“Oil and Gas (ONG) Monopolies in Latin America: The Bolivian Case”

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Introduction

In Latin American history, oil and gas have been regarded as sovereign patrimony among other products. In the petroleum industry, foreign investors have stirred a nationalistic debate for decades. Populist governments blame foreign investment and capitalism for all economic problems in the region.

Many Latin American economies have huge potential in their petroleum sector, but are underperforming. The largest energy companies in Latin America are owned and controlled by the government. In spite of their potential to be the engines of economic growth, these companies are limited in their ability to become more efficient, profitable and competitive.

Even when oil prices were historically high, state-run oil companies failed to deliver economic growth according to their potential.

According to some interesting facts about the oil and gas sector in Latin America, Brazil, Mexico, and Venezuela are the top three oil producers. In spite of Venezuela having the

world's largest oil reserves in 2022, it produced less than Bolivia, despite Bolivia's production dropping around 50% over the past few years.

As shown in the chart below, Brazil is the sole Latin American country in the top ten oil producers worldwide, but Mexico, Venezuela, and Bolivia are also included for the purposes of this study, highlighting their importance in the Latin American oil and gas industry.

Country	Oil Production 2022 (million bpd)
United States (1)	***11,184,870***
Saudi Arabia (2)	***10,835,000***
Russia (3)	***10,778,000***
Brazil (8)	***3,689,000***
Mexico	**1,755,000**
Bolivia	**870,826**
Venezuela	**727,000**

*Own Elaboration from different public sources

Hypothesis and first assumptions of the present research are as follows:

1.- Oil companies can become uncompetitive and unsustainable as a result of government intervention.
2.- In order for state-owned energy companies to grow economically, they need professional management, transparency, free competition, and access to foreign capital and technology.
3.- Government policies based on nationalism rather than free markets are doomed to fail.
4.- Latin American energy monopolies do not contribute to economic growth.
5.-There has been no economic growth in state-run energy companies due to corruption, mismanagement, and political agendas.

The present research is organized in the following way to address the Hypothesis and Initial Assumptions: Introduction, Chapter 1, discusses monopoly theory and its neoclassical and present approaches. Government monopolies are the focus of this research, so it is important to discuss the types of monopolies that exist. Additionally, the chapter discusses how monopolies influence economic growth, as well as Latin American neoliberalism and State Monopolies.

The purpose of chapter 2 is to describe the general principles of the Oil and Gas sector (ONG) that are important to know and understand. As well as discussing what is known as a NOC (National Oil Company) and an IOC (International Oil Company), we will conclude the chapter by discussing Latin America's ONG sector's investment and expropriation cycles.

As part of Chapter 3, we will discuss Latin America's top state-run oil and gas companies. Chapter 4 will explore the case study of the present study “Bolivia” giving an overview of its economy to then analyze its ONG sector and NOC.

Chapter 1
Monopoly theory, neoclassical and present approaches

Some researchers sustain that: The term monopoly is commonly understood to mean a single seller of a valuable item or service. This view is sustained by Neoclassical theory, this view captures the basic intuition of the nature of monopoly, but can be misleading. Being the sole seller is neither a sufficient nor a necessary condition for obtaining monopoly power.

Using neoclassical economic categories to define monopolies and fashion legislation and regulation to deal with them limit and confuses the discussion. The number of sellers in the industry, the market share, the fewer, the greater the monopoly power, or the degree to which the seller is able to control the price, and even the elasticity of demand are factors considered in new approaches. However, even observing elasticity in this framework may be misleading.

When we consider monopoly in the real world, we have to consider the process of competition over time. In addition to violating all of the conditions of perfect competition, the perfect competition standard is inappropriate in many ways. Competition occurs in the real world by companies experimenting with new products, new methods of production, new resources and competing vigorously against one another for consumers' business by lowering prices and/or improving quality.

Consequently, a different definition of monopoly emerges. A monopoly is a seller's ability to charge a price and enjoy special protection against competition. Thus, competition and free entry by actual or potential competitors are essential. It is a question of what constitutes a credible or real barrier to entry that protects a seller. Some researchers suggest the government should provide that protection for sellers.

The only relevant consideration would be whether the seller in question has the power to prevent competitors from entering the industry. From this perspective, monopoly power has nothing to do with the number of sellers or the elasticity of demand. Lastly, price discrimination has nothing to do with monopoly per se, but is a practice that is widely followed throughout the economy. (UTDALLAS, UT Dallas University, accessed September 01,2022. https://personal.utdallas.edu/~plewin/Notes%20on%20Monopoly.htm)

Having monopolies stifles competition and limits consumer options is discouraged in free-market economies. Antitrust legislation, for example, is in place in the United States to prevent one business from controlling a market and exploiting its customers. Monopolies can also lead to unfair consumer practices. Some monopolies, such as those in the utility sector, are regulated by the government.

Through vertical integration, companies become monopolies by controlling all aspects of the supply chain, from production to sales, or by acquiring competing companies in the market.

1.1. Types Monopolies. -

The Pure Monopoly. -

In a pure monopoly, there is only one seller in a market or sector with high barriers to entry and no substitute for their product. An example would be Microsoft Corporation, the first company to hold a pure monopoly on computer operating systems.

Monopolistic Competition. -

In an industry sector with similar substitutes, monopolistic competition occurs when there are multiple sellers. There are low barriers to entry, and competitors differentiate themselves by pricing and marketing strategies. Examples of this include Visa and MasterCard, which don't have perfect substitutes.

The Natural Monopoly. -

A natural monopoly develops primarily through the use of unique raw materials, technology, or specialization. Companies with patents or substantial research and development expenditures, like pharmaceutical companies, are considered natural monopolies.

Public Monopolies. -

The utility industry is an example of a public monopoly. In this industry only one company is frequently responsible for managing the energy and water supplies in a region. The monopoly is allowed and heavily regulated by government municipalities and rate increases are highly regulated. (Investopedia, Investopedia online encyclopedia, accessed September 05, 2022.https://www.investopedia.com/terms/m/monopoly.asp#:~:text=A%20monopoly%20is%20a%20market,and%20limit%20substitutes%20for%20consumer)

Government or State Monopoly. -

Generally, a government monopoly or public monopoly involves the existence of a coercive monopoly in which the government or government corporation is the only supplier of a particular service or goods with no competition permitted. As opposed to a government-granted monopoly, which is granted by the government to a private company or individual, it is a monopoly created by the government.

State monopolies are most commonly run by the national government, but they may also be run by regional or local governments. By virtue of the fact that state monopolies are not limited by competitive pressures from private organizations, their commercial behavior is effectively unrestrained. Its high level of autonomy and independence in the market has been demonstrated by the fact that it has been able to alter relationships with its customers to its advantage without negatively impacting its dominant market share. In order to demonstrate its ability to disregard any competitive forces within the market, a state monopoly may increase the price or quantity of goods and services it provides without a relational change in its own operating costs. In addition to reducing service

value, a state monopoly can also impose restrictive terms and conditions without losing market share. (Butler-2021)

1.2. Monopolies and Economic Growth

Our research will address some ideas that economists have regarding monopolies and economic growth, as well as analyze the advantages and disadvantages of monopolies.

Monopolies are generally viewed as bad for consumers and the economy. When markets are dominated by a small number of big players, these players can abuse their position by raising prices.

A company that holds a monopoly on a certain type of product may be able to produce mass quantities of that product at a lower cost per unit, resulting in large economies of scale. Those low prices may be passed along to consumers depending on the ethics of the company.

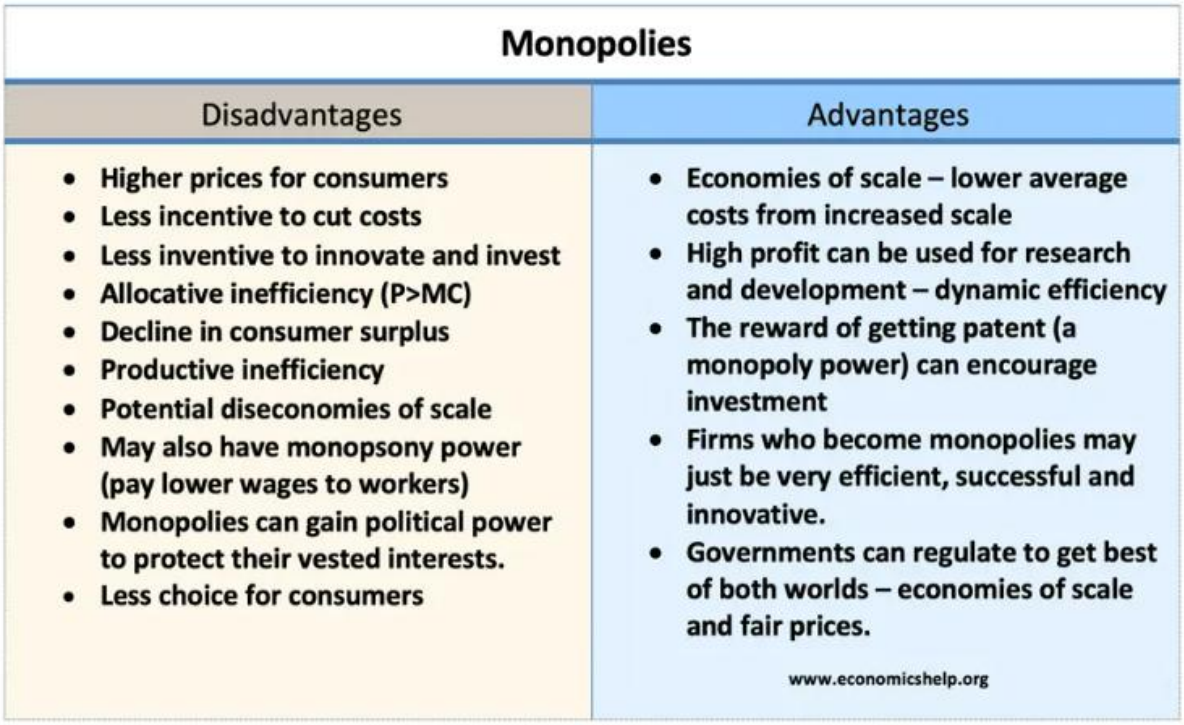
There are instances in which monopolies may be considered appropriate or economically advisable when free-market competition would be inefficient, consumer prices should be regulated, or initial investment in a necessary sector is inhibited by high risk and high entry costs. There are many cases in which government-created monopolies are intended to establish economies of scale that benefit consumers by lowering costs. Examples include companies that provide water, natural gas, and electricity.

Monopolies are often natural, usually legal, and surprisingly common, according to some researchers. Many economists today openly praise monopolies as a more enlightened form of capitalism. Some even argue that monopolies and oligopolies are always bad because they distort prices. In the real world, however, it's not that simple. It is believed by neo-Marxist economists that in capitalism the big will inevitably eat the small.

The idea of monopoly appears deeply rooted in the capitalist system: free competition may be useful for certain investigations in the first stage, but it is nothing more than a myth when used to describe a normal stage of capitalist economies. Competition reflects the contradictions of capitalism, with some economists arguing that innovation can only come from large monopolies. Unfortunately, capitalism is not marked by competition in many developed economies, and many industries have a small number of players. Despite the illusion of choice, many large companies control regulators, and regulations are largely in place to prevent new entrants from entering the market. In essence, many argue that we don't have a monopoly problem, but rather an oligopoly problem (market dominated by few suppliers). Many people are taught to fear national monopolies, but give little thought to duopolies and oligopolies. Oligopolies often act similarly to monopolies. A monopoly, according to economist Milton Friedman, is a concentration of power by a company that has enough control over a particular product or service to significantly determine how other individuals access it. According to that definition, today's oligopolies are monopolies. (Tepper,2018)

Capitalism has evolved beyond the monopoly stage, according to some researchers, but its driving force has not yet been found in terms of capital accumulation. As a result of this explosion, the system has found new ways to reproduce itself and capital has prospered. These researchers call this “monopoly-finance capital”. (Foster, 2010)

In terms of advantages and disadvantages of monopolies, we can say that monopolies are firms which dominate a market. Either a pure monopoly with 100% market share or a firm with monopoly power (more than 25%) monopolies set higher prices than competitive markets, resulting in lower consumer surpluses. In contrast, monopolies can benefit from economies of scale, leading to lower average costs, which can be passed along to the consumer. Below is a chart that illustrates some of the advantages and disadvantages of monopolies.



(Economics Help, Tejvan Pettinger, published 04-10-2020, accessed 15-09-2022, https://www.economicshelp.org/blog/265/economics/are-monopolies-always-bad)

As a factor that promotes welfare and economic efficiency, competition law has been mentioned as an effective measure. In an economy, however, not all industries or parts of an industry can accept competition; these industries are known as "natural monopolies". For many, energy is considered a natural monopoly and must be controlled by the government as such.

Several countries began creating competition rights on their energy markets, believing that natural monopolies could be reformed to allow market participants to compete in some ways. Generally, governments carry out this process through "privatization" and "liberalization," which involves a greater reliance on the market as a result.

Therefore, the misconception that the market cannot compete in this industry should be dismissed simply because some energy products like electricity and gas are part of

natural monopolies. In light of this, the view was formed that the energy industry should be treated like any other commodity when it comes to applying competition law.

In this regard, it is important to dismiss the myth that the market cannot compete simply because some energy products, such as electricity and gas, are natural monopolies. Based on this, the view was formed that competition law should be applied to the energy industry as it would to any other commodity.

The discussion emphasizes the fact that leaving the energy market to its own devices may prevent the formation of a natural monopoly, but it may also result in a private monopoly through mergers between private companies, so government intervention and regulations are essential. (Norouzi, 2021)

1.3. State monopolies and neoliberal policies in Latin America

Researchers in the 1990s when relating to the Latin American economic reality argued that:

In order to redesign the Latin American developmental state, two competing models have been proposed. One starts by removing public functions and confidingly assigning them to the private sector and the market. The other begins by confronting the central challenge of the public deficit and defining a new development strategy. The partial congruence creates not only an impression of consensus, but also leads to inconsistent policies. Unlike the first, which emphasizes a reduced state and reduced expenditures, the second requires a stronger state and greater control over resources. It appears that multilateral institutions favor immediate and wide-ranging liberalization combined with aggregate restraint, but such an approach has limited support, particularly in markets that have been successful.

Economic development will not be guaranteed by macroeconomic equilibrium once it has been achieved. Public investment is crucial to larger private investment; deteriorating

infrastructure and inadequate public services have reduced private returns. The stagnation and accelerating inflation of the 1980s led to significant increases in inequality and poverty. Political stability requires more than rhetorical recognition. As the public sector divests some of its productive activities and liberalizes trade, it must become a better regulator and subsidizer.

Privatized natural monopolies must be monitored; financial activity cannot go unattended; priority private investment must be encouraged. To perform that role effectively, the state needs a new coalition of political support that is based on both new and old realities.

As a consequence, external finance is much reduced and domestic savings must be increased, especially by the public sector. Due to the diffusion of technology and import of capital goods, the international market for manufactured goods has become more competitive, and the domestic tax base is limited; income inequality is unacceptable throughout the region.

Democratization is just the beginning of political transformation; it is very much a component of state redesign. In most of Latin America, populism, with its emphasis on inequality and its tendency to create an activist and inward-looking state, is not the principal obstacle to such transformation.

It's not simply about getting the state to leave, but bringing the private sector and civil society back in with more positive input. The challenge to the countries of the region is immense. There are no easy solutions.

The prospects for economic development in the region during the decade ahead and beyond hinge upon the outcome of the process of redesigning the state. A successful outcome of this process is more difficult to achieve as the accumulated forces of economic erosion of the last decade accumulate. (Fishlow, 1990)

According to researchers, the left in Latin America developed in modern times as a result of the anti-capitalist struggle, rejecting capitalism and seeking to replace it with socialism. Through the struggle against anti-neoliberalism and anti-capitalism, socialism became the standard-bearer for a classless, stateless society. It brought progress and emancipation to labor relations and the working class. The deregulation fostered by neoliberal policies favored financial capital's speculative hegemony.

In Latin America, neoliberalism was the first hegemonic model adopted, and alternatives were implanted first. The region went from being dominated by neoliberalism to one of hegemonic instability.

In the past decade, four governments have sought alternatives to neoliberalism: Cuba, Venezuela, Bolivia and Ecuador. Despite developing different political models with distinct socio-economic structures, they all share the tendency to place social objectives before economic-financial objectives. In order to break the hegemony of financial capital and market mechanisms, they seek a strategy in which economic concerns are subordinated to social concerns.

The anti-neoliberal struggle has forged a new path, the Latin American left has gone from a defensive phase, when the hegemony of neoliberalism was almost unquestionable during the 1990s, to a hegemonic dispute. Consequently, social movements, who played a central role during the resistance phase, faced a number of difficult dilemmas. Leftists developed the expression ‘autonomy of social movements’ as a sphere of ‘civil society,’ important in the struggle against neoliberalism during the period of resistance, harshly criticizing political parties, governments, the state, and the political sphere itself during the phase of resistance. As a result, they were able to regroup for social resistance.

Bolivia's example was paradigmatic, as the 'water war' in 2000 sparked a new cycle of popular movements and uprisings, culminating in the establishment of the Movement for Socialism (MAS). Taking a critical look at Bolivia's traditional left, which erased the secular identities of the indigenous peoples (Aymaras, Quechuas, and Guaranis), a political subject was reconstructed from the original peoples, leading to the election of the first indigenous president and the establishment of a new state. (Sader, 2009)

Chapter 2
The Oil and Gas Industry

2.1. Generals in the oil and gas sector (ONG)

We are intertwined with petroleum products every day in almost every aspect of our lives. Hydrocarbons are used for cooking, travel, electricity, and so much more. It is not inappropriate to say that the oil and gas industry was born during the late 20th century, as the hydrocarbon industry developed at that time.

Despite some evidence suggesting hydrocarbons have been used for the last 1500 years, the oil and gas industry developed in a meteoric fashion. As the industrial revolution unfolded during the colonial era of American and European powers in the 16th century, the need for authentic and fast modes of transportation and logistics contributed to the growth of this industry.

Researchers agree that while World War II was a highly destructive war, in which nearly 60 million people died, it was also an important turning point in the development of the hydrocarbon industry. Although it was destructive, it had positive effects on technological development. In the years leading up to the war, numerous scientific discoveries were made, including those in welding technology, metallurgy, organic chemistry, chemistry, electronics and computation. As with many other industries, these inventions paved the way for the oil and gas sector to develop and grow.

Offshore oil and gas emerged after the 1960s. The British Navy built the Thames Sea Forts to prevent the Nazis from invading the Thames and Mersey estuaries. Modern offshore platforms are direct descendants of those towers. (Dalvi, 2015)

Fig. 1.1: 1p Thames Sea Forts

(Dalvi, 2015)

In the ONG sector, upstream and downstream are commonly used terms. An upstream activity refers to the exploration and production of crude oil and natural gas, whereas a downstream activity refers to the process of delivering the crude oil and natural gas to the customer.

Upstream: Exploration involves multiple activities, including obtaining land rights, conducting geological surveys, and digging exploratory wells to identify reserves of oil and gas. It is a high-risk activity for companies. In the production process, the natural resource is extracted from the ground by drilling wells (onshore or offshore), or by fracking. As a result, upstream operations are heavily reliant on electronics and technology. Before exploration wells are dug, surveys are conducted with sophisticated

electronic equipment, which will likely inform AI and computer-based models of the area. The drilling and fracking industry has also become increasingly automated and computerized as drilling and fracking equipment has become more advanced, autonomous, and efficient.

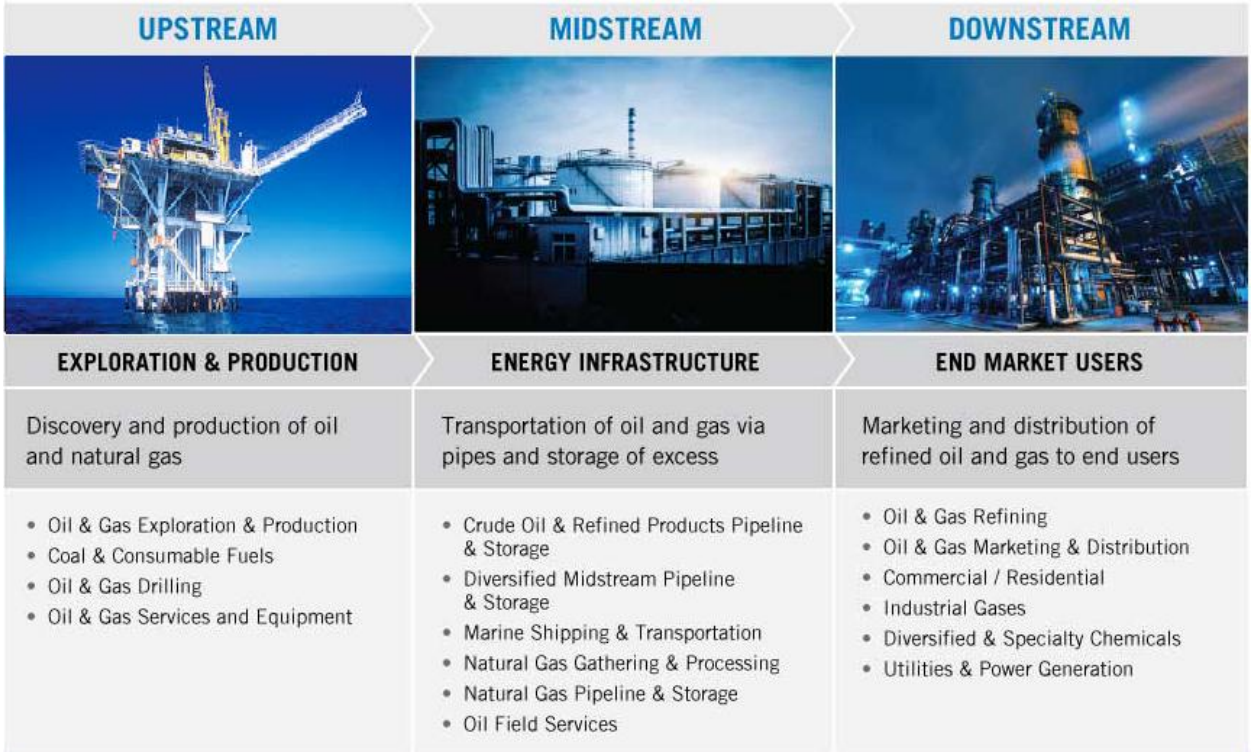
A downstream process is the final step in the journey of oil and gas from the ground to the consumer's hands. Traditionally, upstream and midstream activities are responsible for extracting crude oil and natural gas and transferring it to refineries.

Therefore, refinement is the first step in downstream work. As a result of fractional distillation, crude oil is refined into gasoline, naphtha, kerosene, and diesel oil. Because each product has a different boiling point, fractional distillation works.

All the components of crude oil are heated at the bottom of the distillation chamber until they turn into gasses, which rise upwards. After they rise up the chamber, they cool, and an apparatus is placed to catch the different products as they condense from a vapor into a liquid.

Natural gas processing involves multiple chemical reactions that result in multiple end products such as ethane, propane, and butane, all of which are complex. After refinement and processing of both products, they are packaged in various ways and delivered to consumers.

As part of the production of oil and gas products, midstream works or field processing are often mentioned – these processes connect upstream and downstream processes. Following the completion of upstream operations – exploration and extraction of raw materials from the ground – midstream operations deal with processing, storing, and transporting those materials to further refinement sites.



(Source: Outperformrsm.com)

In the past and present, the ONG sector has encountered the following challenges: Two oil price shocks resulting from geopolitical events in the 1970s affected global politics and economics for years. As consumers turned to alternative energy sources, energy efficiency improved, and non-OPEC oil supplies increased, major oil and gas producers faced declining consumption on the demand side.

A similar but more intense crisis in the 2000s radically altered oil and gas markets. There are two major challenges facing the oil and gas industry: energy substitution and resource scarcity. As coal and renewable energy replace oil and gas, the demand for oil and gas may decline, but resource scarcity may encourage the development of unconventional hydrocarbons like shale oil and gas. In the 2000s, oil consumption did not decrease as it did in the 1970s. Further, the recent fall in oil and gas prices has presented a fiscal challenge to conventional producers, including OPEC countries and non-OPEC countries like Russia and Mexico, whose governments depend on exports.

It has been widely accepted that the petroleum industry has faced a number of complex sustainability challenges over the last few years. Due to the increasing demand for energy in the world, the oil industry should invest pro rata. However, due to more competitive activities in these sectors, it is imperative that this industry reduces its production costs while adhering to environmental laws and social obligations at the same time. A growing demand for oil and gas in most regions, price fluctuations, and the complexity of drilling and production processes are some of the major challenges faced by oil and gas companies. (Mojarad, 2018)

2.2 National State- owned oil companies (NOC) and International oil companies (IOC)

There are two kinds of oil companies: IOCs and NOCs. IOCs are Western oil giants like BP, Royal Dutch Shell, Occidental Oil, etc. NOCs are state-owned oil companies, such as Saudi Aramco and Rosneft. NOCs make decisions based on state regulations, rather than global oil markets.

It is investors and technological advances that drive IOC decisions, but NOCs do not. As well as financial motives, NOCs have significant political motives, which can often give them an advantage over IOCs. As NOCs expand their global reach, state-backed motives have led them to become more influential players abroad. Due to a lack of access to proven global reserves, IOCs are at a disadvantage. The IEF (International Energy Forum) estimates they have access to only 14% of the reserves, and they only support projects that will generate revenue. However, NOCs can lose income when they support the political position of the state. (Guttman Energy, Jon Babyak, 2020, accessed 15.09.20222. https://www.guttmanenergy.com/fuel-matters-blog/nocs-vs-iocs/)

There are NOCs that operate almost exclusively within their own country. Others are out and about, like IOCs, to broaden their horizons. The NOC can be operated using a traditional oil company management model and include less than majority private ownership. There are NOCs that are run under governmental control, which can lead to inefficiencies. Some revenues go directly into the government, with a budget set by the

government. Other National companies receive oil and gas income directly, which covers company expenditures and pays dividends to the government.

Basically, IOCs produce oil and gas from a variety of countries, and Phillips Petroleum, for instance, founded in Oklahoma, led Norway into the oil age during the late 1960s and early 1970s when it discovered the “Ekofisk Chalk field”, one of the most successful waterflood projects in history, and Norway's oil and gas industry remained strong for decades to come. (Whitson, 2009)

In addition to owning and managing the entire national oil and gas supply chain from upstream to downstream activities, NOCs have traditionally been regarded as custodians of their country's natural resources. NOCs have established themselves as joint venture (common model contract in the ONG industry) partners with the IOCs and increasingly as competitors, seeking global acquisitions and asset acquisitions. IOCs and NOCs should work together to contribute to the socioeconomic development of countries where they operate. IOC resource-ownership business model's sustainability is the key question in the emerging landscape. (Al-Fattah, 2013)

Some argue that, the International dynamics of the Oil and Gas Market is governed, subordinated to the interest of the big consuming economies, for whom the NOC like YPFB and others in Latin America, are a problem because they insist in safeguard the interest of their own producing countries form las appetencies IOC. (Eldrige, 1992)

National oil companies (NOCs) and international oil companies (IOCs) are expected to be more competitive as a result of these fiscal challenges, requiring structural changes in industry governance. A rise in state capitalism is expected in the next decades not only in major oil and gas producing countries, but also in the global energy industry, as NOCs continue to dominate the industry. The increasing interference of the corresponding governments will likely lead to an increase in state capitalism. (Ediger, 2018)

2.3 Latin America’s oil and gas sector: Cycles of Investment and Expropriation

As a result of Mexico's 2015 oil industry opening to private investment, which had been under exclusive state control for 75 years, some researchers predicted that the Latin American oil industry will be reconfigured for decades to come.

Governments of all political stripes were eagerly pursuing oil investment in Latin America. The trend of liberalizing the industry seems to have begun before the collapse of oil prices, but it has been reinforced by the collapse of prices. It is unlikely, however, that resource nationalism will disappear in the future if history is any guide.

Latin American countries benefited enormously from the large and persistent increase in commodity prices during the first decade of this century. It generated a revenue boom for regions' net exporters of hydrocarbons, Venezuela, Mexico, Ecuador, Colombia, Bolivia, and even Argentina, a declining net exporter on its way to becoming a net importer, as oil prices rose from $10 per barrel in 1998 to more than $100 per barrel ten years later. The third largest oil producer in the world, Brazil, which is still a net importer, was also significantly benefited.

As in the 1970s, the oil boom was accompanied by a wave of resource nationalism—the government encroaching on the property rights of foreign investors and expanding state ownership and control. From 2002 to 2012, taxes were significantly increased, contracts were forcefully renegotiated, and foreign investors were nationalized in full.

Four out of the five hydrocarbon exporters with foreign investment in oil and gas—Venezuela, Bolivia, Ecuador and Argentina—nationalized their resources during this period; Mexico, until recently the largest oil producer in the region, maintained a state monopoly until 2013.

After a decade of deteriorating conditions for oil investors in the region, the Argentine government re-nationalized the former national oil company, YPF, in 2012. While some exceptions occurred, Latin America was the leading example of a global phenomenon of increasing state intervention and nationalization. Brazil and Colombia, for example, did not follow the same expropriation pattern.

We have witnessed, however, a strong countercurrent in government efforts to attract foreign oil investment in the region during the last few years. In 2009, Venezuela, which led the nationalizing movement, announced that it would auction new areas for joint ventures with foreign companies in extra heavy oil projects. Only two years after the nationalization process began in 2005, this occurred. PDVSA, the Venezuelan national oil company, signed seven major extra-heavy oil joint ventures with foreign partners in 5 years, including Chevron, CNPC, ENI, Repsol, and Rosneft. When complete, these projects would cost more than US$100 billion and would produce 1.5 million barrels of oil a day. PDVSA also pursued smaller partnerships.

A common theory is that the previous wave of resource nationalism was largely a consequence of the resurgence of left in Latin America. The origins of the investment, expropriation and reopening cycles. It should be noted that the nationalizers -- Hugo Chávez of Venezuela, Evo Morales of Bolivia, Rafael Correa of Ecuador, and Cristina Fernández de Kirchner of Argentina -- were among the most radical leftwing movements in the region.

In contrast, countries that did not expropriate or moved in the opposite direction—such as Brazil, Colombia, and Peru, or more recently Mexico—have either moderate left or center-right governments in power. In order to fully understand resource nationalism, it is necessary to understand the deeper determinants of the history of private opening and expropriation cycles. As a result, political leaders face different incentives based on international prices, investment cycles, production and reserve tendencies, and net exports (imports). As a general rule, expropriation occurs when prices rise substantially,

that is, when the government gains significant benefits from them. This has been the case throughout developing countries.

Expropriation is also more likely to occur in an environment of high and increasing reserves and production, and when the country becomes a net exporter. In other words, after a period of successful private investment, expropriation probability increases paradoxically. Due to the high amounts of oil rent, which can account for up to 90% of revenue, the calculation of fiscal benefits can be politically irresistible. Approximately 30% of total government revenue comes from oil revenues, making most relevant petroleum exporters fiscally dependent on oil. It takes a long time for oil companies to recover their investment in exploratory wells and field development infrastructure, whereas operating costs are just a small percentage of this investment, since companies have to invest a lot in exploration wells and field development infrastructure. Therefore, in this so-called high sunk-cost sector, it can take years for a decline in investment to lead to a decline in production. As a result, government leaders with short-term horizons may be tempted to obtain high current benefits while deferring costs, leaving future leaders to face the political consequences of lower production and revenue. (Monaldi, 2015)

Latin America has experienced in the energy sector openness when “Privatization and Demonopolization”. Has experienced transitions between monopolization and demonopolization. The energy sector in many Latin American countries was largely closed to private domestic and foreign investment under Hydrocarbon Laws or in countries like Mexico, Brasil and Bolivia by national constitutions. In their efforts to reduce costs and increase efficiency, national oil companies in the region have been undergoing periods of reorganization, which would include downsizing, demonopolization and privatization. An example Peru that in 1991 eliminated the monopoly of its National Oil Company, Petroperu, by instituting policies that included offering small refineries for sale and granting more concessions to forging and domestic private oil companies. PDVSA also underwent a process of demonopolization its upstream activities, by opening up the development of marginal fields to private participation. YPFB OF Bolivia offered to transfer its assets to international and private domestic investors. (WU, 1995)

The future of the Latin American oil industry depends on the incentives provided by price cycles, investment cycles, endowments, and institutions that drive resource nationalism and liberalization. Due to factional democracies, weak rule of law, and rampant inequality, the region has been more prone to policy volatility than other regions in the world. (Monaldi, 2015)

Chapter 3
Important National Oil Companies (NOC) in Latin America

Global energy supply is strongly influenced by the balance achieved between resource nationalism and energy security. Energy policy is usually characterized by how resource nationalism and energy security are pursued. Latin America has played a significant role in both of these ideas, but given its growing role in the world of hydrocarbons, its energy policy is becoming increasingly important. (Mares, 2010)

Government interference and short-term political agendas impede State-owned energy companies in Latin America, according to researchers. While these companies should be the engines of their national economies, resource nationalism and popular gasoline subsidies have limited their ability to become more efficient, competitive, and profitable.

The energy giants Petrobras in Brazil, Petróleos Mexicanos (Pemex) in Mexico, and Petróleos de Venezuela S.A. (PDVSA) in Venezuela suffer from mismanagement, corruption, and political agendas. In order to maximize their productivity and competitiveness, these companies need to maintain professional management, be transparent, and have free competition with private companies, and they should take advantage of foreign capital and technology if they want to deliver greater benefits to their countries.

Latin America has always valued oil and its by-products as sovereign patrimony, as we have mentioned in this investigation before. Resources industry involvement by foreign companies and investors has sparked significant nationalistic debates for many decades.

Researchers maintain that Populist governments have also blamed foreign investment and capitalism in general for every economic ill in the region. Despite historically high oil prices and the discovery of staggering oil deposits, the state-run oil companies have not delivered bonanzas for their people. A strategic industry has been hindered by

government interference and barriers to foreign capital and technology. Government policies based on nationalism rather than free market principles are a recipe for failure.

Brazil's Petrobras, Mexico's Petroleos Mexicanos (Pemex), and Venezuela's Petróleos de Venezuela S.A. (PDVSA) are instructive examples of how government intervention can render oil companies uncompetitive and unsustainable. Even "innovative" hybrid solutions that incorporate private capital, companies, and competition with state-run enterprises have failed to produce an industry that is dynamic and healthy. (Noriega, 2013)

Following the present investigation, we will examine some general aspects of the three ONG companies mentioned above.

3.1. PETROBRAS (Brasil)

Petrobras, the South American oil giant, has been making headlines for years as a model of how to effectively manage a state-run petroleum company. News articles reported Petrobras's "exponential" growth and touted its hybrid model of government and private collaboration in the oil industry. Unfortunately, the company has fallen short of expectations.

From 1954 to 1997, the Brazilian government managed the oil company as a monopoly and had absolute control over its oil exploration and production activities. Since its creation, Petrobras has been used as a significant source of revenue to fund social programs and to help balance Brazil's government budget. When the Brazilian government took the dramatic step in 1997 to allow private companies to begin competing with Petrobras, the prospects of a free oil market looked very promising. This historic step, coupled with the discovery of vast oil wealth in pre-salt deposits in Brazil's territorial waters, contributed to Brazil's surge as a global economic power.

Although Brazilian authorities were willing to open the country's energy industry to the private sector, they never intended to liberalize the market in a way that would challenge Petrobras's preeminence. Indeed, policymakers have adopted measures to protect

Petrobras's position in the market to ensure sufficient revenue to the government treasury. In return for these advantages, politicians imposed "domestic content" laws to favor Brazilian suppliers in the industry and meddled in the company's dealings with powerful unions. Ironically, government decisions to preserve Petrobras's competitiveness have made it less able to compete with the world's private oil companies. This favoritism has in turn stiff-armed competitors and stunted the growth of the lucrative oil sector as a whole.

Petrobras has experienced falling production, exchange rate losses, and excessive government intervention, this triggered a lack of confidence from investors. Investors had to learn not to forget the most important lesson from government intervention in Latin America: politicians use the companies they control to advance their short-term political agendas and survivability, rather than to benefit the companies, their investors, or even national well-being. According to Brazilian energy consultants, Petrobras is now a tool for short-term economic policy, used to protect domestic industry from competition, and to fight inflation. This disastrous process will intensify if it is not reversed." (Noriega, 2013)

Brazilian government policies included a nationalistic mandate to buy oil platforms and other equipment from Brazilian companies, which caused a soaring debt, major delays in the projects, and smaller fields. It was intended to boost the country's industrial capacity and create jobs. Petrobras was therefore required to favor domestic suppliers despite doubts about their ability to meet strict deadlines and industry standards. The Brazilian government's intervention will prevent Petrobras from optimizing its profitability. (Noriega, 2013)

3.2 PEMEX (Mexico)

Since 1938, Mexico has held complete control over its subsurface resources and byproducts since it nationalized its oil industry. Sadly, the nation's largest revenue source has been destroyed by nationalistic orthodoxy and political intrusion, which has caused extensive damage to Mexico. The Mexican government diverted Pemex's profits to

support government spending, accounting for seven percent of Mexico's gross domestic product. Due to an outdated and inefficient tax collection system, the national budget can only be balanced by siphoning off 70% of Pemex's revenue. Due to this diversion of revenue, the oil company does not have the resources to enhance its infrastructure or invest in exploration and extraction. The company has a low competitiveness after paying taxes to the government and has seen a decline in production. There are numerous problems facing the company, including a lack of refining capacity to satisfy internal consumption and the imposition of a notoriously corrupt union, the Sindicato de Trabajadores Petroleros de la República Mexicana.

There is no productive energy company in the world that increases its workforce when its production is declining. Pemex's workforce has grown even though production has dropped. Despite Pemex's low revenue, the union ensures the company hires more employees and pays more benefits to Pemex affiliates.

Sadly, what was once Mexico's money tree is now an underperforming company that requires capital and technology from private companies to succeed. Pemex has been unable to fund all of its essential exploration and production activities due to the government draining its resources.

Mexico's greatest competitive advantage is oil, but it is now one of the major hindrances to its further development, according to a Mexican political analyst. As a long-term development strategy, technology, investment, exploration, refinery upgrading, and so on are imperatives." As a result of Pemex's union's economic and political power, a reformed or more transparent Pemex is unlikely. As of today, Mexico is considered a net oil importer. (Noriega, 2013)

3.3. PDVSA (Venezuela)

In spite of being considered a relatively stable and productive institution before 1998, PDVSA has been abused and debilitated by the state for political purposes, and represents the worst-case scenario of a state-run oil company. PDVSA has been

decimated by its political masters. Instead of maximizing revenues for Venezuelans at a time of record oil prices, it is struggling to sustain even a modest cash flow.

Oil has been produced in Venezuela for a century, but it flourished in the mid-1940s. It was nationalized in 1974, with PDVSA serving as the state's umbrella company and coexisting, cooperating, or competing with private companies. Through this arrangement, PDVSA was able to access foreign capital and world-class technology, enabling it to thrive. The company successfully explored and produced heavy crude oil as well as developed an effective domestic petrochemical industry. It also competed successfully on the international market, with holdings in refineries in Europe and the United States and with oil representing 95 percent of Venezuela's exports at the time of Chávez's election.

In spite of the fact that PDVSA was once the nation's economic engine, analysts maintain that Chavez brought it under the control of political loyalists, using this management team to capture funds to fund his domestic spending and international agendas. A strike by PDVSA employees in 2002 led Chavez to purge the company of 20,000 highly skilled technicians and managers whose experience, professionalism, and independence were key to the company's success.

In Venezuela, PDVSA is more than just a cash cow. Its various entities have become deeply politicized. Prior to Chavez, Venezuela produced 3.3 million barrels a day. Our research and graph elaborated in this investigation suggest that in 2022, it will be around 727,000 thousand barrels per day.

In essence, Venezuelan politicians have politicized Venezuela's state oil company and treated its revenues as petty cash. They have also suffered from enormous amounts of corruption, which has caused PDVSA to be on the verge of bankruptcy, and the sanctions imposed by the US haven't helped either. (Noriega, 2013)

For Petrobras, Pemex, and PDVSA to become more productive and competitive and thereby deliver greater benefits for their countries, government leaders must remove the burden imposed on these companies by state intervention. A state-owned company can

maximize its potential and deliver optimal long-term dividends for its nation if it is managed professionally, transparently, free competition with private companies, and open to foreign capital and technology. While this transition won't be easy, it is essential to ensuring the long-term prosperity of Latin America's most powerful energy companies.

Chapter 4
The Bolivian case

4.1 An overview of Bolivia’s economy

Bolivia was named after the independence fighter Simon BOLIVAR in 1825. There have been a series of coups and countercoups throughout Bolivia's subsequent history, with the last coup occurring in 1978. In 1982, democratic civilian rule was instituted. The country has a wide range of natural resources, including tin, natural gas, petroleum, zinc, tungsten, antimony, silver, iron, lead, gold, timber, and hydropower. Among Bolivia's exports are natural gas, gold, zinc, soybean oil, lead, tin, silver, and zinc. (CIA Factbook, accessed 10.11.2022, https://www.cia.gov/the-world-factbook)

Bolivia has a mixed economic system, that combines a variety of private freedoms with government regulations and centralized economic planning. The Bolivian economy has had a historic pattern of a single-commodity focus, from silver to tin to coca, Bolivia has enjoyed only occasional periods of economic diversification. The mining industry, especially the extraction of natural gas and zinc, dominates Bolivia's export economy. In 2021, Bolivia had the lowest inflation rate in Latin America.

4.2 Bolivia's ONG sector and NOC (YPFB).-

Energy consumption in Bolivia is relatively small, but growing steadily. A state-owned oil company, YPFB, was established in 1936 to control the country's oil production. The transport of natural gas and oil was privatized in the early 1900s. The government and private investors shared risk in the 1990s with regards to production and refining. Refineries were also privatized in 1999. In May 2006, ex-president Evo Morales re-nationalized reserves, but not the exploitation.

Political instability in Bolivia has affected the Oil and Gas sector in a direct way throughout its history and continues to do so at present. Continuity in the sector has been compromised by political instability. The policies in the sector have been influenced by different political and economic orientations according to the people that have been in government, which has impacted its efficient functioning. The lack of continuity has made it difficult to evaluate the economic outcomes of these policies. As a result of a "state protectionist" tendency in recent years, National Resources has adopted a strong protectionist policy in order to redistribute its procedures directly to the people and social causes, ignoring the crucial importance of technological development and investment for the Oil and Gas industry. The three actors in the sector that intervene in Bolivia, which are: the political, the economic and the social, must reach a consensus for the Oil and Gas sector to flourish to its full potential in Bolivia. As a result of the lack of consensus among these actors in Bolivia, policies have not been consistent, and investment has not been sustained. This has affected sector efficiency. (Cordova Siegwart, 2014)

It is necessary for the Oil and Gas sector in Bolivia to have a policy that is independent of political and economic models and positions, a concrete policy of reinvestment with an equitable distribution of revenues, and design policies that are in accordance with the political, economic and social actors. Bolivian realities should be considered when designing policies. A policy of investment inside the sector that balances the forces and is fair to all participants.

An ex-minister of hydrocarbons stated that “Bolivia is dying on us if it has to import all the gasoline and diesel it needs for the next 30 years.” He referred to the persistent reduction in the national production of liquids, the constant increase in fuel imports, which are then subsidized, and the measures taken by the government to deal with the problem.

(“El Deber”, Bolivian News Site, accessed October 11, 2022, https://eldeber.com.bo/dinero/la-produccion-de-petroleo-cae-un-39-en-siete-anos-y-crecen-las-importaciones_280619)

About the origins of Bolivia’s NOC we can say the following: As a result of Bolivia's defeat in the Chaco War, public outrage was directed towards Standard Oil and the Bolivian military and political classes. A core of labor movements and Chaco War veterans supported the political rise of military officers, including Colonel David Toro. As a result of Toro's leadership, Bolivia created YPFB in 1936, a state-run oil company.

As part of the privatization (capitalization) reform under Gonzalo Sánchez de Lozada's first administration, YPFB was largely broken up and sold off. The biggest parts of YPFB, including existing oil and gas infrastructure, went to Chaco S.A., which was partly owned by Amoco (and later British Petroleum and Argentine capital, operating as Bridas). Approximately 80 percent of the companies were owned by direct investors and 20 percent by Bolivians over the age of 21 and resident there. The capitalizations of the other four principal state-owned companies were similar. At that time, YPFB remained a state-owned hydrocarbon service company. Since the election of President Evo Morales, privatized oil companies have been partially nationalized. The subsidiary companies operate as private companies, but YPFB and the government have effective control over them. (YPFB, *"Historia de YPFB". Accessed September 19, 2022*, *www.ypfb.gob.bo.)*

YPFB is a State-owned corporation specializing in oil and gas exploration, exploitation, refining, industrialization, distribution and commercialization in Bolivia

Conclusions

As this investigation is complex, it is not possible to analyze every element of judgment, so as new elements of analysis emerge in the future, these initial conclusions may change. Although most ONG companies in Latin America are state-run, this can sometimes pose a problem due to the fact that political decisions can interfere with economic decisions, as seen in Bolivia and the other countries mentioned.

Decentralization of decision-making in the oil and gas industry has been achieved in some countries around the world by converting State-sponsored enterprises into self-sufficient, free-standing corporations that are independent of the State's budget and operate independently. In order to attract investors, more needs to be done in this sector to give investors the security they require.

Bolivia, as most Latin American countries, should not consider IOCs a threat, but a partner and should conduct policies that are oriented towards coordination between NOCs and IOCs. This is crucial to the future growth of Latin American economies.

Also, it is necessary to depoliticize the NOCs, ensure continuity among workers, and conduct a thorough selection process within them to ensure that you have the best people in charge and not just political actors.

Bibliography

Al-Fattah, Saud. "The role of national and international oil companies in the petroleum industry." (2013)

Butler, Graham. "State Monopolies and the Free Movement of Goods in EU Law: Getting Beyond Obscure Clarity." *Legal Issues of Economic Integration* 48, no. 3 (2021).

Cordova Siegwart, Natali, "Políticas aplicadas en el sector de la producción de hidrocarburos de Bolivia en el periodo 1990-2012." PhD diss., Universidad del País Vasco-Euskal Herriko Unibertsitatea, 2014.

Dalvi, Samir. *Fundamentals of Oil & Gas Industry for Beginners*. Notion Press, 2015.

Ediger, Volkan Ş., and Istemi Berk. "Geostrategic challenges in the oil and gas sectors." In *Energy economy, finance and geostrategy*, pp. 173-197. Springer, Cham, 2018.

Eldridge, Patricia Fry. "Russian Energy Legislation: Regulating State Monopolies to Allow the Development of Competitive Markets." *Energy LJ* 13 (1992): 1.

Fishlow, Albert. "The Latin American State." *Journal of Economic Perspectives* 4, no. 3 (1990): 61-74.

Foster, John Bellamy. *The theory of monopoly capitalism*. NYU Press, 2014.

Foster, John Bellamy. "The age of monopoly-finance capital." *Monthly review* 61, no. 9 (2010): 1.

Mares, David R. "Resource Nationalism and Energy Security in Latin America: Implication for Global Oil Supplies." (2010).

Mojarad, Ali Asghar Sadeghi, Vahid Atashbari, and Adrian Tantau. "Challenges for sustainable development strategies in oil and gas industries." In *Proceedings of the International Conference on Business Excellence*, vol. 12, no. 1, pp. 626-638. 2018.

Monaldi, Francisco. "Latin America's Oil and Gas: After the Boom, a New." (2015).

Noriega, Roger F., and Felipe Trigos. "Latin American Energy Monopolies: Boom or Bust?" *AEI Latin American Outlook* 2 (2013).

Norouzi, Nima, and Maryam Fani. "Monopoly and competition in the energy market: A legal analysis." *Global Journal of Business Management ISSN* 15, no. 2 (2021): 001-007.

Sader, Emir. "Post neoliberalism in Latin America." *Development Dialogue* 51, no. 1 (2009): 171-179.
Tepper, Jonathan. *The myth of capitalism: monopolies and the death of competition*. John Wiley & Sons, 2018

Whitson, Curtis H. "International vs. National Oil Companies-What's the Difference?" *The Way Ahead* 5, no. 03 (2009): 10-11.

Web:

"CIA", CIA Factbook, United States, accessed October 11, 2022
https://www.cia.gov/the-world-factbook/

"El Deber", Bolivian News Site, accessed October 11, 2022
https://eldeber.com.bo/dinero/la-produccion-de-petroleo-cae-un-39-en-siete-anos-y-crecen-las-importaciones_280619

"UTDALLAS", UT Dallas University, accessed September 01,2022.
https://personal.utdallas.edu/~plewin/Notes%20on%20Monopoly.htm

"Investopedia", Investopedia online encyclopedia, accessed September 05, 2022.
https://www.investopedia.com/terms/m/monopoly.asp#:~:text=A%20monopoly%20is%20a%20market,and%20limit%20substitutes%20for%20consumer

Guttman Energy, Jon Babyak, "NOCs Vs IOCs" published 06-04-2020, accessed September 15, 2022.
https://www.guttmanenergy.com/fuel-matters-blog/nocs-vs-iocs/

Economics Help, Tejvan Pettinger, published 04-10-2020, accessed September 15, 2022, https://www.economicshelp.org/blog/265/economics/are-monopolies-always-bad/#:~:text=Firms%20benefit%20from%20monopoly%20power,costs%20and%20scope%20for%20specialisation

"Historia de YPFB". www.ypfb.gob.bo. Accessed September 19, 2022