bolivian state began to implement a series of legal and economic policies that further liberalized investment and state regulation.

Attempting to open up Bolivia’s markets, the state rolled out the 1990 Law of Investment and Law of Hydrocarbons 1194. These policies functioned to make Bolivia’s business climate, particularly in its hydrocarbon sector, more attractive to international investors. According to Article 1 of the Law of Investment, the law was implemented to “stimulate and guarantee national and foreign investment in order to promote and increase the economic and social development of Bolivia through a normative system that applies equally to national and foreign investment” (Gobierno de Bolivia, 1990). Through this law, the Bolivian state attempted to alleviate foreign investors’ fears of government intervention in the market (for example, price controls and nationalizations) and to set up norms for joint ventures between the state and investors and between investors themselves. In addition, the law guaranteed the free movement of capital and formally recognized bi- and multilateral forms of dispute arbitration. The Law of Hydrocarbons 1194 extended the Law of Investment into Bolivia’s oil and natural-gas sector, making it possible for transnational energy firms to sign contracts of operation and association with YPFB and/or with other investment firms in Bolivia. Whereas previously YPFB had controlled nearly all of Bolivia’s hydrocarbon sector, the Law of Hydrocarbons 1194 opened the sector up to external investment.
But these changes were only the beginning. Four years later President Gonzalo Sánchez de Lozada introduced a series of policies that solidified Bolivia’s neoliberal trajectory by putting forward the Plan de Todos. According to the new policy (Gobierno de Bolivia, 1994: 10–11, quoted in Kohl and Farthing, 2006: 86),

The state, in its new role, will be excluded from productive enterprises and direct financial investment, concentrating on creating the conditions to allow the smooth operation of markets in the development of infrastructure that may induce the growth of private investment and social investment in primary education, health care and the improvement of living conditions.

Following the Plan de Todos, the Bolivian state placed its hydrocarbon sector at the forefront of its neoliberal trajectory by changing the role of YPFB within the sector, lowering royalty and taxation rates on new investment, and providing investors with the right to commercialize the hydrocarbons they extracted as they pleased.

The role of YPFB within Bolivia’s hydrocarbon sector was changed primarily through the Law of Capitalization. Aligning itself with transnational capital, the Bolivian state partially privatized five of its largest public industries: electricity generation and distribution, telecommunications, airline transportation, railroad transportation, and hydrocarbon extraction and distribution. The state auctioned off majority shares in each of these industries and reallocated the remaining shares to the state pension system and former employees (Kohl and Farthing, 2006; Perreault, 2005). The law did not fully affect Bolivia’s hydrocarbon sector until two years later. In 1996, the Bolivian state divided YPFB into three parts and auctioned each off. While World Bank (1996) reports estimated the value of YPFB at close to US$961 million, its divided parts sold for a total of US$835 million. However, the Bolivian state never saw this money. Following the Plan de Todos, the winning bidders were committed to reinvesting the money in the companies over the following seven years. This arrangement was intended to increase investment by doubling the net worth of each capitalized hydrocarbon company and thus lead to enhanced exploration and industrialization of the industry, more job opportunities, and economic stability (Ewing and Goldmark, 1994; Kohl and Farthing, 2006). The lucky winners of YPFB’s assets included Enron, Shell, Repsol-YPF, Perez, Pluspetrol, and Amoco.5

Attempting to spur investment in the industry by rewarding investors for discovering reserves in more difficult areas of exploration and extraction, the state lowered royalty and taxation rates from 50 percent to 18 percent on all “new” reserves. In the Law of Hydrocarbons 1689, the government classified all proven reserves as existing and thus subject to a 50 percent taxation rate (Gobierno de Bolivia, 1996a). All probable reserves, either in existing areas of extraction or new areas of extraction, were classified as new and thus subject to the 18 percent taxation rate. However, two months after the introduction of the Law of Hydrocarbons 1689, the government put forward the Law of Hydrocarbons 1731, under which only proven reserves that were already in production at the time of the sale of YPFB were classified as existing. In addition, the government rewarded energy firms for investing in “new” reserves
by allowing them to deduct significant portions of their spending on exploration, development, extraction, and environmental protection activities from their taxes (Gobierno de Bolivia, 1996b).

By giving investing energy firms the rights to commercialize the hydrocarbons they extracted as they pleased, the Bolivian government provided them with the ability to set and seek out higher prices in more lucrative markets. Whereas previously the state had inalienable control of the nation’s hydrocarbons and determined the price and locations of sale, Supreme Decree 24806, issued shortly before Sánchez de Lozada left power, gave investors control of Bolivia’s hydrocarbons at the point of extraction (Gobierno de Bolivia, 1997). While technically the hydrocarbons remained in the possession of the Bolivian state when they were in the ground, the new law gave Bolivia’s investors rights to the reserves for up to 40 years and allowed them to claim the hydrocarbons as their own. Within this legal framework, energy firms could sell the gas internally, export it to foreign markets, or sit on the reserves until a more profitable market was found.

The capitalization and reregulation of Bolivia’s hydrocarbon sector thus made investment highly attractive. With the financial capacity and necessary technology for extraction, transnational energy firms quickly took advantage of the capitalization bargains and low taxation rates. Whereas YPFB’s investments in the infrastructure necessary to overcome the material obstacles of natural-gas extraction and transport were constrained by the economic policies of the Bolivian state and its supporting international financial institutions, transnational firms had the fluid capital necessary to incorporate Bolivia’s stranded reserves into the market quickly. Doing so, transnational firms not only took over YPFB’s assets but also began to invest in purportedly new areas of exploration and extraction. Investment more than doubled in the initial years after the capitalization, and by 2005 firms had invested a reported US$3.435 billion (Campodónico, 2007). This investment increased proven and probable gas reserves from 5.69 trillion cubic feet in 1997 to a peak of 54.86 trillion cubic feet in 2003. Furthermore, proven and probable oil reserves increased from 200.9 million barrels in 1997 to a peak of 956.9 million barrels in 2003.

But while investment increased, the trickle-down effects were few and far between. Failing to see the benefits from the neoliberal policies rolled out in the 1990s, Bolivia’s indigenous- and union-led social movements began to challenge the alliance between the state and transnational firms in attempts to alter the country’s socioeconomic trajectory. By 2003 Bolivia’s natural gas had become a focal point for social movement struggles, representing years of uneven development exacerbated by the regulatory changes that occurred in the 1980s and 1990s. The struggles led to the fall of second-term President Sánchez de Lozada. Vice President Carlos Mesa ascended to the presidential post and, responding to the social movement demands, put forward a referendum on the country’s hydrocarbon sector. Through the referendum, the Bolivian populace voted to nationalize the country’s hydrocarbons, refund YPFB, and increase tax and royalties rates on investing transnational energy firms. Unable to implement these reforms, Mesa resigned under pressure in June 2005. Six months later the Bolivian populace elected Evo Morales with
the expectation that he would follow through on the demands expressed through the referendum.

**THE NATIONALIZATION OF THE HYDROCARBON SECTOR**

Shortly after taking office, President Evo Morales condemned the neoliberal model of development, arguing that neoliberalism was “by no means the solution for Bolivia” and that “auctioning off or privatizing natural resources only brings more hunger and misery” (V, January 7, 2006). Less than five months later, Morales proclaimed to nationalize Bolivia’s hydrocarbon sector, making it possible for the state to increase the price of and rents from its natural-gas exports and to revitalize YPFB. To legally regain control of the country’s oil and gas, the Morales administration deemed Supreme Decree 24806 unconstitutional. According to Article 139 of the Bolivian constitution, the country’s hydrocarbons are the property of the state and no concession or contract can transfer this right to another entity (Gobierno de Bolivia, 2004).

Through this legal maneuver, the Morales administration recovered the state’s right to commercialize its hydrocarbons and increased the prices it received from the sale of its natural gas. As a representative of YPFB told me in 2006, shortly after the nationalization,

Bolivia had no control of its natural gas. It was the transnationals that would decide to whom to sell, what price to sell, and what volume to sell. And Bolivia, it was just a bystander. . . . With this new Supreme Decree 28701, we Bolivians control whom to sell to, what price to ask, and what volume to export. . . . With this decree the transnationals are required to give all their production at the wellhead to YPFB.

Gaining control of the commercialization of its gas, Bolivia renegotiated its supply contracts with its primary purchasers, Brazil and Argentina, to obtain a price closer to fair market value.6 Previously Bolivia had sold natural gas to Argentina for US$0.98 per million cubic meter. While gas prices to Brazil varied, in 2005 prices averaged between US$2.41 and US$2.95. However, gas traveling to Brazil along the Cuiaba pipeline was priced significantly lower, at US$0.98. After the renegotiations, prices to Argentina increased to around US$5 and prices to Brazil to US$4.20 (INE, 2008).

The state also increased the amount of rent it was able to earn from its hydrocarbons by increasing taxation rates. Whereas prior to the nationalization investing firms paid a combined 18 percent royalty and taxation rate on the hydrocarbons extracted from most reserves, after the nationalization this combined rate was increased to 50 percent. By increasing both the price and the rent of Bolivia’s hydrocarbons, the state saw dramatic increases in the government’s take. In 2004, the state took in close to US$287 million. By 2007, the state was taking in close to US$1.572 billion (Ministerio de Hacienda, 2008).

To revitalize YPFB, the state temporarily increased taxes and royalties on its largest reserves to 82 percent and sought to recover its previously
capitalized assets. The tax increase was to last until the firms operating the reserves had renegotiated their contracts. The 32 percent extra rent accrued by the state was intended to go to YPFB to help it reestablish itself as a viable actor in the country’s hydrocarbon sector. In this process, the state sought to regain control of the segments of YPFB that were sold off in the 1990s. Still technically owning minority shares in these companies, the state transferred control of its shares to YPFB. Over the following two years it slowly negotiated with investing transnational energy firms to regain control of these companies.

But the way in which the state took control of YPFB’s previously capitalized assets was more a free-market buyout than a nationalization. As a representative at YPFB described the process,

Now, it’s not even a nationalization. You may call this a hostile takeover. . . . A company is interested in another company, and it starts buying the shares and it goes to the annual meeting and announces, “OK, you guys are no more; we are in charge of this because we have 51 percent of the shares, so we’re in charge.” That’s a hostile takeover, right? We’re buying their shares, well, [at least up to] 51 percent. Of course, we have about 35 percent in one of the ventures and we have about 49 percent in others, so we’re only buying about 16 percent or maybe 2 percent more. And that’s not nationalization; it’s a hostile takeover, that’s what it is.

Through these “hostile takeovers,” YPFB eventually took control of its two capitalized exploration and production segments and its capitalized transport and storage segments. The nationalization was less about the recovery of the capitalized segments of YPFB than about control over Bolivia’s hydrocarbons. By the time Morales took power, the previously capitalized segments of YPFB operated only a small segment of Bolivia’s reserves (see Campodónico, 2007). Transnational firms that invested in “new” sites of exploration and extraction instead of buying segments of YPFB in the 1990s operated the majority of reserves. As a result, what the Morales administration nationalized was the natural gas itself. Whereas previously investing firms had been able to claim the natural gas they extracted once it left the ground, the legal changes gave the state control of the natural gas until it reached its point of sale. In this context, extraction and transport firms, including YPFB, performed a service for the state and received a certain percentage of the sale price for this service.

While a number of transnational energy firms operating in Bolivia threatened to bring the Bolivian state to international arbitration, the state was operating within the legal confines of the constitution and the contracts signed in the 1990s. To resume control of the commercialization of its hydrocarbons, it argued that the laws made in the 1990s were unconstitutional. In addition, while under the contractual agreements signed in the 1990s it could not raise royalty rates on its hydrocarbons, nothing in the agreements prevented it from raising taxes. To recover its previously capitalized assets, the Bolivian state expressed its interest in the assets to their owners and negotiated buyout agreements or joint ventures through which YPFB gained majority ownership.
NEOLIBERAL CONSTRAINTS AND SOCIOMATERIAL REALITIES

Despite these efforts, the Morales government’s ability to create radical socio-economic change has been inhibited by the path-dependent trajectories of the policies, contracts, and sociomaterial constraints that surround natural-gas extraction, transport, and use. This has been due to five primary factors: existing contracts of sale, a set distribution of taxes from hydrocarbon rents, a general lack of industry capacity in YPFB and the government, a lack of hydrocarbon exploration, and previously constructed transport infrastructure.

Although the state legally regained the right to commercialize its hydrocarbons, existing contracts of sale have limited its ability to commercialize its hydrocarbons as it pleases. While the Morales government has publicly declared internal distribution and industrialization to have priority among uses for the country’s natural gas, a 20-year supply agreement obligates Bolivia to send the majority of its natural gas to Brazil until 2019. As a representative of YPFB explained,

Unfortunately, we found out—actually, the authorities in La Paz found out—that there’s not enough gas for [industrialization] plants, to feed the plants. Because the problem with all the [industrialization] projects is that they use methane. So, in other words, that is the main commodity Bolivia exports to Brazil and Argentina.

On a daily basis Bolivia produces around 45.9 million cubic meters of natural gas. Bolivia’s contract with Brazil stipulates that it send up to 30 million cubic meters per day, or 65 percent of its production, to its eastern neighbor (La Razón, October 1, 2007).

Operating within the legal bounds of the contracts signed in the 1990s, the Bolivian state was only able to renegotiate the price of and taxation rates on its natural gas. The contracts did not allow for the renegotiation of export quantities. Furthermore, Brazil’s imports of natural gas from Bolivia constitute close to half of its natural-gas demands, and it uses the majority of this natural gas to supply energy to the industrial center of São Paulo (Reel, 2008; Randowitz, 2007). As a result, Brazil has been unwilling to sacrifice its own energy needs to help out its neighbor. As a Bolivian ex-Minister of Hydrocarbons stated:

It is difficult to understand at first glance the significance of Brazil for Bolivia. . . . Porfirio Díaz has a phrase in which he says, “Mexico, so far from God and so close to the United States.” This is his phrase, and I like to copy it. I say “Bolivia, so far from God and so close to Brazil”—that is to say, Bolivia is permanently abused by Brazil.

Although the two countries are amicable trading partners, their trading relationship favors the development of Brazil.

The ability of the Morales administration to use the state’s increased earnings to find more natural gas and use it for internal development has also been constrained. While the Law of Hydrocarbons 3058 augmented the government’s take of hydrocarbon rents by 32 percent through the creation of a direct hydrocarbon tax, it also stipulates how such rents should be used. The money earned through this tax is directed to Bolivia’s departments, municipalities,
universities, and indigenous groups and intended to be used primarily for education, roads, and health care (Gobierno de Bolivia, 2005). Very little of it goes back into the hydrocarbon sector. As a Bolivian congressman noted,

We have been dedicated to distributing the resources to all of the regions, but we have left, as they say, the hen with the golden eggs without food. . . . The hen with the golden eggs is YPFB. Without food, it runs the risk of dying. This is not understood. . . . The departments are defending the direct hydrocarbon tax and their royalties and do not see the importance of YPFB, forgetting that in reality YPFB is the mother, the milk cow that we have to first take care of in order to later distribute the cheese.

As a result, the state has been unable to use its increased earnings from the tax to build a more economically viable hydrocarbon industry.

In its efforts to rebuild its hydrocarbon sector, the state has also found itself with a general lack of overall capacity. Whereas YPFB once functioned as a legitimate player in the industry, the neoliberal policies of 1990s drained it of its experienced workforce and industry know-how. Many of the people who had worked for YPFB prior to its capitalization went to work for transnational energy firms. In addition, YPFB has found it difficult to bring in experienced people because of the high wages in the industry and the high international demand for hydrocarbon engineers. According to a general director at YPFB, “This is a big problem for YPFB. It doesn’t have many professionals with experience. Some young engineers are starting to work for us, but none of them have much experience. There are not a lot of professional [hydrocarbon engineers] in South America, and in Argentina and Brazil they are able to pay much more.” YPFB has therefore been forced to hire engineers who have little experience or have been out of work since the capitalization. With engineers who are new to the industry or have not participated in it for over a decade, YPFB has found itself with a workforce that is unfamiliar with the contemporary challenges in the hydrocarbon sector.

With a lack of general capacity, new projects and investment in Bolivia’s hydrocarbon sector have slowed or stalled. While the state has publicly proclaimed its desire to work with transnational energy firms in joint ventures, it has been unable to respond to investment proposals at the rates the industry demands. A representative at YPFB put it, “There are plenty of offers to invest in Bolivia. . . . But it’s taking a long time because decisions are not made fast enough in La Paz.” Even when investments have been approved, projects have been bogged down by the state’s inability to perform the tasks it was given when the hydrocarbon sector was reorganized. A vice president in one of Bolivia’s natural-gas transport companies provided an example:

The authorities do not have the technical staff to perform the environmental impact assessments, it takes a much longer time to do them, and effectively, we still end up participating because we have to push all of the time and provide the government with our own technical staff. . . . to sort of do the work that the government should do according to the law.

In this context, both representatives of YPFB and private investors have found their proposals stuck in an inefficient state bureaucracy.
These problems have been exacerbated by high turnover rates in the upper echelons of both YPFB and the Bolivian Ministry of Hydrocarbons. In the first four years of Morales’s tenure he has appointed six presidents of YPFB and three ministers of hydrocarbons. The majority of these appointees have been party affiliates and never previously worked in the hydrocarbon sector. In these positions, they have often been forced to support the political decisions of the state. At the same time, they have often found themselves lacking the experience necessary to oversee the hydrocarbon sector. As one of these YPFB ex-presidents described the situation,

The problem is that they do not have a clear strategy. They don’t have adequate governance, that is to say, an independent director, a director who is able to face real business challenges. They have problems choosing people. The salaries are extremely low compared with the pay in the industry, so they are not able to attract technical and professional people. And then they have a problem of high internal politicization; turnover is high, or it will be. I still don’t understand how they are able to keep going as a business.

In this context, those whose politics differ from the state’s or those who make mistakes because of inexperience have often been ushered out.

The problems arising as a result of the neoliberal policies of the 1990s have been exacerbated by the sociomaterial realities of the natural-gas industry. Natural gas, as a mixture of hydrocarbon gases, dissipates when not carefully contained. Furthermore, it is found in naturally predetermined locations, usually hundreds to thousands of feet beneath the earth’s surface. While it is speculated that new reserves exist beneath Bolivia’s soil, discovering such reserves, bringing them into production, and transporting them to new sites of use will take both time and money.

When Morales took power, his government inherited a hydrocarbon sector in which expansive exploration activities had not occurred for years. After the capitalization of Bolivia’s hydrocarbon sector, transnational energy firms largely invested in exploration in the places where YPFB had detailed geological surveys. Freely able to use YPFB’s data, they were able to “explore” for natural gas in places they knew reserves existed. A former YPFB employee said,

We handed it over to them . . . all the information we had gathered over the past 50 years, tons of photocopies and reports. They ordered us to, and we gave them the reports we had. They took the photocopies, and we armed them with a great deal of information for free.

In addition, a number of firms invested only in exploration activities that they could deduct from their royalties, taxes, or contractual obligations. A former director of statistics for YPFB, describing his experience in tracking the investments of energy firms in the country in 2008, said,

Drilling, exploration, development: [here is] a résumé of the prospecting activities in the camps of the companies. [It’s] blank. I have a sequential analysis of eight or ten years. Look: Andina in geologic prospecting in the year 2002 had 226 kilometers. . . . Seismic prospecting, nothing. Seismic 3D activity, nothing,
nothing. Gravitometry, they had 7,906 kilometers, but this was to justify, to compensate, to pay the royalties or the debts that they had, the contractual obligation the business had.

While it was widely believed that exploration investment had drastically decreased after nationalization, exploration investment actually peaked in 1998 and began to fall thereafter (CBH, 2007: 57). The declining rates of new exploration in the industry have led to recent declines in production. While some critics have attributed the decrease in exploration to nationalization, the Morales administration inherited an industry in which exploration activities were already declining and thus production and reserve levels that were bound to surpass their natural limits. As a result, it immediately faced the difficulties associated with finding new reserves and bringing them into production.

The Morales administration also inherited a hydrocarbon transport infrastructure designed to favor the export of natural gas. In the 1990s, the budding agreements to sell natural gas to Brazil helped fuel the rise of investment in the industry, and the majority of Bolivia’s pipelines were constructed to transport natural gas to Brazil. While some pipelines have been built to deliver natural gas to Bolivia’s more populated cities, they are considerably smaller than those traveling to Brazil. As a former official in the Ministry of Hydrocarbons noted,

> There is no big gas pipeline that goes from Santa Cruz to La Paz. There is a gas pipeline, but the pipeline between Santa Cruz and La Paz is only 6 inches [in diameter], a little thing. The gas pipeline that goes to Brazil is 33 inches [in diameter] . . . . Bolivia is a permanent supplier of raw materials and, with regard to energy, of gas . . . . This is what we tried to change in the last few years without success, but basically it is all still the same.

The ability of the Morales administration to develop new uses for its natural gas has thus been hindered by Bolivia’s existing pipeline infrastructure and the sociomaterial constraints on rapid construction of new pipeline infrastructure.

The neoliberal and sociomaterial constraints on the natural-gas sector have often been mutually reinforcing. To overcome the constraints of preexisting contracts, the state needs to find more natural-gas reserves and bring them into production for internal use. At the same time, it needs to construct new pipeline infrastructure to transport more natural gas to La Paz and Cochabamba. But the lack of funds going toward YPFB and the inability of the state to approve investors’ proposals have made exploration and the construction of new pipeline infrastructure difficult. A number of transnational energy firms have proposed to enter into joint ventures with YPFB. Plans to construct new pipelines have already been developed, and segments of YPFB have numerous industrialization projects waiting for government approval. However, the Morales administration has yet to take advantage of these opportunities. While the changes that have occurred in the natural-gas sector have created the opportunity to pursue an alternative socioeconomic trajectory, the Morales administration has largely been unable to overcome the path-dependent and sociomaterial constraints surrounding its natural-gas-led development trajectory.
CONCLUSION

The regulatory changes in Bolivia’s natural-gas sector over the past 25 years provide a lens through which to observe how both the effects of neoliberal policies and the sociomaterial difficulties surrounding primary commodities complicate a resource-rich state’s ability to pursue an alternative development path. Neoliberal policies in Bolivia led to the de- and reregulation of Bolivia’s hydrocarbon sector and the capitalization of YPFB. This opened up new opportunities for investment for transnational energy firms that had the fluid capital necessary to overcome the sociomaterial obstacles of natural-gas extraction and build the infrastructure necessary to transport gas to more profitable markets. These changes led to long-term contracts of sale, the evisceration of YPFB, an export-oriented transport infrastructure, and only short-term investment. When the Morales administration took power, it therefore found itself constrained by contractual agreements, an inflexible tax and royalty distribution, a general lack of industry capacity in YPFB and the government, decreasing rates of investment in hydrocarbon exploration, and limited transport infrastructure. Facing such constraints, it performed a neoliberal nationalization. While it technically returned physical control of Bolivia’s natural gas to the state, the space opened up for private investment in the hydrocarbon sector in the 1980s and 1990s still exists. Transnational firms still extract the majority of Bolivia’s natural gas, and most of it is still sent to more profitable export markets.

As of September 2009, the Morales administration still had the possibility to use its natural-gas sector as an engine of economic growth. Despite falling global commodity prices, the energy demands of Bolivia’s neighbors remain high. Segments of YPFB have developed numerous projects designed to turn Bolivia’s natural gas into value-added commodities such petrochemicals, plastics, and diesel. If the Morales administration wants to continue to use its hydrocarbon sector as an engine of socioeconomic change, it needs to enhance exploration and extraction activities and strengthen YPFB.

Evidence from this case deepens our understanding of the opportunities and constraints that states face as they try to exit neoliberal development paths. As illustrated in Bolivia, a change of leadership does not allow a state to merely change its socioeconomic trajectory. States are constrained by preexisting laws, the results of previous policy decisions, internal and external pressures, and, in natural-resource sectors, sociomaterial constraints. As more and more countries attempt to exit their neoliberal economic paradigms, Bolivia thus provides a case through which to see what is possible and the potential problems that states may face as they attempt to exercise greater control over their development trajectories in an increasingly interconnected global economy.

NOTES

1. The data used for this article are drawn from a broader research project examining the changes in Bolivia’s hydrocarbon sector over the past 25 years. The primary data come from archival sources, interviews, and event observation gathered in Bolivia from June 2006 through August 2006 and August 2007 through August 2008. During this time, I conducted 93 open-ended
interviews with public and private representatives in Bolivia’s hydrocarbon sector, politicians at all levels of government, and community members in hydrocarbon-producing regions. I guaranteed all interviewees anonymity and conducted most interviews in Spanish. The quotes appearing in this article come from interview transcriptions that I translated. The archival data come from government documents dating from 1980 through 2009 and nine different Bolivian newspapers dating from 1990 to 2009.

2. The Bolivian hydrocarbon sector has been nationalized three times: in 1936, in 1969, and in 2005. The nationalizations have taken a variety of forms and have brought different sources and amounts of revenues to the Bolivian state through taxes, royalties, and ownership arrangements.

3. Contracts of operation granted companies the right to exploit and operate a reserve for a set number of years. Contracts of association did the same but gave YPFB the right to work in tandem with a company if it discovered a reserve of significant commercial value. If YPFB decided to “associate” with the investor, it paid the investor part of the initial sunk costs of exploration and extraction and then received a portion of profits.

4. During the 1990s there was much public debate over whether Bolivia’s public industries should be capitalized or privatized. While capitalization is a form of privatization (see Kohl and Farthing, 2006: 123), conflating the two terms would obfuscate the debate over regulatory changes. Proponents of privatization pushed for a complete sale of Bolivia’s public industries, while proponents of capitalization pushed for the partial sale of those industries.

5. While the state technically maintained minority ownership in the capitalized segments of YPFB, control of its shares in these firms was given to two private pension fund administrators that served basically as holding companies generating money for the Bolivian pension system. As a result, the primary shareholders of the capitalized segments of YPFB held all the decision-making power (see Hindery, 2004, and Kohl and Farthing, 2006).

6. In 2006, Bolivia had contracts with Brazil and Argentina to export close to 85 percent of the natural gas produced within the country (La Razón, October 1, 2007). Export prices are variable and readjusted every three to four months, depending upon regional and world energy market prices.

7. The initial increases in the government take occurred during the Mesa administration. From 2004 to 2005, the rent taken in by the government increased from US$287 million to US$608 million.

8. Contradicting interview data with state officials and representatives of investing energy firms makes it debatable whether the state actually received 32 percent more on these reserves and whether the money actually went to YPFB.

9. The last capitalized segment of YPFB was recovered by the state in January 2009. When this article was written, it was unclear how much its transnational owners would receive in compensation. The Bolivian state has reimbursed all of the other transnational investors for their losses.

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