
Oil, Gas and Public Policies in Brazil and Russia

Petróleo, Gás e Políticas Públicas no Brasil e na Rússia

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Abstract: This article aims to carry out a comparative analysis of oil and gas policies in Brazil and Russia in the last three decades. To this end, an analysis of public policies related to the sector in each country will be carried out, seeking to verify the efficacy of the outputs, as well as conduct a descriptive analysis of the process in the policy cycle. Results pointed out as relevant for the achievement of public policies in the sector: (1) a structure of representation of interests among the leaders of the fuel industry and as governing elites; (2) an urgency or not to explore new reserves to advance production; (3) nature of the strategic objectives in the sector of the sector; (4) the appropriate technological domain by national companies.

Keywords: Public Policies; Oil and Gas; Brazil; Russian Federation.

Resumo: Este artigo tem como objetivo realizar a análise comparativa das políticas de petróleo e gás de Brasil e Rússia nas últimas três décadas. Para tal serão realizadas avaliações de políticas públicas ligadas ao setor em cada país, buscando verificar a eficácia dos outputs, bem como realizar uma análise descritiva do processo em torno do ciclo das políticas. Resultados apontam como relevantes para a consecução de políticas públicas do setor: (1) a estrutura de representação de interesses entre lideranças da indústria de combustíveis e as elites governantes; (2) a urgência ou não de exploração de novas reservas para o avanço da produção; (3) a natureza dos objetivos estratégicos em torno do setor; (4) o domínio tecnológico adequado pelas empresas nacionais.

Palavras-chave: Políticas Públicas; Petróleo e Gás; Brasil; Federação Russa.

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1. Introduction

The Oil & Gas (O&G) sector holds strategic importance around the world because it is directly related to issues involving energy security, technological development and large capital flows, influencing geopolitical considerations of both net fuel importers and exporters. Seeking to understand the conditions for the efficient instrumentalization of the sector by the State, this article proposes to carry out a primary comparative assessment of public policies for O&G, based on Brazilian and Russian experiences.

Therefore, the present work is delimited between 1991 and 2016. The objective is to understand, on the Brazilian side, the liberalizing reforms of the 90s, not reaching the tipping point that follows the removal of Dilma Rousseff². On the Russian side, the transition period from Soviet socialism to the market economy is covered, failing to address in depth the upheavals arising from the twin crises of 2014 (abrupt fall in oil prices and sanctions from the West after Russian involvement in the Ukrainian conflict).

Methodology

It is proposed to carry out a comparative case study of $n = 2$, based on the Brazilian and Russian cases. Furthermore, the comparative analysis is subdivided, in each country, into a turning point that cuts across the two states at the turn of the century, with the exhaustion of the liberal government models of the 1990s. The approach will be both causal and descriptive.

Therefore, it is intended to follow the recommendation of Alexander George (1985), for a method of “structured and focused comparison”, which is based on the systematic collection of the same information (same variables) between carefully selected units, in this case, Brazil and Russia . However, the need to point out *a priori* differences between the contexts of the two countries is emphasized for greater methodological precision.

In the case of a comparative analysis of public policies (PP's), the causal relationship that we seek to verify is that between the regulatory frameworks implemented and the respective results derived from them. Therefore, the outputs of each case configure their respective independent variable (VI), and the outcomes their

² Since Temer took office, there has been a return to the liberally based P&G policy, aiming to maximize the shareholder value of Petrobras at the expense of the sector's strategic objectives. Measures during this period, including easing access to the pre-salt reserves, the process of divesting Petrobras and changing the price policy, should be analyzed in future studies.

dependent variable (DV). Aspects of agenda formation and implementation in each context will also be taken into account.

If, on the one hand, the units selected have similarities that allow for comparison, such as the role they started to assume in the post-Cold War International System and the importance of their oil industries, on the other, there are reservations to be made regarding a priori differences between the two selected cases and which impact the formulation of the public agenda. As a result, the legal frameworks to be compared provide for different objectives and, therefore, cannot be observed from the same indicators. The procedure, therefore, will be to evaluate each law and its implementation in each government based on the ability to achieve its objectives, correlating this success with its relevance, according to the relevance model for evaluating public policies (Vedung, 2013).

Data collection will be done by bibliographic analysis, composed mainly of primary sources. There is also the use of theoretical bibliography as a secondary source, useful in understanding elements of the implementation and agenda setting in each case. Therefore, after this introduction there will be two sections, one dealing with Brazil and one dealing with Russia, each subdivided into agenda setting (considering the context of each country), outputs (outlining the regulatory frameworks and their implementation) and outcomes. After, final considerations will be added, discussing the comparison between the Brazilian and Russian processes.

2. Brazil

2.1. Agenda Setting

The first element to be analyzed in shaping the Brazilian agenda is the purpose that the O&G sector has for the interests of the Latin American state. In 2017, the participation of oil and gas in the country's energy matrix is 49.4%, mainly concentrated in the transport sector, as the participation in the electrical matrix is only 13% (Empresa de Pesquisa Energética - EPE, 2019). Given the external dependence, Brazil's central strategic objective since the 1990s has been linked to self-sufficiency in fuel production.

Liberalizing pressures mark the 1990s from a macroeconomic and administrative point of view. With Collor and, later, with Fernando Henrique (FHC), the State is characterized by Cervo's "normal State paradigm" (2008), that is, based on the country's

adaptation to monetary, fiscal and administrative regimes, according to the understanding the Washington consensus, with a focus on sanitation of public accounts, reduction of bureaucracy and scope of the State and encouragement of foreign savings, through the deregulation of capital markets and the entry of Foreign Direct Investment (FDI).

In the midst of the crisis of the decade, and, to some extent, as a result of liberalizing policies, the FHC government had to deal with unstable fiscal and exchange rate situations and slow economic growth. To this is added the drop in the level of oil prices, which showed a downward trend, below 40 U \$ / barrel. The effect of this on Petrobrás is a reduction in revenues and difficulties in expanding oil exploration and production³. As a result of all these factors, the government then welcomed the opening of the O&G sector.

The agenda changes with the turn of the century. The 2000's bring with them an inflection point, in the domestic and international environment, in addition to the improvement in oil prices. The high prices benefited, at one time, the fiscal situation of the government and of Petrobras, which favors the position of the oil company in the leadership of the expansion of the national production base.

From a political point of view, there is an exhaustion of the liberal - "normal" paradigm, after a period of continuous slow growth. A new stance begins, which Cervo (2008) defines as a "logistical" paradigm, in the sense that the prerogatives of the former entrepreneur-State are transferred to society, but the State would still have the logistical role of supporting economic activity, having as its focus the interest of society. In this paradigm, Petrobrás would be used as an instrument of economic development, based on the project defined by the government. Finally, the most relevant event of the decade was the discovery, in 2007, of abundant hydrocarbon reserves, the pre-salt, with estimates that predicted up to 100 billion barrels (Sauer & Rodrigues, 2016).

2.2. Outputs

2.2.1. Output 1: The Petroleum Law

³ Petrobrás' investments, which in 84 reached almost R \$ 5 billion, fell to around R \$ 3 billion in the first half of the 90s (Souza, 2010).

Law 9.478 (1997) - Petroleum Law - repeals the 1953 law, breaking Petrobras' monopoly in the sector. Accordingly, the law establishes the regime of concession⁴ of oil reserves to companies incorporated under Brazilian law. Additionally, the National Energy Policy Council - CNPE and the National Petroleum Agency - ANP are also created. The first, chaired by the Minister of Mines and Energy (MME), would be responsible for advising the president in the formulation of policies for the energy sector. The agency, in turn, would be responsible for regulating, contracting and supervising economic activities related to the oil industry (Agência Nacional de Petróleo, Brasil, 1997).

The concession model allows companies to add reserves to their proven reserves, which is a factor that values companies (Trojbciz, 2014). In addition, the model allows them greater control over reserves, enabling greater gains, since all the realized profit belongs to them. As most of the world's reserves in the 1990s were already under the sharing regime, the option for the concession regime was viewed favorably by the private sector, despite the average volume of reserves.

The objectives of the law in its original version were 11, among which we highlight the following: (1) preserving the national interest; (2) promoting development; (3) protecting consumer interests; (4) guaranteeing the national supply of petroleum products; (5) increasing the use of natural gas; (6) promoting free competition; (7) attracting investments in energy production; (8) increasing the country's competitiveness in the international market (Brasil, 1997). Following the understanding already explained above, we also add that the country's main strategic objective in the O&G sector is self-sufficiency, so this element is particularly relevant to be observed in the context of the results of the regulatory frameworks.

It is relevant to note the different aspects of the implementation of sector policies in the government of FHC and Lula⁵. First, the two governments set up different hierarchies in the public policy framework for the sector. FHC asserted in the regulatory agencies the centrality of its performance, which in the O&G sector was exercised by

⁴ The concession regime is a form of bidding according to which the benefited company acquires all the risks of exploration and production and is given full ownership over the extracted hydrocarbons. In return, the State benefits, in addition to royalties and special participation, with a subscription bonus, a value offered by the companies competing for the bid, decisive in the choice of the consortium.

⁵ It is also possible to mention the particularities of the Collor government initiatives, through the National Privatization Program (PND). Within this scope, Petrobrás has been divesting its subsidiaries, maintaining only BR-Distribuidora and Braspetro (Center for Research and Documentation of Contemporary History of Brazil / Fundação Getúlio Vargas, 2019).

the ANP. This is illustrated by the fact that the CNPE is only instituted by Decree No. 3,520 in 2000, three years after the enactment of the oil law (Trojbciz, 2014).

Another important factor is the primacy given by the FHC government to foreign investment and productivity gains to the detriment of the strengthening of the national industry. In 1998, Decree 2,889 allowed, through temporary admission, the suspension of the Import Tax, IPI and ICMS that applied to goods entering the country for purposes of research or extraction of oil and gas, while similar Brazilian products carried a tax burden from 30% to 35% (Trojbciz, 2014).

Petrobrás Transporte SA (TRANSPETRO) arises during the FHC government, with the function of building and operating the transport infrastructure of the O&G sector. In the following year, the first stage of the Brazil-Bolivia gas pipeline was inaugurated, an important factor for national energy integration and the entry of natural gas into the Brazilian matrix. Finally, this same government carries out an administrative reform at Petrobrás.

Until then, the state-owned company was based on vertical integration and specialization. With the reform, the company's former superintendencies are replaced by business units, independent from the management point of view. Then, the company pulverizes its shares in the market, maintaining share control by the government. The change in administrative models marks a change in priorities in the company's management: the emphasis on production and self-sufficiency is replaced by the primacy of financial performance and results (Ribeiro & Novaes, 2014).

Among the changes in implementation since 2003, there was a strengthening of the CNPE to the detriment of the ANP, criticized, along with other regulatory agencies by the Workers' Party (PT) when it formed opposition (Trojbciz, 2014). While the autonomy of the ANP (and of the agencies in general) was restricted, at the same time the Energy Research Company (EPE) was founded and the CNPE assumed the strategic planning, relegating the ANP to operational actions. EPE also starts to assume prerogatives of the ANP, and the rise of CNPE allows a greater direction of the sector to the State project.

As a result of the implementation carried out in the FHC period, Petrobrás started to demand more from its suppliers in terms of quality and prices, which generated the adverse result of the reduction of national participation among the suppliers of the oil company. Since the first round of bidding for blocks in 1999, the

percentages of local participation offered by consortia were computed for scoring purposes, but this did not prevent these percentages from being excessively low. With the change of government, in the 5th and 6th rounds, minimum percentages started to be required, differentiated according to the type of block (Agência Nacional do Petróleo, n.d.).

The new government's intention was to promote the development of the national industry. Greater attention to local content has pressured Petrobras to adapt and develop sustainable strategies to adapt to new demands. From this new stance comes the Mobilization Program of the National Petroleum Industry (PROMINP), with the function of training local suppliers, ensuring their participation in the local value chain. In relation to the company's purchasing program, there was more direct government intervention, as it was pressing for state-owned companies to replace their purchases of imported goods and services with purchases of goods and services produced in Brazil. In addition, in 2006 Petrobrás reinstated Petroquisa, which had been privatized (Souza, 2010).

2.2.2. Output 2: The Pre-Salt Law

Law 12.351 (2010) arises from the need for a special legal framework to regulate economic activities linked to the huge reserves discovered in 2007 in the pre-salt polygon. With it, the production sharing regime is established in the pre-salt and in strategic areas, and the Social Fund (FS) is created, with the “purpose of constituting a source of resources for social and regional development, in the form of programs and projects in the areas of combating poverty and development” (Brasil, 2010).

The new regulatory framework is also composed of two more laws that accompany the aforementioned. Law 12.276 (2010) establishes the Transfer of Rights (or Onerous Transfer), that is, it gives Petrobras onerously the right to up to 5 billion barrels of oil in wells determined in the pre-salt polygon with low exploratory risk, exempt from taxes⁶. Finally, Law 12.304 / 2010, which creates the Brazilian oil and natural gas management company, Pré-Sal Petróleo SA (PPSA), whose duties are to manage, supervise and represent the Union in all sharing contracts signed, but not to

⁶ This law aimed to capitalize Petrobrás, since capital was needed to implement a pre-salt exploration business plan, with massive investments. In addition, there was a “convenience in increasing the company's capital, to raise the debt ceiling without prejudice to its rating in the risk agencies, which demanded a maximum of 35% of the shareholders' equity, since, in June 2007, the company's debt was U \$ 118 billion, equivalent to 34% of the equity ”(Trojbciz, 2014, p. 169).

explore. The creation of PPSA was necessary, since Petrobrás, being a mixed capital company, could not represent the interests of the Union.

The new model, based on the combination of the three laws above, was formulated in order to return control of national oil production to the State⁷. Under the original law, Petrobras was also required to be a mandatory participant and operator of all consortia that received a bid for exploration in the pre-salt polygon. This aspect in particular points to a consensus reached between Petrobrás and the government: while the state-owned company would directly benefit from the transfer of rights agreement, there was resistance regarding the obligation to operate all consortia, even more with a minimum percentage⁸.

Even without setting out objectives in its text, it is possible to list the goals of the law: (1) Preserve the national interest; (2) promoting social and regional development; (3) expand the appropriation of mineral income by the State; (4) Mitigate fluctuations in income and price; (5) promoting industrialization; (6) increase State control over reserves.

The implementation was marked by the use of Petrobras as a mechanism for controlling inflation through a price policy below international prices. This factor, added to massive investments and outside technical and managerial standards in the construction of refineries, led the state company to suffer too much pressure on its finances (Sauer & Rodrigues, 2016).

In a context of already large expenses with the infrastructure of the pre-salt reserves, this pressure would become one of the elements of the political crisis that ends up in the impeachment of ex-president Rousseff. Furthermore, it points to a growing corporatism involving the leaders of the oil company, which is equipped to follow the government's project.

⁷ Under the sharing regime, the ownership of the oil produced belongs to the Union. This oil, less the costs of investment in its production (oil-cost) is called oil-profit, which will be shared between the Union and the consortium or company. In this type of regime, the signature bonus is fixed and the auctioned block takes the company or consortium that presents more advantageous terms referring to the surplus oil portion of the State. No special fee is charged.

⁸ According to the testimony of Haroldo Lima, president of the ANP during the formulation of the pre-salt law, the president of the state company himself would have rejected the mandatory nature of the two attributions (Trojicz, 2014).

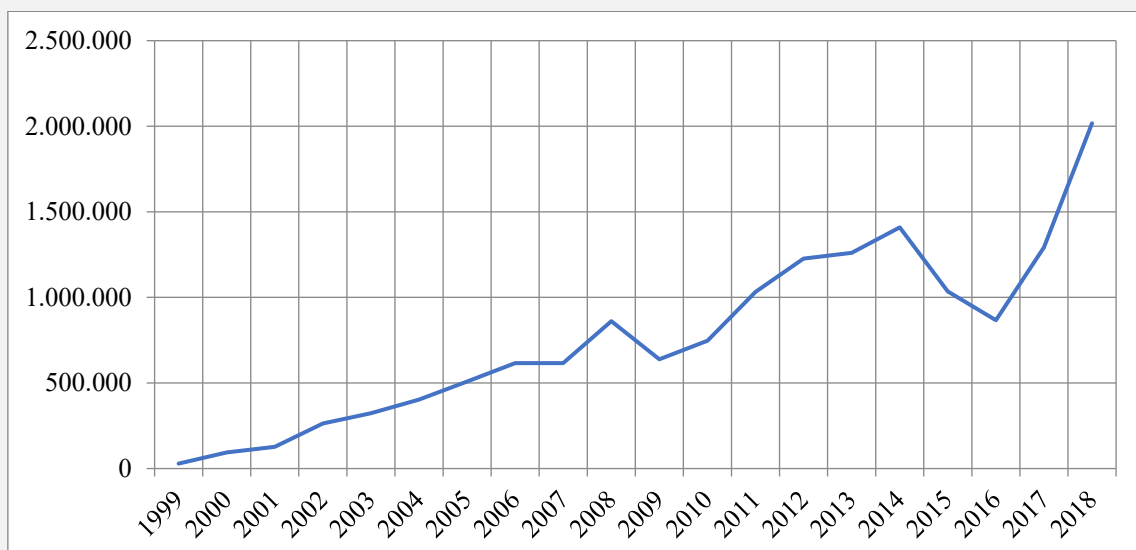
2.3. Evaluation

In general, the two outputs were successful, but a number of limitations were imposed on both. With the opening of the O&G sector and the change in priorities of Petrobrás, national suppliers hired by the state-owned company would face strong external competition, due to the fact that concessionaires operating in the country hire services and equipment in a highly competitive environment (Souza, 2010). The already mentioned exemptions that benefited external suppliers would aggravate the problem (Teixeira & Guerra, 2003).

The positive side was the increase in Petrobras' productivity amid the sector's liberalization. Being able to access international suppliers, productivity per well has doubled in 6 years, expanding the importance of the oil chain in the country. As an adverse result, the first 4 bidding rounds had a low percentage of local content.

However, with regard to Petrobras' performance itself, the opposition's fears that the company would lose space on the national scene due to the entry of foreigners were unfounded. Even with measures to balance competition in the sector, Petrobras' bias was maintained thanks to its experience not only operating in Brazil, but also its experience in offshore and the capacity of the company's technical personnel (Trojbiec, 2014).

Figure 01: R&D Investment Obligations, (Thousand BRL) (1999-2008)



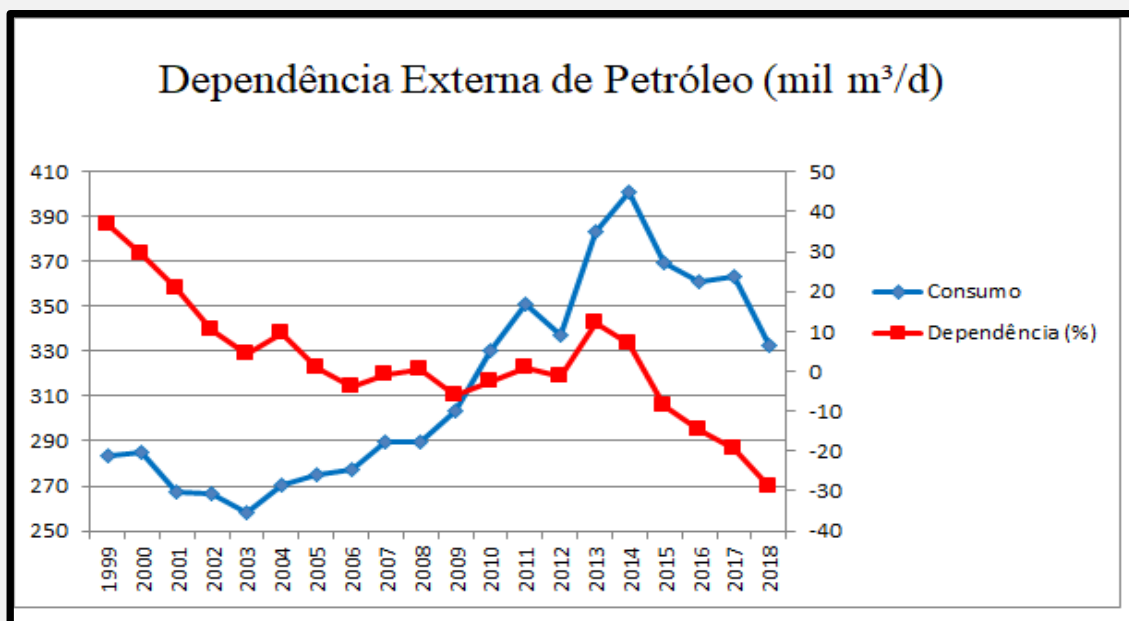
Source: Author's Elaboration based on ANP data.

The participation of traditional international oil companies (IOC's) was low, but the opening of the sector was an important source of FDI's, which already in the early 2000s had already grown strongly. The production of oil and natural gas, in addition to oil products, has increased steadily already under the FHC government, and has not changed significantly with the change of government in 2003.

There are also outcomes that vary across government periods. The implementation of PROMINP is the result of learning from the effects of the exposure of national suppliers to external competition, allowing a competitive alternative for pure protectionism. This program responds to the new government's local content requirements, so changes in implementation were essential for the qualification of the national O&G industry. The volume of the obligation to invest in Research and Development (R&D) per concessionaire had already been rising during the Fernando Henrique administration, following this trajectory and is more than tripled in 2014, compared to the level at the beginning of the Lula administration.

As Petrobras is the main operator, these efforts reinforce its position as an inducer of national development, since they empower the section of the national value chain. They also help to sustain Petrobras' dominant position, which is autonomous in production on national soil, thanks to the technological dominance in offshore and deep water operations.

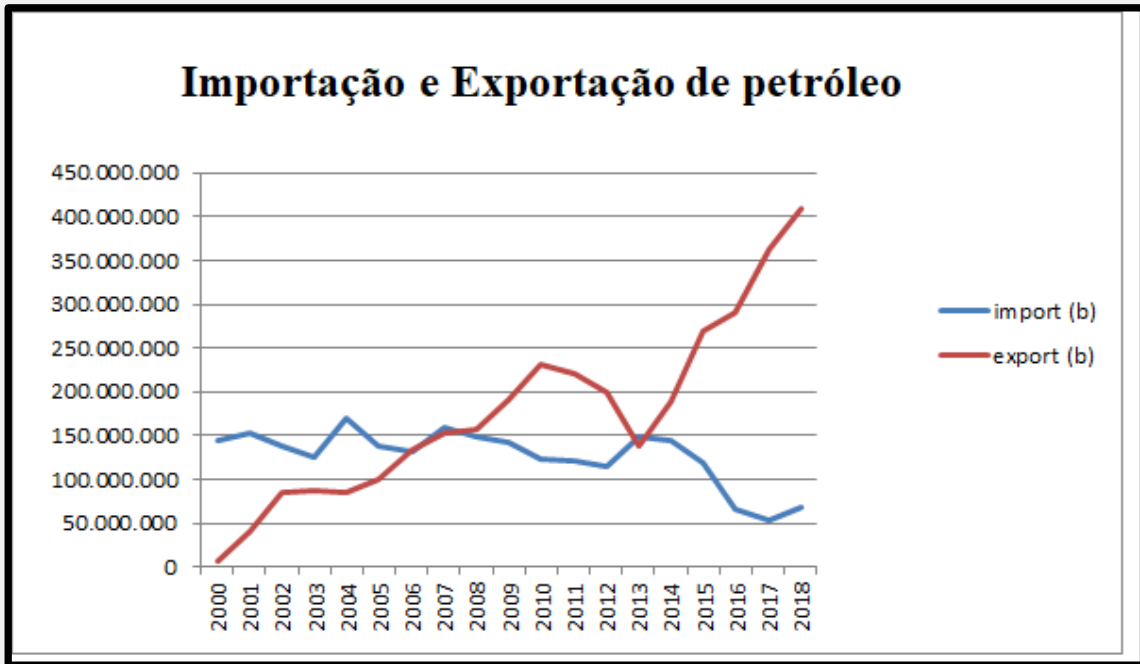
Figure 02: Brazil's Foreign Dependency on Oil (thousand m³/d) (1999-2018)



Source: Author's Elaboration based on ANP data.

With regard to its energy security, there is a statistical problem surrounding self-sufficiency in oil, the main strategic objective of any policy for the sector. In figure 2, we see that there is a reduction from the beginning of the external dependence on oil (which includes oil products), first accompanying the fall in consumption, but then remaining, despite the increase in consumption, reaching below 0 (which would mean that the country would theoretically be self-sufficient in oil) already in 2006.

Figure 03: Brazil's Oil Imports and Exports (barrels) (2000-2018)



Source: Author's Elaboration based on ANP data.

However, as we can see in figure 3, despite the accelerated increase in production and exports, the level of imports remains approximately the same. The cause of this may be in the nature of the oil produced mainly in the country until then: heavy oil. This type of oil is more difficult to refine, mainly because the Brazilian refineries were built in the 1990s, before the country's heavy oil reserves started to be explored. Therefore, since refineries are not adapted, a solution to this problem is the importation of light oil for joint refining (“If we are even”, n.d.).

The discovery of the pre-salt creates the prospect of solving this problem in the medium term, due to the high quality oil of its reserves. Higher quality and lower exploratory risk linked to new reserves also increased the size of both subscription bonuses and the sector's revenue in the economy. On the other hand, the local content used in these rounds is considered low, compared to the standard of the rounds per

concession⁹. In the 1st round, the most successful in this regard, the average local content was 50% (the subsequent rounds of sharing took place under the Temer government, and the demand for local content dropped to around 20% on the farm and 30 % in production in rounds 3, 4 and 5).

External dependency data continues to be statistically misleading in the following period. With the start of production in the pre-salt layer in 2013, there is a reduction in apparent dependence, and data from the ANP indicating that in 2018 Brazil becomes a net exporter of oil by 30%. However, as of 2010, imports of oil derivatives (which is the most strategic product for the country) increase, rising from 15 million cubic meters in 2009 to more than 27 million in the following year, remaining at high levels since then.

From this it appears that the country has not become self-sufficient in oil. It has, since before starting to explore the pre-salt, exporting increasing volumes of heavy crude oil and, in exchange, in the 2000s, imported light oil. From the exploration of the pre-salt, it started to substitute in the import tariff light oil for the already refined derivatives. From 2010 to 2014, the reason for the increase in the import of oil products is not due to the idleness of the national refineries, which then remained at a utilization rate above 90% (Mendes et al., 2018)¹⁰.

The cause of this phenomenon seems to be in the domestic price policy below international prices, which may have motivated the increase in consumption, generating the need for greater imports. With the change in the price policy and less use of national refineries under the Temer government, it is not possible to know whether, under price conditions at the same level as international ones and optimum use of refineries, the country would have achieved self-sufficiency.

Finally, among the side effects, perhaps the most politicized was the heavy indebtedness of Petrobras. The requirement to operate all the pre-salt wells requires extremely high investments, so that the increase in indebtedness is natural. High medium-term debt would be paid out of long-term profits. However, the company's

⁹ In the concession rounds, local content, after mandatory minimums at the beginning of the Lula government, was always between 70% and 90%, between rounds 5 and 12.

¹⁰ The reason for the strong import of oil products in this period differs, therefore, from the high level of imports from 2015 on, under the Temer administration. In this case, there has been a policy of idleness of national refineries, *pari passu* with the maintenance of domestic prices above international markets, leading the country to replace refined oil here with imported oil (Mendes et al., 2018).

financial situation was further hampered by the price policy below the international market, which limited its capacity to generate revenue.

It is also worth mentioning that the debt of the state-owned company, which reaches 392 billion in 2015 is not an immediate result of the deviations found in the scope of the car wash operation, which found that these, added together, would reach 42 billion (Albuquerque, 2018). In the midst of difficulties, the social fund, which could cushion the crisis, was not used (not even in the midst of the fall in prices in the 2014 crisis, which would constitute one of its uses provided for by law), since they were not created the Social Fund's Financial Management Committee, nor the Social Fund's Deliberative Council, as determined by law (Brasil, 2018).

Still, the nature of the applied public policies points to a preponderance of objectives linked to economic development over geopolitical objectives in the Brazilian case. With regard to the latter group, in addition to the difficulties already mentioned in self-sufficiency efforts, a relevant factor is the fact that the country is not a major fuel transport route, so there is no dependence on its fuels in the region. , which prevents the direct use of its O&G industry as an energy weapon.

Another mechanism for projecting possible power would be through Petrobras' strategic investments in the region, seeking to dominate the regional market and put pressure on individual countries. However, Brazil's cooperative stance with the nationalization of the company's refineries in Bolivia demonstrates that there was no provision in the country's foreign policy for the clear formation of an energy lever.

3. Russia

3.1. Agenda Setting

Analyzing the structure of the O&G sector in Russia and its political interfaces, it is clear that the strategic objectives around the area differ from Brazilian ones. While in Brazil these objectives revolve around self-sufficiency in oil and gas (and, particularly, in oil products), in Russia the situation is comfortable in this sense. The country's elites have historically given a prominent position to the O&G sector since it is at the core of its wider strategy for becoming a mechanism for projecting power thanks to its geopolitically relevant geographic location.

Regarding the use of its reserves, the Russian Federation is at the beginning of a transition process, as it approaches the exhaustion of its traditional reserves in western Siberia, so that expansion to other regions is now seen as necessary in the medium term. However, this expansion, especially in the Arctic, on the island of Sakhalin and in eastern Siberia, in addition to requiring large investments, requires a technological domain that makes the country dependent, to some extent, on Western companies.

From the point of view of governance, the country found itself in two absolutely opposite moments in the 1990s and in the subsequent period. The governments of Yeltsin (1991-1999) are marked by the fall in oil prices precisely in the already troubled period of dismantling of the USSR. The chaotic profile of those years is further intensified by the radical liberalization designed on the plan of the Minister of Finance, Yegor Gaidar. Much more sharply than Brazil in the 1990s, the Russian government sought to follow the recommendations of the Washington consensus.

As a result, oligarchs emerge. These are entrepreneurs who benefited from the unregulated privatization process, having acquired large slices of the financial, industrial and even communications market, which ended up granting them the ability to intervene in the country's politics (Segrillo, 2015). After the upheavals that impacted the country with the 1998 crisis, the government of Vladimir Putin begins, which coincides with the increase in oil prices caused by the increase in Chinese energy consumption. The new government seeks to establish a “vertical of power”, subjecting large financial, industrial and communication entities to government guidelines, in a corporatist structure (Gomes, 2018).

Putin composes his ministries with siloviki (veterans of the security services), who assist him in the task of legally neutralizing those oligarchs who do not fit the vertical of power. With them, it was possible to re-state the O&G sector, so that these same elements would occupy leadership positions within strategic companies for the Russian state. This creates a structure of total confluence between the State project and the economic elites, since the existence of both is correlated, in a two-way street.

3.2. Outputs

3.2.1. Output 1

Decree n° 1403, “On the peculiarities of privatization and transformation in public limited companies of state-owned companies, associations of production and research and production of oil, oil refining industry and oil products” (Russia, 1992, *translation by the author*¹¹), determines the basis for the redistribution of O&G sector assets. With it, the creation of Rosneft, a state-owned company (51%, for 3 years), which controls the others and would carry out the transition of assets, was established; Lukoil, Yukos and Surgut (45% state-owned), to have the other shares sold at auctions (foreigners could not have more than 15%); and Transneft, under similar conditions.

The main objective of this decree was to make the transition from ownership of the O&G sector to the private sector, in the same way that it was carried out in the economy as a whole. The subsidiary objectives were to guarantee the reliable supply of oil, gas and oil products in the Russian economy and to increase the efficiency of the country's oil complex.

The implementation of the legal framework is marked by the strengthening of the relationship between the government in the figure of Yeltsin and those who would become oligarchs. In the privatization of the sector, as well as others that were considered particularly strategic, the model of spreading shares through coupons and distribution in society, as in other sectors, was abandoned, and it was preferred to set up financial and industrial groups in Western molds (Radvanyi, 2007). Thus, the companies formed in the decree would later be privatized in auctions arranged for the benefit of the oligarchs (Gomes, 2018).

After the support of these entrepreneurs in Yeltsin's victory in his re-election, political elites came to depend on the economic elite to survive, which limited the government's ability to regulate the sector in order to contain the dramatic situation of the Russian economy. In this regard, mention should be made of the transfer pricing practice (deviation of rents owed to the State through subsidiaries) by companies¹².

3.2.2. Output 2

¹¹ Об особенностях приватизации и преобразования в акционерные общества государственных предприятий, производственных и научно-производственных объединений нефтяной, нефтеперерабатывающей промышленности и нефтепродуктообеспечения.

¹² In addition, oil companies benefited from tax exemption of 67% (Pucenkova, 2010).

In the new government, instruction No. 1234-p, “On Russia's energy strategy in the period up to 2020” (Russia, 2003, *translation by the author*¹³), is a general, unspecified document that sets out the country's strategy guidelines for the energy sector. It deals with three scenarios: (1) Optimistic scenario, favorable environment for trade, economy and foreign political cooperation, with the solution of traffic issues; (2) moderate scenario, with an unfavorable commercial environment and no solution to traffic issues; and (3) critical scenario, in which several unfavorable environments are combined, non-reproduction of the mineral base, with its production stagnating after 2 years, the economic infeasibility of exploring difficult-to-access reserves.

The law was formulated based on diagnoses of problems and challenges for the O&G sector in the country. Among them, it is worth mentioning: (1) an imperfect system for the use of the subsoil; (2) an economy of high energy intensity; (3) dependence of the economy in the O&G sector; (4) limited investments in the sector; (5) risks involved with the traffic issue; and (6) depletion of traditional reserves and the need to diversify the producing regions.

Based on these diagnoses, the document sets out as objectives: (1) to promote greater sector rationality; (2) expanding production to other regions; (3) improving the use of the subsoil; (4) increasing the production of oil, gas and petroleum products (refining); (5) reducing the economy's dependence on the sector; (6) resolve traffic issues; and (7) reducing the energy intensity of the Russian economy¹⁴.

Among the instruments for obtaining the results, the law mentions pricing policies, creation of stable laws, introduction of fees, tariffs and regulations, foreign policy assistance in the insertion of Russian companies in foreign markets and use of the status of land owner, among others. The implementation did in fact follow paths provided for by law.

In 2002, a year before formalization by law, Putin had introduced a mineral extraction fee (Nalog na Dobychu i Poleznie Ispokaemikh¹⁵), which allows government revenue to be guaranteed, without the possibility of companies' financial maneuvers, once which focuses on the volume extracted, and not on profits (Pucenkova, 2010). There is also a strengthening in the taxation on exporters, which varies according to the

¹³ Об Утверждении Энергетической стратегии России на Период до 2020 года.

¹⁴ Energy intensity, according to the Office of Energy Efficiency & Renewable Energy, it “is measured by the quantity of energy required per unit output or activity, so that using less energy to produce a product reduces the intensity.” (United States, 2019).

¹⁵ Налог на добычу полезных ископаемых.

price of oil, so that, taking into account the set of rates, the taxation on exporting companies, in a scenario of high prices may exceed 90 % (“Foreign Companies and Russian Petroleum”, nd). With these measures, the objective is to combat the Dutch disease and the excessive dependence of the Russian economy on the O&G sector.

When under the ownership of oligarchs, it was common for the logic that permeated the sector not to maximize production and development, but to increase private incomes (Schutte, 2011). The state's reappropriation of companies was a way of directing the sector to the rationality of the Russian strategic project. This does not mean, however, a nationalizing trend as an end in itself, since companies that followed the vertical of power were not absorbed.

Finally, Russian foreign policy has developed what can be called “pipeline diplomacy” (Pecequilo & Jaeger, 2019). There is a movement in the Slavic country in search of guaranteeing its primacy as a fuel supplier to Europe, seeking to make alternative routes that circumvent its territory unfeasible. It also seeks to diversify exports in order to reach the growing Asian market, with emphasis on China, in order to reduce dependence on Europe. Finally, the energy lever is used abroad, with the former republics coming from the USSR, in order to intensify the dependence of these countries on Russia, to subject them to political pressure when leaders opposed to Moscow appear and to hinder their adhesion to the European area of influence (Gomes, 2018).

3.3.Evaluation

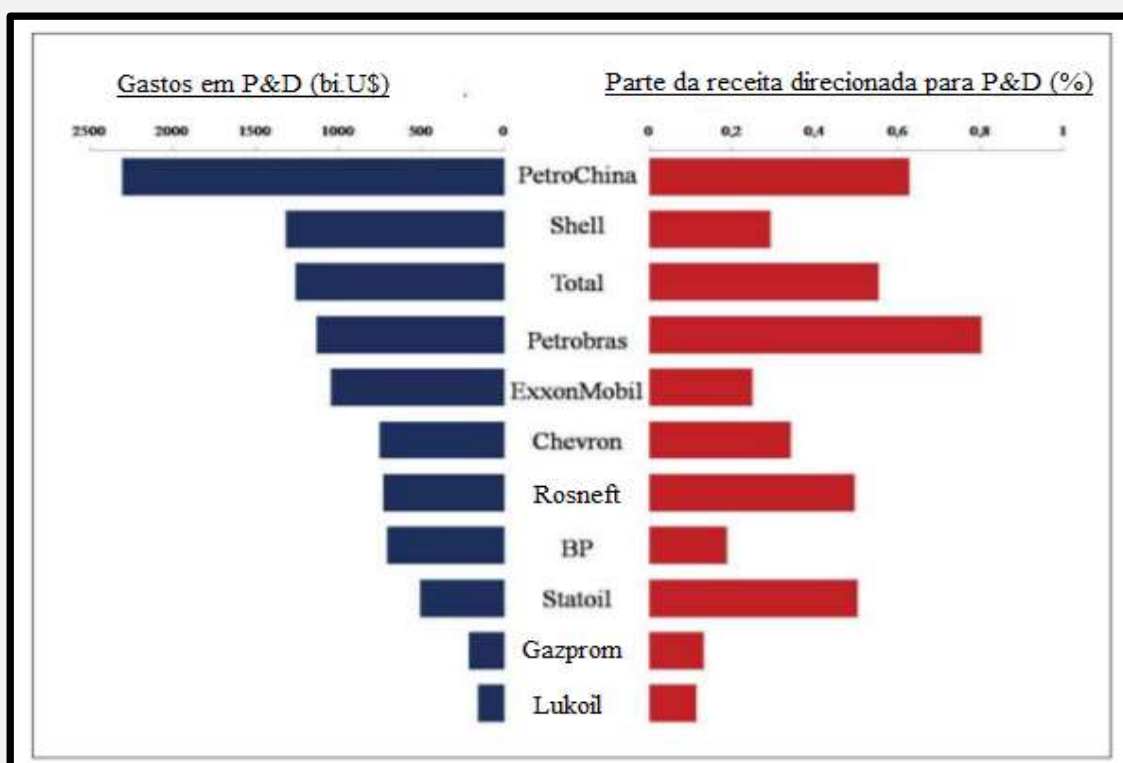
The radical liberalization strategy during the 1990's generated negative impacts on the main macroeconomic indicators and on the indicators of the O&G industry. Even so, its central objective was achieved: private participation in fixed funds was 10% in 1991 and increased to 70% in 2000 (Radvanyi, 2007). Through the auctions that benefited Yeltsin's supporters, he was able to effectively transfer the O&G sector to private hands.

However, due to the ineffective regulation of the State and its inability to correct these inefficiencies as a consequence of the dependence of government elites on the business elite, the O&G industry suffered from bad, rentier administrative practices. Added to this is the decline in oil prices, which has pressured corporate and government finances downwards.

These elements had the practical effect of stagnating exports and reducing production, as well as consumption, of oil, gas and oil products in the 1990s. This impacted the rest of the economy, which had only two years of growth in the entire decade. In addition, the inability to recover the sector's revenue contributed to the intensification of deficits, which were present in all the years of the Yeltsin governments.

With the entry of Putin and the administrative and tax reforms that follow, as well as with the favorable context of oil prices, it became possible to increase investments in all sectors of the industry (oil, gas, refining and processing), which keep growing continuously since the year 2000 (Novak, 2013). As a result, the performance of the oil industry in general, already in 2018, exceeds all production and processing targets projected in the optimistic scenario of output 2, set for 2020¹⁶.

Figure 04: R&D Investments in the Oil and Gás Industry (2013)



Source: Silkin (2014). Translated by the Author.

¹⁶ Production of oil (556 Mt), gas (741 bcm) and oil products (276 Mt) exceeded the goal of the optimistic scenario of 520 Mt, 730 bcm and 190-215 Mt, respectively (2019 Strategic Energy Yearbook, nd) .

The sector's recovery resulted in a strong increase in revenue and overcoming the constant deficits of the previous decade¹⁷ and with a strong GDP growth, which remained above 5% per year for most of the 2000s (Segrillo, 2015). Thanks to the greater capacity of the State to recover the income of this sector and to transfer it, its growth was accompanied by a diversification of sources of income and of export products, although the dependence on O&G remains high.

The goal of reducing energy intensity was also achieved¹⁸. On the other hand, the major strategic objective that wasn't was the diversification of production in the territory, with increased exploitation in Eastern Siberia, which continues to participate with a mere 9% of the total production of the Slavic country (Kamyshnikov & Kolparov, 2019). At the moment, the result for production in Eastern Siberia and Yakutia remains in the moderate scenario, since it had forecast production of 50 mln. Tons in 2020 (80 mln in the case of the optimistic scenario), and in 2018 production was 55 mln. tonnes ("Oil production in Eastern Siberia", 2019). The slowness in dispersing production is accompanied by low investment in R&D, which tends to increase the dependence on technology of Western companies to expand production in the future.

In terms of geopolitical considerations, considering the new administrative paradigm of its 2000s and pipeline policy, Europe continues to depend on the Slavic country to supply 40% of the gas and 32% of the oil it imports. Still, Ukraine, the main route of passage for the European market, was circumvented with the construction of the "nord stream" gas pipeline, which drastically reduces its maneuvering power, and the Chinese market continues to absorb more and more of Russian production (Gomes, 2018).

4. Final Remarks

The study points to the strong importance of the nature of the relationship between the leaders of the O&G sector and the governing elites of each country as an element that influences the process of forming and implementing public policies. Therefore, we consider it relevant to further investigate the existence of causal relations

¹⁷ To illustrate, in 1999 the fiscal deficit was 44 billion rubles, while in 2006 the surplus surpassed 2 trillion, at considerably lower inflation (Goskomstat, 2001).

¹⁸ Since energy intensity is a function of the energy used by the product obtained, we calculate it based on energy consumption in the Russian Federation each year divided by GDP, based on data provided by Enerdata and the World Bank.

between corporatist power structures and the good performance of policies for the sector.

An element that draws attention is the role of the government in the two case studies, which allowed the growth of the fuel sector to lead to economic, social and technological development in both countries. On the other hand, attention is also drawn to the pressure exerted on States and, particularly, on companies in the O&G sector due to the need to invest in contexts of expanding production to new reserves.

In Brazil, there is less identification of the O&G sector with economic elites. Despite its importance for the Brazilian economy, it does not depend on hydrocarbons in the same way as Russia. In addition, the fact that self-sufficiency is the country's major strategic objective leads to a liberalizing trend, as there is less need for nationalization and nationalization of production in order to achieve this objective. The country is not in a region as geopolitically strained as Russia is, it is not a transit route to other countries, nor is it willing to use its oil company as a pressure mechanism abroad. As a result, the use of the company to achieve extra-economic and geopolitical goals was limited.

In the Slavic country, in contrast to the Brazilian context, economic elites are historically linked to the oil sector, so that the changes that occurred in the 2000s concern not the hierarchy of economic sectors, but the system of representations of interests between the private sector. and State, for the benefit of the latter. As the sector in question is connected to strategic objectives that, in addition to self-sufficiency, relate to the projection of power, there is a tendency towards the centralization of the O&G industry around national capital and, particularly, the State. Russia effectively managed to achieve geopolitical goals by diversifying its consumer markets, putting pressure on the former Soviet republics into its area of influence and maintaining European dependence at high levels.

The Brazilian case still points to a deficiency of the country in refining, despite the statistical illusion that leads to believe in the country's self-sufficiency. This data reinforces the need for in-depth studies on the need to expand the refining park, as well as on proper practices concerning fuel price policies. The issue is made worse by the non-use of the social fund, which could mitigate the impacts of low oil price scenarios on the state-owned company. For Russia, the refining issue does not arise as a problem, since the country managed, based on the policies described in the text, to rationalize the

production of hydrocarbons, avoiding what would have been a collapse of its oil and gas production system.

With regard to the sustainability of the companies and the development models adopted in both cases, due to the size of the necessary investments, on the one hand it is natural that Petrobras is impacted by the exorbitant costs of pre-salt exploration, necessary to guarantee the benefits production in the future. The alternative to this would be for the state company to divide investments with IOCs, which, under the sharing regime, are obliged to pay fixed percentages to the Union. However, Petrobras, even in the context of liberalization, tends to maintain dominant position in the sector, thanks to its tradition of offshore technical capacity.

The Russian Federation, on the other hand, must deal with the results of concentrating production on traditional infrastructure and reserves. Unlike Brazil, the increase in Russian production does not immediately depend on massive investments in new reserves, which reduces the financial impact on its companies and allows it to fractionate the cost of expansion over the territory in the long term, without the need to make many concessions to IOC's with respect to the investment costs division. On the other hand, the technical difficulties of exploitation on the new frontiers of Russian production and the technological deficiencies of the country's companies may lead them to make such concessions to Western capital.

Table 01: Context and Evaluation of Each Case Study

País	Brasil	Rússia
Contexto	<p>Economia não dependente de P&G</p> <p>Autossuficiência é o principal objetivo estratégico</p> <p>Urgência de investimentos na infraestrutura produtiva</p> <p>Alta expertise tecnológica da Petrobrás</p> <p>Não é rota de transporte de hidrocarbonetos</p> <p>Região geopoliticamente calma</p>	<p>Economia dependente de P&G</p> <p>objetiva diversificar exportações e aumentar dependência de países vizinhos</p> <p>Folga para diversificar a infraestrutura produtiva</p> <p>Empresas sem expertise tecnológica e baixo investimento em P&D</p> <p>Principal rota de transporte dos recursos do Cáspio à Europa, China e CEI</p> <p>Região geopoliticamente tensionada</p>
Avaliação	<p>Aumentou a produção, mas ainda não é autossuficiente</p> <p>Petrobrás se tornou instrumento de indução tecnológica da cadeia de valor</p> <p>Tendência mais liberalizante das PP's do setor de P&G</p> <p>Está desenvolvendo a infraestrutura produtiva, mas a grande custo para a Petrobrás</p> <p>Petrobrás não é utilizada como instrumento geopolítico</p>	<p>Aumentou a produção e a renda do setor de P&G.</p> <p>Setor petrolífero se tornou um instrumento de desenvolvimento econômico pelo seu transbordamento</p> <p>Tendência centralizadora das PP's do setor</p> <p>Não está conseguindo dispersar a infraestrutura produtiva, e poderá depender de altos investimentos e tecnologia estrangeira no futuro</p> <p>Companhias nacionais funcionam como instrumento geopolítico</p>

Fonte: Author's Elaboration.

The Brazilian case can, therefore, serve as an apprenticeship for the Russian O&G sector, which will face, in the future (more gradually, it is true), the challenge that Brazil is currently going through, of expanding production to new reserves, that demand more investment and technological training. If the Slavic country remains at a slow pace of distribution of production in its territory, it is to be expected that the country's companies will, in the coming decades, go through the financial difficulties imposed on Petrobras now. It is also expected to reduce the rigidity of Russian corporatism, in view of the technological dependence on Western companies.

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