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**THE DECISION-MAKING PROCESS OF PETROBRAS'
INTERNATIONAL CONTRACTS**

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2023

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THE DECISION-MAKING PROCESS OF PETROBRAS' INTERNATIONAL CONTRACTS

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To my parents, Cláudia and Ricardo
(Aos meus pais, Cláudia e Ricardo)

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Resumo

Lyra, Rodrigo P. (2023). *The Decision-making process of Petrobras' International Contracts* (PhD Thesis). International Relations Institute of the University of Sao Paulo and King's College London

A literatura indica que a principal diferença entre empresas estatais (NOCs) e privadas de petróleo (IOCs) está relacionada aos objetivos mistos das NOCs, ou seja, a maioria das empresas estatais devem cumprir objetivos nacionais, para além da estrita busca de maximizar o lucro. Nesta tese, desenvolvemos banco de dados com informações comerciais das principais petrolíferas internacionais entre 2011 e 2017. Com base no DEA Analysis, os dados indicam que, entre 2011 e 2017, a Petrobras esteve abaixo da média de eficiência em relação a outras petrolíferas. Como NOC, a Petrobras não está totalmente proibida de assumir missões não comerciais. No entanto, o Tribunal de Contas da União (TCU) alegou que a Petrobras não fornece detalhes sobre o relacionamento entre a empresa e o governo brasileiro e como esse relacionamento pode ter afetado o processo de tomada de decisão da empresa. Esta tese foca nos contratos internacionais da empresa brasileira e investiga quem define a agenda internacional da Petrobras. Aplicamos uma abordagem de métodos mistos. Primeiro, coletamos todos os telegramas diplomáticos brasileiros de 1994 a 2017 e relatórios financeiros da Petrobras de 2004 a 2012. Em segundo lugar, realizamos uma análise quantitativa de texto nesses documentos para medir a frequência de palavras-chave em cada banco de dados. As estatísticas descritivas nos mostraram as empresas petrolíferas internacionais mais importantes a serem analisadas. Com base nessas informações, realizamos estudos de caso dos principais contratos internacionais da Petrobras firmados com essas petrolíferas internacionais. Cruzamos as informações com telegramas diplomáticos do Departamento de Estado dos EUA, do TCU, da Câmara dos Deputados do Brasil e delações da Operação Lava Jato. Também coletamos telegramas diplomáticos em Londres, Paris e Montevideú. Argumentamos que os iniciadores dos contratos internacionais da Petrobras dependem do tipo de contrato e do local do investimento. Encontramos iniciativa partidária em todos os contratos de joint-venture considerados, todos relacionados a contratos internacionais que inicialmente contariam com a parceria da empresa venezuelana PDVSA para projetos no Brasil. Por outro lado, os contratos de concessão foram acertados pela diretoria da Petrobras, e não encontramos indícios de interferência de partidos políticos no processo de negociação. Sobre o papel do MRE, a aquisição de ativos no Uruguai, que começou com a potencial compra da ANCAP e resultou na compra da Conecta SA, foi o único caso em que podemos afirmar que o Ministério definiu a agenda e iniciou as negociações. Os potenciais investimentos da Petrobras seriam fundamentais para aproximar o Uruguai do Mercosul no contexto da crise energética dos anos 2000. Nos casos em que o MRE não definiu a pauta, mas se envolveu na negociação durante o processo, verificamos que o MRE estava interessado em promover os biocombustíveis brasileiros em alguns dos contratos, como no Chile, e mediar a relação conflituosa entre Petrobras e PDVSA. Na maioria dos casos (Abreu e Lima, Ipiranga e Bolívia), a mediação de disputas de mercado entre a Petrobras e a PDVSA explicava o interesse do MRE nos contratos internacionais da Petrobras.

Palavras-chave: Petrobras, Política externa, PDVSA, MRE, Política energética

Abstract

Lyra, Rodrigo P. (2023). *The Decision-making process of Petrobras' International Contracts* (PhD Thesis). International Relations Institute of the University of Sao Paulo and King's College London

Most of the differences between National Oil Companies (NOCs) and International Oil Companies (IOCs) are related to NOCs' mixed objectives, as most NOCs must pursue national and commercial missions. Therefore, they do not perform as profit-maximising companies in all their operations. Based on DEA Analysis, we show that between 2011 and 2017, Petrobras was mainly below the performance of other oil companies, including other NOCs. As a NOC, Petrobras is not entirely forbidden to take non-commercial issues. However, Brazil's Court of Auditors (TCU) claimed that Petrobras does not provide details on the relationship between the company and Brazil's government and how this relationship may have affected the company's decision-making process. This thesis investigates who sets the agenda of Petrobras' international contracts to understand if non-commercial goals (foreign policy and political parties' interest) led to constraints in the company's ability to make autonomous decisions. We applied a mix-methods approach. First, we collected all Brazilian diplomatic cables from 1994 to 2017 and Petrobras' financial reports from 2004 to 2012. Second, we conducted quantitative text analysis on these documents so as to measure the frequency of keywords on each database. Descriptive statistics showed us the most important international oil companies to be analysed. Based on this information, we did case studies on the major Petrobras' international contracts signed with the major international oil companies. We crossed the information with diplomatic cables of the USA's Department of State, TCU, Brazil's Chamber of Deputies, and Brazil's Operation 'Car Wash' on corrupt decisions taken by Petrobras' former directors. We also collected diplomatic cables in London, Paris, and Montevideo. We argue that the initiators of Petrobras' international contracts depend on the type of contract and the place of investment. We find political party initiative in all the joint-ventures contracts deemed, all related to international contracts that initially would count on PDVSA's partnership for projects in Brazil. On the other hand, concession contracts were settled by Petrobras' board of directors, and we found no evidence of political parties' interference in the negotiation process. However, the acquisition of assets in Uruguay, which started with the potential purchase of ANCAP and resulted in the purchase of Conecta SA, was the only case where we can affirm that MRE called the shots. Petrobras' potential investments were crucial to bringing Uruguay closer to MERCOSUR in the context of the energy crisis in the 2000s. In the cases where MRE did not settle the agenda but got involved in the negotiation during the process, we find that MRE was interested in promoting Brazilian biofuels in some of the contracts, such as in Chile, and mediating the conflicted relationship between Petrobras and PDVSA. In most cases (Abreu and Lima, Ipiranga, and Bolivia), mediating market disputes between Petrobras and PDVSA explained MRE's interest in Petrobras' international contracts.

Keywords: Petrobras, foreign policy, PDVSA, MRE, energy politics

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Chapter 1. Introduction

Many scholars and governments consider energy ‘too important to be left to the market’ (Robinson 1993, p. 57). The reason is that state control over decision-making is needed when national sovereignty is at stake (Wolf 2009). Studies on the relationship between the oil and gas industry and foreign policy have been popular since the last century, as they have long been related to environmental, social, and political issues in some regions such as Africa, the Middle East, and Russia (Iskakov and Yilmaz 2015). The emergence of the Organisation of Petroleum Exporting Countries (OPEC) in 1960 and its consolidation as an essential international actor was one of the most important events in international relations during the Cold War (Jabber 1978). Painter (2014, p. 204) states, ‘the oil story does not tell the whole story, but accounts that neglect its role are incomplete and therefore misleading.’ On this note, international economic relations depended on the production and trade of this commodity (Chitadze 2012). The formation of OPEC occurred at a time of transition in the international system, in a political scenario marked by bipolarity, decolonisation, and the consequent birth of several independent states, which generally integrated the so-called ‘Third World’ (Usman 2017).

During the Cold War, many political conflicts occurred through market disputes, whether between the superpowers or international oil companies disputing markets in third countries (Chitadze 2012). Until the creation of OPEC, the so-called ‘Seven Sisters’ called the shots in the international oil market (Sampson 1991), and exercised control over Third World oil producers (B. 1990; Chitadze 2012; Usman 2017). In 1960, for example, royalty payments from international oil companies to governments of oil-producing countries averaged 77.5 cents per barrel, which was below the level reached five years earlier. The transfer was tiny, and the value decreased more and more (Perlo 1975). This situation would get even worse and was one of the reasons for the creation of OPEC.

The motivation behind the creation of OPEC was frustration, especially in Saudi Arabia and Venezuela. Producing markets were unable to control the exploration and prices of crude oil, which was the main export product of these countries. In this sense, OPEC was formed to act as a kind of union or collective bargaining agency with the major oil companies. These countries argued that they needed to claim their sovereign rights (B., 1990). The idea was that if the leading oil-producing countries of the Third World joined an international organisation, these countries would increase their bargaining power. Indeed, during the following decade,

OPEC managed to prevent further deterioration of payments (PERLO, 1975) and reduce the capital assets that the Seven Sisters held in oil-producing countries to less than 20%. At the time, the process of nationalising the assets of international oil companies was accused of being ‘politically motivated’ (B. 1990, p.2476).

The non-commercial objectives behind NOCs’ investment decisions are wealth distribution, economic development, energy security, vertical integration, and foreign policy (Pirog 2007a; Wolf 2009). Consequently, NOCs and IOCs are subjected to many studies comparing their performance. As a result, non-commercial objectives are reported as the cause of NOCs’ inefficiency. Although most of the top 20 oil-producing companies in the world are NOCs or newly privatised NOCs, IOCs still achieve a higher return on capital than NOCs of similar size and operations (Jaffe and Soligo 2007a). It is not possible to say that all processes in a state-owned firm are inefficient, but some authors assume that non-commercial purposes are the reason behind NOCs’ inefficiency (Wolf and Pollitt 2008a).

The literature argues that the distinction between IOCs and NOCs is not always easy, as some NOCs, such as BP and Total, have been privatised at the same time that StatoilHydro and Petrobras, for instance, although partially privatised, ‘operate in some ways that reflect interests of their national governments’ (Jaffe and Soligo 2007b, p.17). Considering that oil is a strategic commodity in the world economy, NOCs have been used by their national governments ‘as a tool to achieve foreign policy goals’ (Pirog 2007, p. 7). Political alliances based on joint ventures between NOCs pave the way to political relationships. Saudi Aramco’s decision to increase oil production after the Iraqi invasion of Kuwait and China’s oil-based relationships with Iran, Venezuela, and Russia (Pirog 2007a) are telling examples of NOCs’ politically motivated decisions.

A great majority of research shows that private firms outperform state-owned and mixed-ownership firms (Boardman and Vining 1989; Shirley and Walsh 2000; Megginson and Netter 2001; Heller 2017), especially considering the total factor productivity of a company¹. Comparative econometric productivity studies within the oil industry are a vast field of research (Pirog 2007a). Based on most industry-standard measures (Eller et al. 2007; Victor 2007; Victor et al. 2011), NOCs’ commercial performance is indeed surpassed by IOCs by between 21% and 30% (Wolf 2009). Furthermore, there is evidence that in NOCs from developing

¹ In the case of oil companies, the total factor productivity of a company depends on its upstream, midstream, and downstream activities, as well as the ratio of oil and gas production. The petroleum industry is divided into upstream (exploration and production of oil and natural gas – E&P), midstream (anything required to transport and store oil and gas, for example, pipelines and tank trucks) and downstream (outputs, such as gasoline, diesel, etc.).

countries, such as Venezuela's PDVSA and the Nigerian National Petroleum, government objectives supplant commercial ones, while in NOCs from developed countries, such as Statoil in Norway, and Petronas in Malaysia, they tend to follow more commercially oriented strategy (Pirog 2007a).

Hartley and Medlock (2008) attribute the inefficiency of NOCs to non-commercial objectives, such as price subsidies and over-employment under political pressure (Gong 2019). Although NOCs generally operate in competitive markets, their national States may force them to pursue objectives other than profit maximisation (Bozec et al. 2006), as NOCs undertake social and economic functions inside their countries (Jaffe and Soligo 2007a). However, as a symbiotic relationship, the opposite is true – NOCs may benefit from State intervention. In this case, commercial and non-commercial objectives might be compatible, and the company may build skills and technical knowledge despite the State intervention (Victor et al. 2011). To sum up, whether the State intervention has been beneficial to a NOC or not, non-commercial objectives usually lead to conflicts of interest within the State bureaucracy (Heller 2017).

It is difficult, however, to directly compare NOCs to IOCs, as there are structural differences between them, such as geological asset quality, operational profile, and non-commercial objectives (Wolf 2009). Five reasons cause these structural differences. First, not only the productivity for various segments and products is different (Gong 2019), but NOCs and IOCs are also different given their commercial and non-commercial objectives (Hartley and Medlock 2013). Second, the main objective of an IOC is profit maximisation, while NOCs present mixed objectives, which include promoting other public goods (Sappington and Sidak 2003). Third, the NOCs' decision-making is run by politicians and bureaucrats, and they have limited commercial skills compared to directors and CEOs of IOCs. Fourth, some NOCs present total monopolies in their countries or enjoy benefits such as access to markets and financing, which means that a company can keep its operations despite its inefficiencies (Heller 2017). That competition is sometimes undermined by state intervention². Finally, suppose there is any negotiation involving a given NOC and an IOC, such as a revision of own shares or other financial decisions. In that case, the State acts in the NOCs' favour (Pirog 2007a). This is a double-edged sword, though. State privileges in favour of NOCs come through the State control over NOCs' decision-making process, which directly affects NOCs' investment decisions and performance efficiency.

² There are political constraints promoted by international organizations, not only by governments. For instance, the Organization of Petroleum Exporting Countries (OPEC) allows its state-owned companies to follow national goals specified by their governments and coordinated by OPEC.

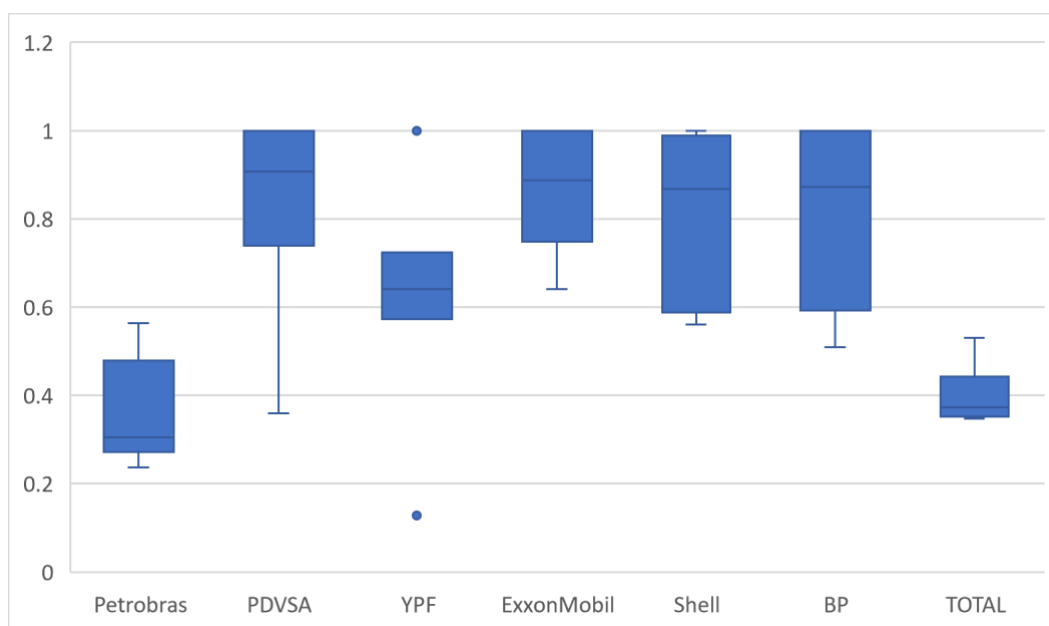
Most of the differences between NOCs and IOCs are related to NOCs' mixed objectives, as many NOCs have national and commercial missions and do not perform as profit-maximising companies. These varied objectives are challenging to measure (Victor 2007; Pirog 2007) using DEA models. This is why we decided not to consider the company's ownership in our analysis but to measure Petrobras' efficiency concerning significant oil companies worldwide, whether NOCs or IOCs. In this thesis, we analyse two non-commercial objectives - foreign policy and political parties' interest, as we will explain in the following sections.

Following the primary literature on the NOCs and IOCs, we developed a database covering the most financial data on the world's most important international oil companies. We measured companies' efficiency based on DEA Analysis. Our dataset for DEA is based on the years 2011-2017, while our case studies are related to 2002-2006 (we explained further in the methods section.) Therefore, our purpose in using DEA models was not to establish causation between performance efficiency and non-commercial goals. Instead, we intended to identify the most inefficient oil company and then investigate if non-commercial purposes were present in its international contracts.

DEA compares each unit to the best performers, which means that DEA models are based on extreme points (Vincová 2002). There are significant differences between DEA mathematical models (Francisco, Almeida, and Silva 2012). With that in mind, for analysing these results, Petrobras presents the lowest efficiency index of 0.23688 in 2013. It does not seem to be the result of the last stages of the global financial crisis, as in the same year, Venezuela's PDVSA achieved 0.90821; ExxonMobil 1.0; Shell 0.93847, and BP 0.82054. If it were the case of a systemic shock, we should observe a similar low-efficiency index, at least in PDVSA, as Venezuela was highly affected by the financial crisis.

Furthermore, Petrobras shows the lowest average in efficiency index – 0.37137 for the period. Considering all the years, the best standard in the efficiency index is related to BP. The best efficient DMUs stand out for PDVSA 2011 and 2012, YPF 2014, ExxonMobil 2013 and 2017, Shell 2012, and BP 2012 and 2017. The second-best efficient DMU is related to Shell 2011. Figure 1 looks for potential outliers. Between 2011 and 2017, Petrobras was mostly below the performance of other oil companies.

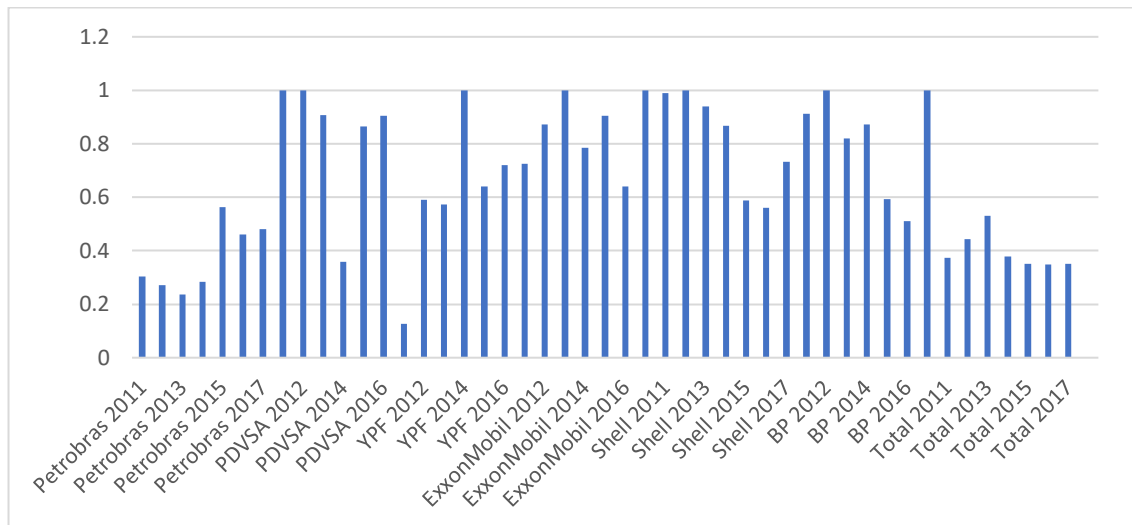
Figure 1. Distribution of Performance efficiency



Source: the author

In this sample, we do not separate NOCs from IOCs. Instead, we considered all of them as single DMUs, regardless of ownership. In this regard, we cannot conclude that Venezuela's PDVSA good results contradict previous studies showing that NOCs tended to be near the bottom of the rankings (Pirog 2007a). After all, Petrobras shows the lowest efficiency index in our sample. However, Pirog (2007) shows that the average score for NOCs was 0.27 for a seventy-six-firm selection. In our model, Petrobras was even below this average (0.23). Venezuela's PDVSA, however, presents 0.83 as its average score.

At first glance, the overall good results in the efficiency of Venezuela's PDVSA might be surprising, but previous studies show that this company increased its efficiency between 2001-04 before falling back by 2009 (Hartley and Medlock 2013). PDVSA in 2011 was fully recovered from the global financial crisis. Hartley and Medlock (2013) also show that some NOCs, such as Petrobras, improved significantly as it was close to the efficiency frontier in 2009. However, in this case, our results show that Petrobras experienced bad results between 2011 and 2017, as shown in Figure 2. These results may be related to several variables, from the company's global financial crisis and domestic technical difficulties to non-commercial goals, as the graph below illustrates.

Figure 2. Evolution of Performance efficiency (company per year)

Source: the author

Many authors claim that foreign policy is among the national objectives Petrobras should achieve in its international affairs (Fuser 2007; Nogueira 2007; Segabinazzi 2007; Felipe 2010; Ribeiro 2011). In this regard, NOCs' foreign investment decisions do not consider only commercial objectives but also geopolitical concerns. Furthermore, the debate between NOCs and IOCs gained momentum in the past years due to the recent corruption scandal involving Brazil's Petrobras, the centre of the largest corruption scandal in Brazil³. At that time, many pundits advocated that Petrobras should be privatised to avoid further political pressure, corruption, and inefficiency. Indeed, most of the reasons for its fall from grace lie in its international operations, such as its poor management of international contracts. In this regard, this thesis' research question is: who sets Petrobras' agenda regarding its international contracts?

Petrobras' creation in 1956 was part of Brazil's comprehensive economic policy of imports-substitution. Brazilian politicians and economists believed the country should build its petrochemical industry to avoid dependency on the international market. Despite the nominal end of the monopoly regulation in the 1990s and its semi-privatisation, the Brazilian state is still the company's primary stakeholder. Petrobras has benefited from the closer ties with the

³ 'Operation Car Wash: Is this the biggest corruption scandal in history?' Available at: <https://www.theguardian.com/world/2017/jun/01/brazil-operation-car-wash-is-this-the-biggest-corruption-scandal-in-history>

Brazilian state, which has provided financial support to the company through the National Development Bank (BNDES), the *Programa de Mobilização da Indústria Nacional de Petróleo e Gás Natural* (PROMINP), created in 2003 to increase the participation of local suppliers in the offshore chain; and the *Programa de Aceleração do Crescimento* (PAC), created in 2007, which proposed more significant investments in infrastructure. In 2010, investments in the petrochemical infrastructure and the offshore chain accounted for nearly R\$170 billion (Ramírez-Cendrero and Paz 2017).

As a NOC, Petrobras is not entirely forbidden to take non-commercial issues. According to Brazil's Law 9478/97, Petrobras can prioritise the Federal Government's policies instead of its commercial goals. On this, the Brazilian company affirmed in its 2014 financial report that it could also perform sales 'on terms that may adversely affect our operating results and financial condition' (PETROBRAS 2014, p. 14). Furthermore, the company states that 'Brazilian law also requires that the Federal Government, our controlling shareholder, holds the majority of the voting shares and the power to elect a majority of members of the Board of Directors and, through it, the officers responsible for our management. Thus, as the controlling shareholder, the Federal Government influences the strategic direction of our business and has adopted macroeconomic and social policies through us, following Article 238 of the Corporation Law, which allows the orientation of the activities of the mixed economy company to serve the public interest that justified our establishment' (PETROBRAS 2014, p. 14). However, Petrobras does not offer detailed information on how its decision-making process happens when non-commercial goals are at stake. This is the reason why Brazil's Federal Court of Accounts (TCU) concluded that: 'Even though they pointed out the risk, in none of the cases is it evident which public objectives were pursued, which the Union carried out macroeconomic policies through Petrobras, nor the costs of these policies, which is not supported by the best Corporate Governance practices. Nor were the instruments by which the Union determined Petrobras to achieve these macroeconomic objectives.' (TCU 2015b, p. 39).

In this regard, it is crucial to investigate who sets the agenda of Petrobras' international contracts to understand if non-commercial goals (foreign policy and political parties' interest) led to constraints in the company's ability to make autonomous decisions. Next chapters will define our research design as well as our hypotheses and our central unity of analysis – Petrobras' international contracts. In this thesis, we present which institution initiated the negotiations involving Petrobras and other international oil company and which interest was at stake. In the next chapter, we explain our research design and considerations on the hypotheses.

Chapter 2. Research Design and hypotheses

1. Research Design

This chapter presents our research design, followed by considerations about our methods. Our primary research question is: Who sets the agenda of Petrobras' international contracts? Taking inspiration from the considerations of Brosius and Weimann (1996) on agenda setting, in this thesis we adapted a typology of agenda-setting processes, which we applied for each case study, as we will explain further. By 'Agenda Source' we mean who initiate the negotiations for a given Petrobras' international contract. Many authors on Brazil's international insertion in South America have addressed Petrobras as a geopolitical asset to achieve foreign policy goals. Meanwhile, recent investigations have shown political parties' participation in Petrobras' decision-making process, and many Petrobras' former directors were put in jail as a result. Finally, Petrobras' board of directors is the official board that make the most important company's decisions. Therefore, in this thesis we investigate these three institutions as our main 'Agenda Source', as we illustrate in the table below.

Table 1. Agenda settling

Affected Agenda	Agenda Source		
	MRE	Political parties	Petrobras' board of directors
Petrobras' international contract			

Source: the author based on (Brosius and Weimann 1996)

We developed a mix-methods model to analyse Petrobras' international operations. First, we collected all Brazilian diplomatic cables and Petrobras' financial reports. Second, we conducted quantitative text-analysis on these documents so as to measure the frequency of keywords on each database. Descriptive statistics showed us the most important international oil companies to be analysed. Based on this information, we did case studies on the major Petrobras' international contracts. We explain our dataset as well as our methods in the Methods section. To answer our research question, we developed three main hypotheses:

H1: MRE sets Petrobras' international agenda when there is an international contract being negotiated in the Southern Cone. In other words, MRE gets involved in Petrobras' decision-making process depending on the region deemed. For instance, there is the interview granted by the then Brazilian Ambassador in Nigeria stating that the communications between the Brazilian embassy in Nigeria and the Petrobras office in this country were only informal meetings. Hence, Petrobras only reported its actions after completion, without any joint strategic planning or foreign policy purpose at stake in Nigeria (Lyra 2017). Conversely, the literature argues that Petrobras was a Brazilian geopolitical asset in the Southern Cone.

H2: Political parties call the shots in the negotiations of international contracts by appointing Petrobras' directors and thus influencing the investment decisions of Petrobras' board of directors. On this note, Petrobras' international agenda is hijacked by political parties' interests in what the literature calls 'party patronage'. There is evidence that this pattern is highly common in national oil companies. Political parties guided the company's investment decisions. They depend on the opportunities for bribery and overbilling that the projects present. These political parties used Petrobras as an instrument to obtain political and financial gains.

H3: Petrobras' board of directors sets Petrobras' international agenda based on commercial reasoning. Officially, Petrobras acknowledges that the Brazilian government might influence in the process, as the company is a state-owned oil company. However, they claim that their decision-making process both in Brazil and abroad is guided by commercial goals. This hypothesis tests whether 'the business judgement rule' was respect for a given contract. We explain all our hypothesis in the paragraphs below.

2. *MRE*

There are different ways to define foreign policy. For example, Wallace (1974) describes foreign policy as the frontier between domestic and international systems. The problem with this definition is to define precisely where that frontier is. In this regard, White (1989) attempts a new meaning: foreign policy is formulated within the state and implemented in the international system. This second definition, however, would allow us to consider any activity of a Brazilian private company abroad, provided that it had simple technical support from the Brazilian Agency for the Promotion of Exports and Investments (Apex-Brazil), for example, as necessarily foreign policy, which would not make sense (Wallace 1974; White 1989).

Still, on the definition of foreign policy, Hudson (2005) argues that any action of a State has direct or indirect consequences for foreign entities. In this definition, oil leakage from a Petrobras petroleum platform could be considered foreign policy once, at the limit, although not intentional, it is the case of a mixed capital company performing an action that impacted foreign entities such as Green Peace⁴. It would, therefore, be an inaccurate definition for this research. In this respect, the description used for this work is that of Tayfur (1994), which states that foreign policy is the official activity formulated and implemented by authorized agents of a sovereign State directed to the external environment of the States (Tayfur 1994; Hudson 2005).

In the case of Brazil, MRE is the official institution that conducts Brazil's foreign relations. When it comes to energy foreign policy, we found evidence that some of Petrobras' investments abroad constituted a 'political element' (MRE 1993). Considering that Petrobras is a NOC, it is MRE's competence to participate in negotiations involving Petrobras and foreign countries (Presidência da República). When MRE had direct involvement in the agreement, we found that Mercosur was among the main foreign policy goals involved. For example, Petrobras' CEO affirmed to the Brazilian Ambassador that the company was 'in tune with the Brazilian foreign policy, strongly committed to integration and the Mercosur' (MRE 1996).

⁴ See news reports about Petrobras on the Greenpeace website on: <http://greenpeace.org.br/lataria/acidentes/vazamento-petrobras-iii-2012/> Available on: 21/11/2018.

Besides, there are indications of a strong relationship between the Brazilian Foreign Affairs Ministry and senior Petrobras officials (MRE 1996; MRE 2003; MRE 2004l; MRE 2006d).

However, MRE did not intervene in the negotiations of other international contracts (MRE 2008f; MRE 2011b). For example, we found some diplomatic cables reproducing local news about international contracts between Argentina and global oil companies (MRE 2010b) with no Brazilian foreign policy interest at stake. We argue that reporting contracts and agreements per se does not necessarily mean MRE involvement in the negotiation. In some cases, diplomatic cables were just reporting Petrobras' purchases after they were signed and with no MRE participation in the negotiation, such as in the case of Nigeria.

In this thesis, as we aim to classify each Petrobras' international contract and identify whether MRE settled Petrobras' international agenda for a given international contract. In the contract where we identified MRE's initiative, we also show which foreign policy goals were at stake. We did the following method. First, for each international contract deemed, we analysed if MRE initiated talks. If the answer is no, then we do not classify this contract as being settled by MRE. However, we follow the analysis by analysing if MRE joined negotiations at some point during the negotiations and for what reason. For instance, in 2008, the Brazilian Ambassador stressed to them Venezuela's Ministry of Foreign Affairs, Nicolás Maduro, that Petrobras and PDVSA needed presidential political support to reach an agreement related to the joint-venture contract of Abreu and Lima Refinery (MRE 2008e). In other words, there is evidence that MRE did not initiate talks but did intervene in the negotiations during the process, as we will explain in the case studies section. When we determined that MRE did not initiate talks nor joined the negotiations, we argue that this international contract had no foreign policy concern. We summarised our classification in the table below.

Table 2. Analysis of MRE's role

Questions	Yes	No
Did MRE started the negotiations?		
Did MRE gain interest in the contract after the signature?		
Was it possible to identify foreign policy goals at stake?		
Did MRE mediate talks between Petrobras and the foreign contractor?		
Was there any mention of the Petrobras contract as a strategic asset to Brazil?		

Source: the author

3. *Political parties*

Some authors have addressed interest groups' capture of State Owned Enterprises (SOEs) (Szarzec, Totleben, and Piątek, 2022). The concept of state capture is often linked to party patronage, which is 'the use of public resources in particularistic and direct exchanges between clients and party politicians' (Müller, 2006, p. 189). According to Ennsner-Jedenastik (2014), patronage is 'an exchange relationship in which a variety of goods may be traded between the patron and the client: a party politician may offer expertise, legislation, access to the bureaucratic apparatus, public subsidies, housing or jobs in exchange for (alleged) electoral support, labour, campaign contributions, party membership or information available to the client' (Ennsner-Jedenastik 2014, p. 399).

The literature on corruption argues that bribery behaviour differs between SOEs and privately owned enterprises (POEs). Companies resort to bribery to achieve business-related benefits. The argument goes that as SOEs naturally enjoy political connectivity for achieving their goals, they present a low bribe propensity compared to POEs (Shaheer et al., 2019). However, when SOEs operate under weaker institutional environments, they 'may be influenced by some important secondary considerations of their managers, which may disproportionately increase SOE bribery, narrowing the gap between SOE and POE bribe propensities' (Shaheer et al., 2019, p. 2).

There is evidence of the association between favouritism in allocating public contracts and political connections (Tkachenko, Yakovlev, and Kuznetsova 2017). Recently, some authors have focused on appointing party loyalists to executive boards in SOEs. However, there

is evidence that the partisan composition of executive committees reflects the biased design of government in a balanced manner (Ennsner-Jedenastik 2014). On this note, there are two motivations for patronage: reward and control (Kopecký *et al.*, 2012). While reward relates to the exchange between political appointments and political loyalty, control implies ‘that parties intend to exert influence over some area of public policy’ (Ennsner-Jedenastik 2014, p. 400).

The literature considers party patronage as a consequence of a failed political system, as ruling political parties use SOEs to achieve gains for their parties, i.e., electoral financing campaigns through the appointment of high-ranking managers (Ennsner-Jedenastik 2014). In Brazil, in most SOEs, including Petrobras, the board of directors is directly appointed by the president (Vianna 2014), who chooses the candidates based on political parties' recommendations. Therefore, managers' survival depends on partisan affiliation (Szarzec *et al.* 2022) rather than performance-induced (Kuzman *et al.*). As a result, Petrobras' managers may prefer to follow the guidelines of politicians and public officials to get promotions or to keep their positions within Petrobras' board of directors. They would act as lobbyists (Shaheer *et al.*, 2019), which is why SOEs' mismanagement negatively impacts corporate decision-making.

In the TCU's reports, Petrobras' institutional arrangement was considered inadequate due to the lack of separation between those who formulate public policy and those responsible for appointing the board members. The TCU's conclusion pointed out that Petrobras' institutional design favoured the appointment of members aligned with the government. This hypothesis, therefore, tests if the same happened for all the other international contracts and which political interests were at stake. Did the political interest vary depending on the type of contract signed? We analyse if political parties have influenced Petrobras' highest decision-making board to settle the international contracts we explored in this thesis.

Adapting from recent literature (Szarzec *et al.* 2022), we considered as political interest any financial support a given international contract could bring in, from campaign contributions to individual bribery for party members. For this analysis, we considered that political parties were selling and negotiating Petrobras' board positions. On this note, we consider Petrobras' directors as political party clients. They paid to keep their position on the board by bringing some financial gain to the political party that initially pointed him in office. By crossing TCU's reports with Car-Wash Operation's testimonials, we analyse each international contract seeking to collect the information mentioned previously.

Table 3. Analysis of political parties' role

Questions	Yes	No
Is there evidence that political parties started the negotiations?		
Is there evidence of political parties' interference in Petrobras' decision-making process for this contract?		
Was the contract financially beneficial to any political party?		
Is there evidence of bribery for campaign contributions?		

Source: the author

It is important to highlight that we do not have the same amount of information regarding all Petrobras' international contract. The reason is that the TCU, the Brazilian Chamber of Deputies and the Car-Wash Operation released confidential information related to specific civil and judicial processes. If Brazil's Court did not open process against a given international contract, we will have less information available to analyse. If such cases, we will cross the information available with secret diplomatic cables, media information, and Petrobras' reports. Furthermore, in some Car-Wash Testimonials, we find mentions to other Petrobras' contracts not related to the judicial process deemed, for instance, when Petrobras' former international director Cerveró explained the Ipiranga' purchase in the testimonial originally related to the Abreu and Lima refinery. All in all, we will fill the table above to summarise our main findings for each international contract deemed.

4. Petrobras' board of directors

For the purposes of this hypothesis, we consider Petrobras' board of directors as acting in the company's commercial interest. In other words, they represent Petrobras' best interest and make the decisions that would bring more profit to the company. Initially, to measure this hypothesis, our first idea was to use DEA efficiency models to analyse Petrobras' efficiency compared to other international companies, as we mentioned previously. However, if we were to adapt DEA models by using Petrobras' international contracts as our unity of analysis, we would have to count on detailed financial information on each of the contracts deemed. Even

though we analysed Petrobras' financial reports, the way the company shows the data has changed over time. For some years, we have had detailed information on some contracts. For other years we do not. For example, in some reports, we have the total amount of investment for each country, and then for the next year, Petrobras did not show it anymore. We asked for specific information on countries and contracts through Brazil's Information Law (Law 12,527/2011). However, the documents Petrobras sent to us were still insufficient to conduct a DEA model for each contract.

By analysing Petrobras' reports, we found that the company has its way of measuring the economic viability of each project and contract. The company has Decision Support Packages (PSD), consisting of documents to support Petrobras' board of directors' decisions on investment projects. The most crucial document is the Technical and Economic Feasibility Study (EVTE), as its analysis the economic viability of the project by using the IRR and the NPV⁵. The PSD also contains alerts and recommendations from Petrobras' corporate areas. However, we do not have legal access either to Petrobras' methodology or to the results for each project and contract. They are all confidential corporate information. We only have access to the NPV of Rnest (Abreu and Lima Refinery) because Brazil's Federal Court of Accounts (TCU) opened an investigation against Petrobras in 2015 regarding Rnest specifically. We asked TCU for access to Petrobras' NPV related to other contracts and projects, but they were denied for the same reason. Therefore, we cannot use PSD to measure commercial interest in this thesis.

We used the 'business judgment rule' as our last resource to measure Petrobras' commercial interest in international contracts. Through reading TCU's reports, we realised that even with all the information available, the Federal Court of Accounts was not fully able to criticise or point out financial mistakes in the PSD's documents (TCU 2015a; TCU 2016). TCU used the business judgment rule to analyse if Petrobras' board of directors acted in Petrobras' interest, which should be profiting. Therefore, we used this same classification to analyse Petrobras' commercial interest. Instead of analysing financial numbers, we analyse the decision-making process of Petrobras' board of directors.

The business judgment rule was first used in US Courts and has been adopted in different countries since then. In Brazil, the Federal Constitution adopted the business judgment rule, and it has been applied with Law 6.404/1976 and provisions of national and

⁵ In these documents, Petrobras' employees make analysis on financial viability, rate of return, estimates, schedules, market studies, risk analysis, and business analysis.

international doctrine (TCU 2015a). The business judgment rule consists of a standard of action for the manager, which shows if the manager's decisions were taken based on the duties of diligence and loyalty. The rule assumes that decisions must be informed, reflected, and disinterested (TCU 2016).

Figure 1. Brazil's corporate law

Brazil's Corporate Law (Law 6,404/1976)
<p>Art. 142. The board of directors is responsible for the following:</p> <p>I – set the general guidelines for the company's business;</p> <p>II – elect and dismiss the company's directors and establish their attributions, subject to the provisions of the by-laws;</p> <p>III – supervise the management of directors, examine, at any time, the company's books and papers, request information on contracts entered into or about to be entered into, and any other acts;</p> <p>IV – call a general meeting when it deems convenient, or in the case of article 132;</p> <p>V – give an opinion on the management report and the board's accounts;</p> <p>VI – give a prior idea on acts or contracts when the bylaws so require;</p> <p>VII – resolve, when authorized by the bylaws, on the issuance of shares or subscription warrants; (See Law 12,838, of 2013)</p> <p>VIII – authorize, if the bylaws do not provide otherwise, the sale of non-current assets, the creation of real encumbrances, and the provision of guarantees for third-party obligations; (Wording given by Law 11.941, of 2009)</p> <p>IX – choose and remove independent auditors, if any.'</p>
<p>Art. 153. The company's manager must exercise, in the exercise of his functions, the care and diligence that every active and honest man usually uses in the administration of his affairs (emphasis added).</p>
<p>Art. 155. The administrator must serve the company with loyalty and keep a reserve about its business, being forbidden to:</p> <p>I – use, for their benefit or that of others, with or without prejudice to the company, the commercial opportunities that they become aware of due to the exercise of their position; company;</p> <p>II – fail to exercise or protect the company's rights or, to obtain advantages for themselves or others, fail to take advantage of business opportunities of interest to the company;</p> <p>III – acquire, to resell at a profit, an asset or right that the company knows is necessary or intends to develop (emphasis added).</p>

Source: (Presidência da República)

The original objective of the business judgment rule was to protect the administrator in cases where he made the wrong decisions that led to damage to the business company but with no

agenda or intentionality behind it. In other words, sometimes, the wrong decision is based on diligence and loyalty. However, the damage was a bad result related to uncertainties in the market, and thus the administrator should not be punished because of it. Needless to say, the same rule might prove the opposite - decisions for which the manager must be punished. According to the rule, when making a decision, the manager must have 'reasonable information, reflect on the alternatives and impacts of the decision, act in good faith and honestly believe that the decision was in the best interest of the company' (TCU 2015a, p. 29).

For this thesis, we consider Petrobras's best interest is its commercial profits. However, by identifying whether Petrobras' board of directors initiated the negotiations is not enough to affirm that Petrobras settled the agenda for the given contract. Given the corrupt activities found in the company and explained in the previous hypothesis, we needed to keep our analysis by verifying whether the business judgment rule is observed. For instance, the co-optation of Petrobras' directors by political parties is certainly not in the best interest of Petrobras and, therefore, not a commercial interest. In this vein, for each contract analysed in our case studies, we elaborated the following questionnaire that summarises content analysis based on diplomatic cables, Petrobras' financial reports, police inquiries, Car-Wash Operation reports, and TCU's documents when available.

Table 4. Analysis of Petrobras' board of directors' role

Questions	Yes	No
Did Petrobras' board of directors started the negotiations?		
Were the board's decisions regarding the targets for expanding exploration, production, or refining capacity (volume, type of oil, deadlines) consistent with the other corporate targets/indicators of the company's strategic planning (oil curve, verticalisation)?		
In its decisions regarding the expansion of exploration, production, or refining capacity, did the Board of Directors of Petrobras prioritise the pursuit of any public interest to the detriment of the economic viability of the refineries?		
Is it possible to identify CA deliberations or guidelines directly related to verified losses?		
Is it possible to identify governance fragilities that could interfere directly or indirectly with the decision-making process of Board members?		
Did the board's composition allow for preserving the autonomy and independence of its decisions concerning the controlling shareholder?		

Source: The author adapted from (TCU 2016, p.7)

We will consider that Petrobras' board of directors settled the agenda in a given international contract when we find a 'no' answer to each question above, which means that the decision-making process followed the business judgment rule, and it has been applied with Law 6.404/1976 and provisions of national and international doctrine (TCU 2015a). As we mentioned previously, we adopted the TCU's approach in which we consider that Petrobras' best interest is reached when following the business judgment rule.

Chapter 3. Types of contracts

This thesis considers Petrobras' international contracts as our primary unit of analysis for two reasons. First, it is not our focus to analyse all Petrobras' contracts signed during the period but to study the international aspect of the decision-making. We believe that as a national oil company, Petrobras' decision-making process should be as public as possible. On this note, we analyse the political interests at stake when Petrobras signed international contracts and how these interests interact with each other. Negotiating a suitable contract is crucial to use natural resources in the country's interest (Radon 2013).

States usually choose among three options to develop natural resources. The State is often represented by its NOCs (Bindemann 1999). They can create state companies for exploration, development, and production (1); they can invite international companies to develop natural resources (2); they can opt for a combination of the first two systems (3). To sum up, the differences among the contract terms determine how much a producing nation earns from its natural resources and the opportunities for corruption. For instance, large contractors in Brazil formed a cartel, frustrating Petrobras' bids in contracts in Brazil (Pereira et al. 2021). This is why civil society should make contractual terms accountable and transparent. To do so, all international contracts should establish the division of profits/rents between the host government and participating companies, and the transaction costs are divided between them. International contracts can vary widely in their details and legal names. Although the exact name may vary depending on the contract, most of the literature highlights the three most widely-used oil contracts: a concession agreement, joint ventures (JV), and production-sharing agreements (PSA) (Radon 2013), as we explain below.

1. Concession agreements

In this type of contract, the international company operating in a foreign country has exclusive rights to explore, develop, sell, and export oil or minerals extracted from a specified area for a fixed period (Gomes 2009; Radon 2013). In Brazil, art. 176 of the Federal Constitution states: 'the concessionaire is guaranteed ownership of the mining product.' However, the

concessionaire must pay the State income tax, contributions, royalties, and remuneration levied on the gross revenue earned (Gomes 2009). Usually, the governments use a public bidding system to set the contractual terms and choose the best foreign company, which takes all the financial risks and costs of exploration. There are many risks involved from a bidder's perspective, as very often seismic exploration has not been entirely undertaken. In other words, the potential of a concession area is not yet proven (Radon 2013). In this vein, royalties guarantee a minimum gain to the host State, regardless of whether the project is profitable for the exploration company (Gomes 2009).

The expertise required is less complex than that needed to negotiate joint ventures or production-sharing agreements (Radon 2013). Still, the concession contract is more used in countries with a developed and solid fiscal-tax regime. Furthermore, concession contracts with a special rate of return are very suitable when little information is available on the profitability of the field 'because it requires less ex-ante information for the contracting party' (Gomes 2009, p. 10). The biggest the prize, the greatest the risk involved for the concessionaire. According to Brazil's Petroleum Law, the Brazilian State chose the concession regime as the contractual model for oil exploration (Gomes 2009).

2. *Joint ventures (JVs)*

Under a joint-ventures regime, the host State is a partner of the international contractor, as they both take the costs and profits in the project's exploration, development, and production (Radon 2013). Host States may choose JVs for the following reasons: 'a) to foment the feeling of nationalism in the conduction of the oil exploration, b) to facilitate the transfer of technology, industrial secrets, commercial abilities, and know-how; c) obtain greater control over the development of the project' (Gomes 2009, p. 40). However, the host State must share the investment cost with the foreign partner, including the risk of losses of non-profitability of the given field. As a result, conflicts of interest between the host State and the foreign State/company are not uncommon and may result in more extended negotiations (Radon 2013). As a rule, oil companies do not seek JVs because the financial efficiency is affected by different cultures (Gomes 2009) and the difficulty in knowing each other's goals (Radon 2013). However, governments see in JVs many financial advantages 'because the State has more resources to invest than the companies, as well as being able to obtain loans at much lower rates than the companies; therefore, the resulting oil production capacity tends to be greater' (Gomes 2009, p. 41). During the first years of internationalisation, Petrobras adopted the joint

venture regime to access experience and knowledge of the international market through a partnership with local and international oil companies (Dalla Costa and Pessali 2007).

3. Production-sharing agreements (PSAs)

The ownership of both the resource and the installations rests in the host State, but international companies are allowed to operate and develop the oil field. The contractor provides technical and financial services for exploration and development operations. The foreign company pays the government a royalty on gross production (Bindemann 1999). In most PSA contracts, international companies pay for the initial costs related to the oil field, which the host government will repay with its future profits under the PSA (Radon 2013). However, foreign companies have no financial compensation if no oil is found in the field. Bindemann (1999) explains the financial arrangement: ‘After the royalty is deducted, the FOC (foreign oil contractor) is entitled to a pre-specified share (e.g., 40 percent) of production for cost recovery. The remainder of the production, so-called profit oil, is then shared between the government and FOC at a stipulated share (e.g., 65 percent for the government and 35 percent for the FOC). The contractor then has to pay income tax on its share of the profit oil. Over time PSAs have changed substantially, and today they take many different forms’ (Bindemann 1999, p. 1).

According to Petrobras (2015), there are three regulatory models in Brazil: concession, shared production (JVs), and onerous assignment (PSAs). The company also distinguished the contracts as a concession, oil operation or service, and shareholding (PETROBRAS 2015, p.14). All in all, they are all name variations of the types of contracts mentioned previously. The most common international contracts signed by Petrobras are concession agreements and joint ventures, both of which may occur in Brazil or foreign territories. Concession agreements are conducted through bidding processes performed by the National Petroleum Natural Gas and Biofuel Agency (ANP) (PETROBRAS 2015), such as in the case of the pre-salt area. During the period considered in this thesis, most of the producing fields were operated as concessions, such as the case of Argentina, the US, Colombia, and Nigeria (PETROBRAS 2015). Petrobras also had investments in joint ventures in Brazil and abroad related to petrochemical companies, gas distributors, biofuels, thermoelectric power stations, refineries, and other activities (PETROBRAS 2015).

Chapter 4. Methods

In this thesis, we developed different datasets for different methods. First, as we mentioned previously in the introduction, the literature on NOCs and IOCs usually reports that NOCs have their performance efficiency affected by non-commercial goals. Therefore, our first objective was to check how efficient Petrobras is compared to other NOCs and IOCs. Most of the literature uses DEA models to measure institutions' efficiency. On this note, we developed a dataset covering numerous financial indicators of different NOCs and IOCs. We will explain below that we used DEA analysis to measure oil companies' efficiency. DEA's results showed that Petrobras was our sample's most inefficient oil company. Therefore, it's an oil company worthy of analyse deeply. As our main aim in this thesis is to find out what explains Petrobras' decision-making process regarding international contracts, we applied quantitative-text analysis in two datasets: diplomatic cables and Petrobras' financial reports. To do so, we collected all Brazilian diplomatic cables at Brazil's Ministry of Foreign Affairs, dating from 1994 to 2017, as well as all Petrobras' reports from 2004 to 2012. We converted all the documents into html and applied quantitative-text analysis to measure word occurrences of selected keywords, as we will explain further in this section. Quantitative-text analysis results showed the most mentioned oil companies in both datasets. Based on this, we conducted content analysis and process tracing to identify the decision-making process behind the most crucial Petrobras' international contracts. We will explain each method and dataset below.

1. DEA model and Petrobras' efficiency

Data envelopment analysis (DEA) is a nonparametric method that estimates production frontiers through linear programming techniques. DEA measures the productive efficiency of decision-making units (DMUs) by determining the optimal scale of productivity construction investment in unit production (Zhong and Zhao 2016). Each DMU is a unit that takes different inputs to produce different outputs (Vincová 2002). This thesis considers each company/year as a different DMU. Through efficiency analysis, companies can diagnose their performance against competitors (Francisco et al. 2012) and measure efficiency changes by comparing one year to the next (Hartley and Medlock 2013).

We use the model's essential function to perform DEA models. We choose the primary model function because it allows us to treat both with non-discretionary, uncontrollable, and undesirable inputs/outputs. We calculate the efficiency of the 48 DMUs by using the input-oriented CCR⁶ model. We use the input-oriented model as it shows how to improve the input characteristics to achieve better outputs. We use the input orientation with constant returns to scale (CRS), which comes from the economic concept of the production function. The efficiency rate must not be greater than 1, while the weights of all inputs and outputs must be greater than zero.

In conclusion, a given DMU is CCR efficient if the function equals one; the lower the rate, the less efficient the DMU is (Vincová 2002). The efficiency of a given DMU can be determined based on the distance between this DMU and the efficient production frontier (Li et al. 2013). For a unit to become efficient, it should reduce the inputs to increase the outputs (Francisco, Almeida, and Silva 2012).

Based on Vincová (2002, p. 26), the CCR or CRS model can be stated as follows:

$$f = \theta - \epsilon (e^T s^+ + e^T s^-)$$

subject to

$$Y \lambda - s^+ = y_q$$

$$X \lambda + s^- = \theta X_q$$

$$\lambda, s^+, s^- \geq 0$$

where $\lambda = (\lambda_1, \lambda_2, \dots, \lambda_n)$, $\lambda \geq 0$ is a vector assigned to individual productive units, s^+ and s^- are vectors of additional input and output variables, $e^T = (1, 1, \dots, 1)$ and ϵ is a constant greater than zero. Regarding the efficiency rate and values of additional variables s^- and s^+ , input-oriented CCR model can be stated as follows:

$$x'_q = \theta x_q - s^- \quad y'_q = y_q + s^+$$

Productive efficiency is maximizing the output concerning a given level of inputs. The efficiency scores represent averages from 0.0 to 1.0, with being 1.0 the highest score and 0.0 the lowest (Pirog 2007a). Many scholars use nonparametric Data Envelopment Analysis (DEA)

⁶ Also known as CRS.

to measure efficiency. For instance, Eller et al. (2007) found that the DEA technical efficiency score for IOC is 0.40 compared to a sample average of 0.27 for NOCs (Wolf and Pollitt 2008b). Victor (2007) used a simple linear regression function based on data covering 90 firms to find that OICs tend to generate significantly more revenue per unit of output than SOC.

There is no consensus regarding which variables should be used as inputs or outputs nor how many inputs or outputs should be addressed. Our choices were motivated by the theoretical analysis in Li, Li, and Wu (2013), in which five indicators among inputs and outputs were used following the general idea that outputs are the result of the production of oil and gas and inputs are related to the cost of the main operation, operation expenses and so on. In this vein, our DEA model has 48 DMUs (oil companies) with two inputs (investments/capital expenditures and the number of employees) and three outputs (reserves, revenue, and oil and gas production), totalling five indicators such as in Li, Li, and Wu (2013). Recent studies have used labour/number of employees as input and oil and gas production and revenue as outputs (Hartley and Medlock 2013; Li, Li, and Wu 2013).

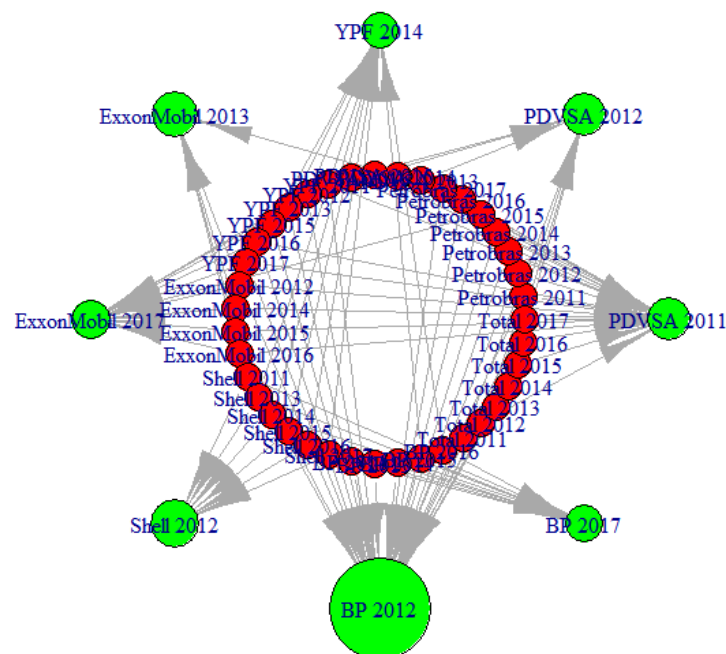
In our research, investments or capital expenditures (USD million) mean the investments a company makes through the acquisition or leasing of property, assets, or equipment (wells, plants, etc.) or costs relating to upgrading and maintaining existing assets to extend their life. The number of employees (in 1,000s) means a given oil company's total number of employees. Oil and gas production (barrels of oil equivalent/day) denotes the amount of barrel oil equivalent (boe) of all liquid crude/natural gas that a company produces daily in a given year. Reserves (barrels of oil equivalent) mean the amount of oil and gas in barrels of oil equivalent (boe) booked and reported by a company that year. Finally, revenue (USD million) refers to all revenues of a given oil company in a year (Huebner and Heller 2019).

Our sample is limited to 48 DMUs. Each oil company in a given year represents one observation. In this regard, individual firms contribute with more than one observation. For instance, Petrobras 2011, Petrobras 2012, Petrobras 2013, Shell 2011, Shell 2012, Shell 2013, and so on. Similarly to Iskakov and Yilmaz (2015), our database is based on two primary sources: National Oil Company Database from Natural Resource Governance Institute and the companies' annual reports (10-k and 20-f reports) gathered from companies' official websites. All reports and data are related to seven years (2011-2017). The selection of companies reflects constraints imposed by data availability, as we could only include companies with data for all variables (inputs and outputs). Furthermore, we did not use a paid dataset, which could have raised our number of DMUs. However, a few DMUs caused by similar concerns can also be

found in Hartley and Medlock (2013) and Iskakov and Yilmaz (2015), and it was not a problem for the empirical analysis. Iskakov e Yilmaz (2015) make a DEA model for four international oil companies from 2009 to 2014. Besides, as mentioned by Gong (2019), Al-Obaidan and Scully (1992) use a sample of 44 petroleum enterprises for 1979–1982; Thompson et al. (1996) manipulate data on 14 oil companies for 1980–1991; and Wolf (2009) use a sample of 50 oil companies. Therefore, the use of 48 DMUs for seven years is coherent with former studies using DEA models.

In the following graph, we see a network graph. Green circles show the efficient DMUs, and the red ones are the inefficient units. Based on the following graph, we can realize how inefficient DMUs are related to efficient DMUs, representing the idea of the efficient frontier. Besides, the size of the circle show ‘how important is the efficient DMU for the set of inefficient DMUs’ (Coll, Benítez, and Bolós 2018, p. 45). As we mentioned in the introduction, in which the best average efficiency index is related to BP, this company is also the most crucial efficient company in our sample, given its circle size. On the other hand, Petrobras’ was our sample's most inefficient oil company.

Figure 1. DEA Analysis results



Source: the author

2. *Quantitative-text analysis on diplomatic and Petrobras' financial reports*

Literature on foreign policy and diplomacy acknowledges that analysing data on diplomatic cables can be challenged whether we use qualitative or quantitative methods (Gephart 1997). The first difficulty to be dealt with is, of course, secret laws that limit access to diplomatic communications even in democratic countries where there is freedom of information rules, such as in the USA and Brazil (Connelly et al. 2021). The same problem applies to getting access to oil companies' financial reports. When we are lucky or persistent enough to access these documents, the second challenge is dealing with such an amount of information. Many diplomatic cables were not interesting for our research's goal, such as those related to consulate bureaucratic procedures. Recently, some initiatives have been to develop publicly available databases related to diplomatic and other government documents (Connelly et al. 2021). In this thesis, we did not use these authors' datasets, as we have different research questions but share the same will. In other words, we aim to catalogue diplomatic cables and use descriptive statistics to conduct qualitative research.

Many authors consider textual data a vital unity of analysis in political science. In many cases, content analysis has been used to make some inferences on political documents, as they can potentially offer important insides into the policy positions of the decision-makers at a specific point in time. For example, studies on political parties have extracted policy positions from party manifestos using hand-coding, *WORDSCORES*, and *Wordfish* (Klüver 2009). In addition, analysis based on word counts paves the way for inferences about the most common themes in texts. Therefore, many authors count specific keywords as a common way to measure themes and, thus, the political actors' main interests in such matters. On this note, some authors assume that the frequency of occurrence of keywords represents the strength or importance of specific values related to a 'content dictionary' of other keywords (Gephart 1997).

Through computer-supported quantitative content analysis, the software can automatically code, classify, and count words (Gephart 1997). For example, based on a data matrix of word counts of 'economic inflation,' the researcher may find a correlation to certain types of 'political protest' and therefore determines 'if the protests are *mentioned in the texts as* being the cause or the effect of inflation' (Roberts 2000, p.263). In this vein, some authors have triangulated the analysis of the co-occurrence of words, the substitution model of

quantitative content analysis, qualitative coding, or simply listing keywords (Gephart 1997; Oleinik 2011). For instance, Gephart (1997) conducted a case study on the leak incident of Amoco Canada Petroleum Company (a subsidiary of Standard Oil Company) by developing a set of keywords and their frequency of occurrence by the company's members to describe the accident. The author then examined the documentary contexts of the keywords. Recently, similar methods have been used in the context of the European Commission's open consultations (Bunea and Ibenskas 2015), electoral documents based on the calculation of word (or term) frequencies on parties' websites (Merz et al. 2016), witness testimony taken from Congressional hearings (Nowlin 2016), and the development of new quantitative-text analysis software on diplomatic and government documents (Connelly et al. 2021).

In this thesis, we wrote a Python script to tokenize the data as the following. Our database consists of all declassified documents from Brazil's Ministry of Foreign Affairs (MRE) from 1994 to 2017, diplomatic cables sent by American Ambassies to the Department of State (released by Wikileaks), and primary documents from Petrobras, Brazil's Chamber of Deputies, Brazil's Court of Auditors (TCU) and testimonials from "Operation Car-Wash." As pdf documents are not machine-readable, we converted all Brazilian diplomatic cables from 1994 to 2017 collected in Brasilia from pdf to html. Then, we quantified the frequency of the keyword 'Petrobras' by year through Python language. We did the same for the oil companies we considered for our DEA model, both on diplomatic cables and Petrobras' financial reports by year and by company. The results show that during the Work's Party (PT) administration, the number of times 'Petrobras' appeared on diplomatic cables increased significantly in diplomatic cables. However, there is a problem regarding quantifying word mentions, as they can present biased results.

For instance, at a given Brazilian embassy, a diplomat could have mentioned 'Petrobras' several times in the same cable for a particular reason. Still, that same embassy may not mention Petrobras ever again. Conversely, mentions could have been more distributed throughout the years in another embassy. In this thesis, we were more interested in the second case. Therefore, we used a dummy variable (TRUE/FALSE) for 'Petrobras' mentions to avoid any lopsided results. So, if the diplomat only said it once or several times in the same telegram/cable, it didn't make any difference anymore. Our primary goal was to focus our process tracing on empirical evidence. We used the same logic as other oil companies mentioned in diplomatic cables. Word-count results were crucial to identify the most mentioned oil companies in both datasets. The empirical results showed where we should look.

In other words, based on these results, we conducted our case studies. We explain how we used process tracing in our case studies chapter.

3. *Analysing Petrobras' international contracts*

We decided to measure the frequency of mentions of international oil companies for two main reasons. First, if we were to count the number of times the word defining the type of the international contract, i.e., 'joint venture,' was mentioned in diplomatic cables, chances are that we would have just a few results. Diplomats do not refer to Petrobras' international contracts by their legal names. It's more common for them to refer to as 'projects,' a vast word to measure. Therefore, we needed to choose a better keyword to find international contracts. In this regard, by studying the legal definitions of international contracts, it has come to our attention that, as a rule, every international contract is signed between two companies, whether a NOC or an IOC. Therefore, we decided to measure the frequency of mentions of international companies in both diplomatic and Petrobras' financial reports. By measuring the most frequent ones, we would be able to (1) identify the most important international oil companies to MRE and Petrobras; and also (2) the international contracts that were being reported in these documents. Through python script, we measured the mentions of international companies in Petrobras' reports and generated the two tables below.

Table 1. Number of companies mentions in Petrobras' reports

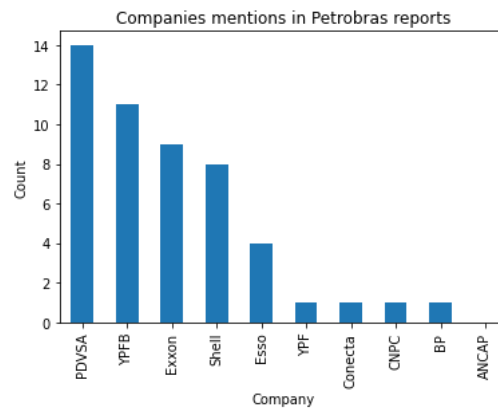
<i>Company</i>	<i>Number of Mentions</i>
<i>PDVSA</i>	14
<i>YPFB</i>	11
<i>Exxon</i>	9
<i>Shell</i>	8
<i>Esso</i>	4
<i>YPF</i>	1
<i>Conecta/ANCAP</i>	1
<i>CNPC</i>	1
<i>BP</i>	1
<i>Total</i>	50

Source: the author

It is possible to identify that Venezuela's PDVSA was the most popular oil company in Petrobras' reports, followed by Bolivia's YPFB, Exxon, Shell, Esso, Argentina's YPF, Uruguay's Conecta, China's CNPC, British Petroleum (BP) and Uruguay's ANCAP (later we

will analyse Conecta and ANCAP as one single contract.) Considering that we just had access to Petrobras' financial reports from 2004 to 2012, each of them totalling around 70 pages, it is no surprise that there were fewer companies' mentions in total compared to diplomatic cables.

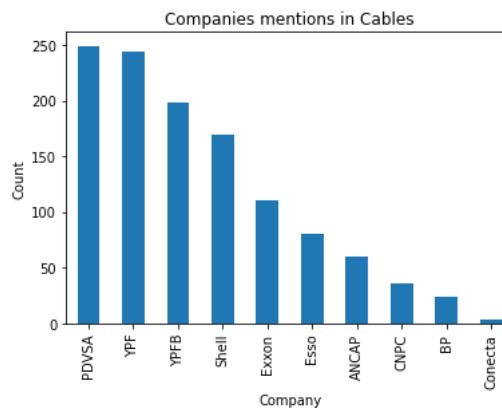
Figure 2. Frequency of companies' mentions in Petrobras' reports



Source: the author

We did the same with the diplomatic cables database, which generated similar results with some interesting differences. In common, PDVSA stands out as the most mentioned oil company for Brazilian diplomats and Petrobras' reports. The order of mentions did not change significantly, which shows that a vital oil company to Petrobras might also be necessary to MRE. However, we can note that Argentina's YPF was much more critical for diplomats than Petrobras' commercial goals, as shown in the graph below.

Figure 3. Frequency of companies' mentions in MRE's diplomatic cables



Source: the author

Considering that we want to understand what explains the decision-making process of Petrobras' international contracts, we needed to organise the global oil companies to make the analysis of each international contract easier. Therefore, we measure how important each international company was compared to other international companies by adding up the total number of mentions for all companies in each database and then dividing the number of mentions for each company by the total number to see how representative each one is, as the table below illustrates.

Table 2. Representativeness of oil companies

<i>Company</i>	<i>Commercial mentions/total</i>	<i>Diplomatic mentions/total</i>
<i>PDVSA</i>	14/50= 0,28	249/1177 = 0,21
<i>YPFB</i>	0,22	0,20
<i>YPF</i>	0,02	0,23
<i>EXXON</i>	0,18	0,09
<i>SHELL</i>	0,16	0,14
<i>ESSO</i>	0,08	0,06
<i>ANCAP/CONNECTA</i>	0,02	0,05
<i>BP</i>	0,02	0,02
<i>CNPC</i>	0,02	0,03
Total	50	1177

Source: the author

We then organised the international companies as a result of (1) a high number of diplomatic and commercial mentions (>20% mentions in both); (2) the number of diplomatic mentions is higher than the number of commercial mentions; (3) the number of commercial mentions is higher than the number of diplomatic mentions; and (4) a low number of diplomatic and commercial mentions (<1% mentions in both), which resulted in the following table. By ‘commercial mentions’ we refer to Petrobras’ financial reports database and by ‘diplomatic mentions’ to MRE’s cables.

Table 3. Classifying mentions results

Mentions results	Companies
High number of diplomatic and commercial mentions (>20% mentions in both)	PDVSA, YPFB
Number of diplomatic mentions is higher than the number of commercial mentions	YPF
Number of commercial mentions is higher than the number of diplomatic mentions	Exxon, Shell
Low number of diplomatic and commercial mentions (<1% mentions in both)	Esso, ANCAP/Conecta, BP, CNPC

Source: the author

Based on the table above, we knew where to look. In other words, we needed to search for Petrobras’ international contracts with these companies for the period deemed to understand the context and the mechanism behind the decision-making process of each of them. By analysing Petrobras’ reports, we identified the international contracts and summarised the

primary information in the following table. This table justifies the international contracts we focused on in this thesis. The next sections refer to our case studies.

Table 4. Table of Contracts

Contract	Contract partner	Country	Amount	Content	Year
Acquisition of assets	ANCAP and Conecta S.A.	Uruguay	US\$ 3.2 billion	Petrobras acquired 50% of Conecta S.A (ANCAP held the other 45% of the shares)	2004
Joint venture/acquisition	PDVSA	Brazil	US\$ 4 billion	Petrobras acquired 100% of Ipiranga	2004/2005
Concession	Shell	Colombia, Uruguay, and Paraguay	US\$ 140	Petrobras acquired 100% of Shell's assets	2005
Joint venture	PDVSA	Brazil	BRL\$ 18 billion	Rnest (Abreu and Lima refinery) was the first refinery built by Petrobras in Brazil after an interstice of almost 30 years.	2006
Renegotiation of concessions	YPFB	Bolivia	US\$ 112 million	The sale of Petrobras' Guillermo Elder Bell and Gualberto Villaroel refineries as a result of the renegotiation of contracts	2006
Concession	ExxonMobil and Esso	Chile	US\$ 400 million each	Acquired ExxonMobil's and Esso's assets in the country	2008/2009
Concession	Petrobras (45%), BG Group (30%), and Repsol YPF (25%)	Brazil	-	Concession contract between Petrobras, BG Group, and YPF in the pre-salt area of the Santos Basin (BM-S-9 block)	2008
Concession	China National Petroleum Corporation (CNPC)	Peru	US\$ 2.6 billion	The sale of Petrobras' wholly-owned subsidiary Petrobras Energia Peru	2012/2013
None	BP*	None	None	-	-

*Petrobras did not sign any international contract with BP during the period deemed. The British company was only mentioned in Petrobras' financial report in 2004. This mention was related to an example of an international company with the potential to be attracted to the Brazilian market in an exemplary list that included almost all the most significant global oil companies. Regarding diplomatic communications, mentions of the company were found when the Brazilian embassy was organising an international fair in Ankara in 2004 (MRE 2004k). Petrobras participated with a stand. In this sense, we argue that no commercial, political, or diplomatic interest was mainly related to BP in Brazil during the period deemed.

Source: The author based on (PETROBRAS 2004; PETROBRAS 2005a; PETROBRAS 2006; PETROBRAS 2007; PETROBRAS 2008; PETROBRAS 2009; PETROBRAS 2010; PETROBRAS 2011; PETROBRAS 2012)

Chapter 5. What's the role of Petrobras in Brazilian foreign policy? The decision-making process behind Petrobras' international contracts

1. Introduction

Petrobras' creation in 1956 was part of Brazil's comprehensive economic policy of imports-substitution. Brazilian politicians and economists believed that the country should build its petrochemical industry so as to avoid dependency on the international market. Despite the nominal end of the monopoly regulation in the 1990s and its semi-privatization, the Brazilian state is still the company's primary stakeholder. Petrobras has benefited from the closer ties with the Brazilian state, which has provided financial support to the company through the National Development Bank (BNDES), the *Programa de Mobilização da Indústria Nacional de Petróleo e Gás Natural* (PROMINP), created in 2003 to increase the participation of local suppliers in the offshore chain; and the *Programa de Aceleração do Crescimento* (PAC), created in 2007, which proposed greater investments in infrastructure. In 2010, investments in the petrochemical infrastructure and the offshore chain accounted for nearly BRL170bi (Ramírez-Cendrero and Paz 2017).

A vital indicator of the state's influence in Petrobras' affairs lies in the government's strategy. Connections between Brazil's state bureaucracy and Petrobras depend on the state's strategy in force. For instance, during President Cardoso's administration (1995-2002), energy self-sufficiency was the leading state's goal, so the exploration investment programme became Petrobras' priority. However, especially after the pre-salt offshore oil discoveries, 'Petrobras adapted its strategy to the *neodevelopmentalist* policies of President Lula, characterized by (among other things) the promotion of refining and biofuels, and the attempt to revitalize local industry' (Ramírez-Cendrero and Paz 2017, p. 476).

While investments in refining remained high throughout Lula's government, upstream investment was reduced, despite being the most profitable area. On this note, some authors argue that national objectives were more important than merely commercial concerns in this

period (Ramírez-Cendrero and Paz 2017). The literature has used terms such as ‘oil diplomacy,’ ‘petroleum diplomacy,’ or ‘petro-diplomacy’ to refer to the interaction between petroleum and diplomatic interests (Kong 2010). These relationships are based on ‘the symbiotic relationship that continues to exist between the state and its enterprises, the interaction of which results in the ultimate pursuit of state interest’ (Francisco 2014: 50). Petroleum diplomacy has been subject to many studies that investigate Chinese oil diplomacy (Jaffe and Lewis 2007; Kong 2010; Francisco 2014), Russian oil companies (Locatelli 2006), Venezuela’s petro-diplomacy (Kozloff 2007; Clem and Maingot 2011), Saudi petroleum diplomacy (Ali 1976), and American oil diplomacy (Bahgat 2003).

Based on quantitative text analysis, we find an increase in Petrobras’ international investments led to the rise in the number of Petrobras’ mentions in diplomatic cables during PT’s rule, which accounts for Lula and Dilma’s administration. We analysed the most critical case studies related to Petrobras’ international contracts through process-tracing. We aim to investigate who sets Petrobras’ agenda related to its international contracts. We identified three main hypotheses based on the literature: (H1) Political parties settled the agenda and not Brazil’s Ministry of Foreign Affairs. Brazilian political parties nominated Petrobras’ board of directors and influenced the decision-making process regarding international contracts. The role of MRE was secondary and consisted in reporting the investments and assisting Petrobras’ employees whenever necessary; (H2) MRE initiated talks regarding Petrobras’ international negotiations. In other words, Petrobras’ decisions followed Brazilian foreign policy goals; (H3) Petrobras’ board of directors initiated the negotiations involving the company’s international contracts guided by the company’s market-oriented interests.

This article is divided as follows. First, we reviewed the literature on party patronage, State-Owned Enterprises (SOEs), Brazilian foreign policy, and Petrobras as a geopolitical asset. Second, we discussed the methods by showing quantitative text analysis’s main result and how we conducted the process-tracing on the case studies. Third, we analyse the two case studies: the construction of the ‘Abreu e Lima’ refinery and the purchase of the Ipiranga Group. In that section, we process-traced all declassified documents from MRE from 1994 to 2017, as well as diplomatic cables sent by the American Embassy in Brazil to the US Department of State (released by Wikileaks). Besides, we analysed primary documents from Petrobras, Brazil’s Chamber of Deputies, Brazil’s Court of Auditors (TCU) and testimonials from ‘Operation Car-Wash.’ Finally, we make final remarks regarding our empirical evidence.

2. Literature review

2.1. Political parties and Petrobras' decision-making process

Recent literature has addressed interest groups' capture of SOEs (Szarzec, Totleben, and Piątek, 2022). There is evidence that the rotations of members of their management boards are linked to political appointments. Changes in managers in state-owned enterprises are higher than in private companies and are related to political elections. In such cases, politicians and representatives in the government administration have the power to decide about appointing and dismissing high-level employees, including directors and CEOs. Furthermore, replacing SOEs' managers after elections is a bonus for the ruling politicians (Szarzec et al. 2022). The argument goes that through appointing the board of directors of a national company, political parties would have the capability to call the shots regarding the company's decision-making process.

The concept of state capture is often linked to party patronage, which is 'the use of public resources in particularistic and direct exchanges between clients and party politicians' (Müller, 2006: 189). The process of appointing members of the board of directors of a mixed-capital company must observe objective and transparent criteria so as to avoid selecting members of the government in the company's administration. According to TCU:

When the state is a controlling owner, it is in a unique position to appoint and elect the board without the consent of other shareholders. This legitimate right is embedded in a high level of responsibility to identify, appoint and elect its board members. In this process, and to minimize possible conflicts of interest, the owner must avoid electing an excessive number of directors from among the public administration staff. This is particularly relevant for SOEs where state ownership is not integral (mixed capital companies) and for SOEs that operate in competitive sectors. Some countries have decided to avoid the appointment or election of any member of the ownership entity or public officials to the boards of SOEs. This clearly aims to remove from the State the possibility of directly interfering in the business or administration of SOEs and to limit the State's responsibility in the decisions taken by SOEs' councils (TCU 2016: 21)

Considering the period 2006 to 2015, the TCU concluded that Petrobras' selection process for choosing the members of the company's board of directors was not adequate for

guaranteeing an independent committee (TCU 2016). In addition, the TCU verified at least three empirical cases in which the lack of independence of the Petrobras Board of Directors gave rise to wrong decisions. Table 1 summarises TCU's findings.

Table 1. Evidence of political bias in Petrobras' decision-making process

Cases	Description	Result	Decision-makers
Conducting the Capitalization of Petrobras and the Transfer of Rights, both carried out in 2010	Financing Petrobras' investment plan, with the Government's payment in the form of issuance of government bonds. On the other hand, the Transfer of Rights anticipated government revenue, with the assignment of the right to explore pre-salt areas to Petrobras	Ministers of Finance and Mines and Energy as representatives of the interests of the Union, who were also administrative directors of Petrobras; that is, they were part of the two parties to the agreement.	Ministers of Finance and Mines and Energy
Election of the Minister of Finance as Board of Directors of Petrobras	The same Minister of Finance was also responsible for appointing one of the influential members and respective alternate of the Fiscal Council of the state-owned oil company (article 1, § 3, of the extinct Decree 757/1993; § 2 of article 40 of Decree 8.945/ 2016), the body responsible for supervising the acts of administrators.	The Minister of Finance practically elected himself, in addition to appointing a fiscal counsellor who would supervise his actions in the CA (evidence 27, p. 14-16). A similar situation occurred with the Ministry of Mines and Energy nominations.	Ministers of Finance and Mines and Energy
In 2010, BNDES, after a loan from the Union, bought shares in the Company after authorization by the then Minister of Finance.	In 2010, BNDES, after a loan from the Union, bought shares in the Company after authorization by the then Minister of Finance – who was also a member of the Board of Directors of Petrobras.	Purchase of Company shares by the Brazilian State	President of the National Development Bank (BNDES) and Minister of Finance

Source: the author based on (TCU 2016)

Regarding the third case indicated by the TCU, which took place in 2010, Paulo Roberto Costa reports:

(...) In 2010, when she [Dilma Rousseff] was running for the presidency, Guido Mantega, Minister of Finance, took her place [at Petrobras]. A serious mistake, in my opinion. As Minister of Finance, he did not position himself as an advisor to Petrobras. In the council, he behaved as the Minister of Finance (Costa 2015).

Between 2008 and 2013, Petrobras' directors were appointed by the Ministries of Planning (MPDG) and Mines and Energy (MME) after consultation with the Civil House of the Presidency of the Republic. MME could appoint six members to Petrobras' board of directors, and MPDG could choose one more. In total, the Brazilian state had the power to appoint seven members to the company's highest decision-making board. Minority shareholders, preferred shareholders, and after 2010, Petrobras' employees could choose one board member each. However, according to Roberto Costa, 'the private sector directors were silent in the council meetings. As they are usually businessmen, they don't want to start a conflict with the government, so what the Minister says there is law, and no one questions it' (Costa 2015). In other words, the Brazilian state ruled Petrobras' highest decision-making board.

In a TCU report, Petrobras' institutional arrangement was considered inadequate due to the lack of separation between those who formulate public policy and those responsible for appointing the board members. The TCU's conclusion pointed out that Petrobras' institutional design favoured the appointment of members aligned with the government. In a statement, Paulo Roberto Costa explained that the criteria for appointing Petrobras' directors were predominantly political:

[...] I always gave the reference as if it were the Army. You can be the best soldier in the world; you will reach colonel, but you will never reach general if you don't have an indication of your name. Well, at Petrobras, it worked like that. So I was nominated by the PP in May 2004, a year or a year and a half after Lula took office in the Presidency of the Republic (...) I was approached by the PP through Deputy José Janene, saying, "Paulo, we know about your technical skills, we know about your experience at Petrobras, and we want you to be a party's representative on the board." I asked, "What is it like to be a party's representative?" and he replied: "You should help the party in any way possible (Costa 2015).

Paulo Roberto Costa told José Janene that he accepted the offer, but the decision-making process should be followed: 'It's not up to me. It's up to the board of directors. The board of directors has to approve my name.' He (José Janone) replied: 'Let's talk to some political contacts to see if we put his name' (Costa 2015). According to the same testimonial, the political parties want to replace the previous director linked to PSDB with a new one related to PP. In 2003 the distribution of positions in Petrobras' new board was the following: Renato Duque was appointed by José Dirceu, Ildo Sauer by PT, and 'the directors of Petrobras'

Exploration and Production area were appointed by a person who was the president of the PT directorate of Nova Friburgo (...)’ (Costa 2015).

The literature considers party patronage as a consequence of a failed political system, as ruling political parties use SOEs as instruments to achieve gains for their parties, i.e. electoral financing campaigns, through the appointment of high-ranking managers (Ennsner-Jedenastik 2014). In Brazil, in most SOEs, including Petrobras, the board of directors is directly appointed by the president (Vianna 2014), who chooses the candidates based on political parties' recommendations. Therefore, managers' survival depends on partisan affiliation (Szarzec et al. 2022) rather than performance induced (Kuzman et al.). As a result, Petrobras' managers may prefer to follow the guidelines of politicians and public officials to get promotions or to keep their positions within Petrobras' board of directors. They would act as lobbyists (Shaheer et al., 2019), which is why SOEs' mismanagement negatively impacts corporate decision-making.

There is evidence of the association between favouritism in allocating public contracts and political connections (Tkachenko, Yakovlev, and Kuznetsova 2017). Many authors have addressed the relationship between political parties and the executive (Katz, 1986; Mair, 2008; Rose, 1974) and how political parties distribute ministerial offices (Laver and Shepsle, 1990; Strøm *et al.*, 2008). Recently, some authors have focused on appointing party loyalists to executive boards in SOEs. However, there is evidence that the partisan composition of executive committees reflects the partisan design of government in a balanced manner (Ennsner-Jedenastik 2014). On this note, there are two motivations for patronage: reward and control (Kopecký *et al.*, 2012). Regarding political parties' appointments of Petrobras directors, this time for the director of the International Area, Antonio Palocci explains:

(...) At a certain point, the PMDB stopped voting with the government because the PMDB demanded the International Directorate of Petrobras. After all, it already had Cerveró, but Cerveró was more linked to Delcídio (PT), not so much to the PMDB, and they wanted to nominate a new director. Then they indicated to Mr. Joao Henriques, but Dr. Gabrielli (Petrobras' CEO) did not accept because he found the curriculum inadequate. Finally, they indicated Zelada, who Gabrielli accepted (...) the directors of Petrobras transferred bribe money for campaign contributions (...) (Palocci 2017).

In the case of Petrobras, political parties have acted in rent-seeking behaviour. They intended to influence the company's highest decision-making board to make investment decisions that could result in bribe opportunities. Some authors argue that the strong ties between Petrobras and the Brazilian government prevent the company from seeking financial

profitability (Pedersen 2016). The literature has reported similar bribe schemes involving SOEs, public officials, and political parties' leaders in China, concluding that SOE bribery is more dangerous than Private Owned Enterprises (POE) as it reinforces corrupt connections among the state bureaucracy (Shaheer et al., 2019).

The literature on corruption argues that bribery behaviour differs between SOEs and privately owned enterprises (POEs). Companies resort to bribery to achieve business-related benefits. The argument goes that as SOEs naturally enjoy political connectivity for achieving their goals, they present a low bribe propensity compared to POEs (Shaheer et al., 2019). However, when SOEs operate under weaker institutional environments, they 'may be influenced by some important secondary considerations of their managers, which may disproportionately increase SOE bribery, narrowing the gap between SOE and POE bribe propensities' (Shaheer et al., 2019).

2.2. MRE and Petrobras' decision-making process

Concerning the works specifically about Brazil's decision-making process in energy-related foreign policy, there are two main currents. The first one argues that the performance of the Brazilian foreign policy and that of Petrobras go hand in hand and that the decision-making process is led by the Executive Branch, which uses Petrobras as a geopolitical instrument (Nogueira 2007; Segabinazzi 2007; Felipe 2010; Fuser 2011; Ribeiro 2011). Felipe (2010) argues that the relative autonomy of the company presents clear limits when the Federal Government outlines a larger goal and that this would be the corporate cost of its state facet (Felipe 2010, p.151). The author uses as empirical evidence countries where Petrobras acts without great economic results, which could only be explained by state obedience. In this case, the Federal Government is represented by Brazil's Ministry of Foreign Affairs.

In a study of institutional changes and business strategies, Felipe (2010) states that Petrobras acts as a representative of the Government's intentions and that it would have promoted the 'expansion of space and Brazilian geopolitical reaffirmation,' both through the company's external performance and the reach of Brazil's oil self-sufficiency (Felipe 2010). According to the author, Petrobras has been a decisive element for the Brazilian insertion in South America, in the sense of enlargement of Brazilian capitalism, mainly in the oil and

natural gas sector. The company established its focus in the Southern Cone, where a market dispute with Venezuela's PDVSA over the energy market could be observed.

During the 2000s, Venezuela was developing a regional project to increase the margin of autonomy regarding the USA. Brazil-Venezuela relations under presidents Lula and Chávez were not as cooperative as the two leftist leaders might expect. The literature on Brazil-Venezuela relations discusses whether and when these countries were more partners than rivals concerning regional leadership (Burges 2007; Serbin 2007; Flandes and Wojczewski 2010a; Galvão 2011a; Iglecias 2013a; Carra 2014a; Pedroso 2015). On this note, PDVSA's President Ramírez argued that the Venezuelan company had a vital role. According to him, PDVSA was committed to Venezuela's sovereign interests and the well-being of its inhabitants, as a deep relationship is building between PDVSA and the country like never before (MRE 2006a). Though both companies were state-owned, Petrobras' employees considered the Brazilian company to a top-notch, professionally managed,' and according to many of them, Venezuela's PDVSA was the opposite (Department of State 2006a). Some authors considered PDVSA's investments in Argentina, Bolivia, Ecuador, Paraguay, and Peru as a political interference of Hugo Chávez in Petrobras' affairs (Goes and Schüffner 2007; 2006c; 2006b; 2006a).

Based on the preliminary evidence from the literature and primary documents, we analysed which institution settled Petrobras' international agenda. For instance, Petrobras' decision to join PDVSA in constructing the Abreu e Lima refinery and purchasing the Ipiranga Group might have been part of a MRE's goal to limit and regulate Venezuela's access to the energy market in Brazil. In order to prove this hypothesis, we analysed secret and ostensive diplomatic documents.

2.3. Petrobras' board of directors and the company's decision-making process

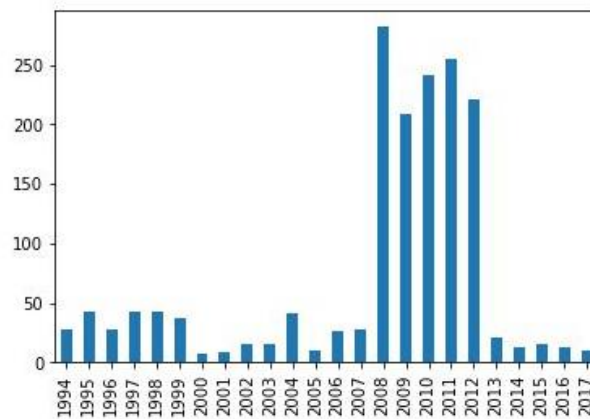
Since the 1960s, emerging NOCs have been calling the shots regarding exploiting petroleum reserves in host countries. Since then, NOCs have increasingly sought to internationalise their operations by expanding their exploration, production, refining, marketing, and distribution to other countries. Some Latin American NOCs have followed the same patterns, such as Petrobras and PDVSA (Luong and Sierra 2015). In this vein, some authors argue that NOCs have their corporate interests related to maximising their profit, especially in open capital companies, where the state holds the majority but not all the votes on the board of directors.

In the case of Petrobras, there is evidence of some divergences between the Brazilian state and the company related to foreign contracts (Carra 2014a; Lyra 2017). For instance, Petrobras acted autonomously in Nigeria, Brazil's major economic partner in Africa. In an interview granted by the former Brazilian Ambassador in Nigeria, Ana Candida Perez, she argued that the communications between the Brazilian Embassy and Petrobras' office in Nigeria were only in the form of courtesy meetings instead of strategic meetings. This means that Petrobras only reported its actions after completion with no strategy or synergy between the company and MRE (Lyra 2017). Following this hypothesis, we test if Petrobras's board of directors settled the agenda of the company regarding the international contracts and thus acted autonomously in the cases of the purchase of the Abreu and Lima refinery and the Ipiranga Group. Furthermore, through process-tracing on Petrobras' documents and diplomatic cables, we analyse if Petrobras' decision-making process sought profit and corporate interest instead of following political parties' interests or foreign policy goals.

3. Methods

Our database consists of all declassified documents from MRE from 1994 to 2017, diplomatic cables sent by American Ambassies to the US Department of State (released by Wikileaks), and primary documents from Petrobras, Brazil's Chamber of Deputies, Brazil's Court of Auditors (TCU) and testimonials from "Operation Car-Wash." To generate Graph 3, we converted all Brazilian diplomatic cables from 1994 to 2017 collected in Brasilia from pdf to html. Then, we quantified the frequency of the keyword 'Petrobras' by year through Python language. The results show that during the Work's Party (PT) administration, the number of times 'Petrobras' appeared on diplomatic cables increased significantly. However, there is a problem regarding quantifying word mentions, as they can present biased results. For instance, at a given Brazilian embassy, a diplomat could have mentioned 'Petrobras' several times in the same cable for a particular reason. Still, that same embassy may not mention Petrobras ever again. Conversely, mentions could have been more distributed throughout the years in another embassy. In this article, we were more interested in the second case. Therefore, we used a dummy variable (TRUE/FALSE) for 'Petrobras' mentions to avoid any lopsided results. So, if the diplomat only mentioned it once or several times in the same telegram/cable, it didn't make any difference anymore. Our primary goal was to focus our process-tracing on empirical evidence.

Figure 1. Quantitative text analysis on diplomatic cables/per year



Source: the author. Data: Brazil's Ministry of Foreign Affairs

Empirical evidence from the above graph suggested that PT's administration was critical to our analysis. Therefore, we conducted process-tracing on all diplomatic cables from 2003 (Lula taking office) to 2015 (Dilma's impeachment). Based on content analysis, the Construction of the Rnest/Abreu e Lima refinery and the purchase of Ipiranga Group, both in partnership with PDVSA, were the most popular topics. Based on this data, we tested the three hypotheses and identified the main actors and processes behind Petrobras' international contracts. Therefore, our research question was the following: Who sets Petrobras' agenda regarding its international contracts between 2003 and 2015?

Table 2. Summary of policy decisions on international contracts

Cases	Description	Result	Decision-makers
Construction of the Rnest/Abreu e Lima refinery in partnership with PDVSA (Venezuela)	Rnest was the first refinery built by Petrobras in Brazil after an interstice of almost 30 years. It was one of the essential works in the Federal Government's Growth Acceleration Program (PAC). It was designed to process 100% heavy oil, and its construction had the official objective of adding value to the oil in the Campos Basin.	The Venezuelan state company withdrew from the project without financial support, and Petrobras explored no Venezuelan oil.	Petrobras board of directors and political parties.
Purchase of the Ipiranga Group, in partnership with PDVSA (Venezuela)	In 2005, the then vice president of BNDES, Darc Costa, facilitated a meeting between Hugo Chávez and Eduardo Eugenio Gouvêa Vieira. Chávez was interested in PDVSA buying the petrochemical unit and the national service station network from Companhia Brasileira de Petróleo Ipiranga.	Purchase overpricing. Petrobras paid US\$4 billion when the market value was US\$2 billion.	Petrobras board of directors and political parties.

Source: the author

We conduct a process-tracing method on the two case studies mentioned above. This procedure aims to draw descriptive and causal inferences from diagnostic pieces of evidence, which can add value to our quantitative analysis (Collier 2011). The IR literature has many research designs based on combining process tracing with quantitative data (Huth 1991; Martin 1994; Reiter 1996; Goemans 2000; Schultz 2001; Crawford 2003; Fortna 2004; Biddle 2006; Kydd 2007), which some authors point as one way to improve qualitative methods by integrating statistical methods with qualitative process tracing (Bennett and Elman 2007). Following recent works, we conduct hoop and smoking gun tests on our three hypotheses (Schenoni 2018). The hoop test is not *sufficient* but a *necessary* criterion. Although it cannot confirm a hypothesis, it can eliminate it. The smoking gun test provides an adequate criterion, which weakens rival hypotheses (Collier, 2011). Our main results are displayed in Table 2. Considering the influence of Brazilian political parties' power on Petrobras' board of directors,

the results support the main hypothesis, which argues that party patronage explained Petrobras' decision-making process in the cases deemed.

Table 3. Process Tracing summary

	Abreu e Lima		Ipiranga	
	Hoop	Smoking gun	Hoop	Smoking gun
Political parties (H1)	✓	✓	✓	✓
MRE (H2)	✓			
Petrobras' board of directors (H3)	✓	✓	✓	✓

Source: the author

4. Process-tracing analysis on the case studies

4.1. The construction of the 'Abreu e Lima' refinery (Rnest)

Rnest was designed to process 100% of heavy oil, and its construction had the official objective of adding value to the oil in the Campos Basin, meeting the increase in national demand for diesel and reducing the volume of imports of this fuel. In 2006, the investment foreseen by Petrobras to increase the national processing capacity by 1,200 kbpd (one thousand barrels of oil per day) was around US\$12 billion. This would represent a 70% increase in installed capacity in the country. However, after ten years, it was found that only about 100 kbpd were added to the capacity of the national refining park; that is, two and a half times the estimated amount was spent to grow only 10% of the expected refining capacity. Therefore, the TCU concludes: 'Rnest was not supposed to get off the ground' (TCU 2015a, p.7; TCU 2016, p.1).

Before the refinery construction, the then Petrobras' CEO, Sérgio Gabrielli, spoke out against the construction of Rnest, citing technical reasons not to begin the project. According to him, constructing a new refinery should not be a priority for Petrobras, as the company would instead invest US\$5.5 billion to improve its refineries and adapt them to Brazilian oil, which is heavier than oil imported from the Arab states. Petrobras could produce more diesel instead of importing it, which would be better for the country's balance of payments. Gabrielli also said

that Petrobras would not make a political decision. Instead, it would consider the interests of private stakeholders and business competitiveness. Finally, Gabrielli said that if Petrobras were to build a new refinery with another company, the company would prefer a partner committed to using only Brazilian oil, which was not the case for PDVSA (Carra 2014a). Therefore, it is possible to infer that there was no Petrobras market interest (H3) in constructing the 'Abreu e Lima refinery. Instead, it was a political decision.

At the time, the Minister of National Integration, Ciro Gomes, publicly criticised Sergio Gabrielli, arguing that Petrobras did not want to build a new refinery because its priority was the short term and not the Brazilian national development in a long time. However, despite Petrobras' complaints, Lula and Chávez announced the construction of the new refinery and that this project would be a joint venture between Petrobras and PDVSA (60%/40%). It would cost US\$ 2.5 billion and be called José Inácio Abreu e Lima in honour of the Brazilian general who fought alongside Simon Bolivar. This refinery would be built in the Brazilian state of Pernambuco, as PDVSA engineers liked the proximity to the port of Suape, the proximity to consumer markets in the Northeast, and the existing logistics for diesel distribution. The project would start in October 2005 (Carra 2014a).

On August 11, 2005, Hugo Chávez stopped in Brasília during a quick tour of South American countries. Lula and Chávez discussed bilateral relations, focusing on the joint venture between Petrobras and PDVSA (Department of State 2005). It is noteworthy that, years later, due to the Operation Car Wash, Gabrielli justified the decision taken by the company, claiming that 'there would be no perfect business model and it would not be possible to manage a company through a simple technical application (...) there was an inescapable decision-making element in business activity, which adapts the models to the specific case' (TCU 2015a, p.75). The TCU did not accept Gabrielli's justification and considered that Petrobras' board of directors acted politically. During the meetings related to the approval of Petrobras' business plans, there were 'no presentations or discussions about the economic feasibility of the refining ventures' (TCU 2016, p.88). Petrobras' board of directors approved the business plans, especially those proposed between 2006 and 2011, without due technical analysis.

Since 2008, the TCU was already indicating several irregularities in the Abreu e Lima refinery, such as overpricing, flaws in bidding procedures, deficient basic projects, and weaknesses in the planning of the works. Furthermore, the result was also considered unfeasible from an economic point of view due to the following reasons: 'i) the low maturity of the projects and feasibility studies that supported the decision to advance in the preliminary phases of project development; ii) the development of a business model based on partnerships

without any signed commitment or guarantee on the part of the partner; iii) time-oriented planning (schedule driven) with unjustified compression of schedules (fast-tracking); iv) the anticipation of hiring even before the approval of the basic project (phase overlap); v) approval of a basic project without economic and financial feasibility; and vi) the absence or unjustified disregard of risk assessment of the project's economic indicators' (TCU 2016, p.6).

Different reasons delayed the construction of the 'Abreu e Lima' refinery. One of the aspects that caused delays and unnecessary costs were the lack of definition of the corporate partnership between Petrobras and the Venezuelan state-owned company PDVSA. Petrobras would explore Venezuelan oil in the Carabobo field in exchange for the partnership in Rnest. However, the Venezuelan state-owned company withdrew from the project without financial support, and Petrobras explored no Venezuelan oil in the end.

The total cost also increased to US\$ 4 billion, and communications between Petrobras and PDSVA were few and poorly maintained. Therefore, Petrobras started alone the construction of the refinery as divergences between Petrobras and PDVSA were steadily increasing. Petrobras wanted five directors in the refinery, only two from PDVSA. A simple majority should make all decisions. PDVSA opposed this idea. PDVSA wanted to be entitled to a quota of 40% of refined oil, but Petrobras claimed that legislation prohibited this exclusivity. PDVSA wanted the freedom to sell its derivatives share, but Petrobras was skeptical about this PDVSA independence, as it already had 12 own flag stations in the Brazilian State of Pará. Petrobras considered PDVSA's pricing policy aggressive, aiming at eliminating competition and penetrating the market in the Northeast and North of Brazil (Carra 2014b).

Despite many divergences between Petrobras and PDVSA, Lula reinforced his will to Petrobras keep investing in the refinery. At that time, the Brazilian company invested alone in the refinery construction. However, the systematic delays of PDVSA in meeting deadlines raised diplomatic concerns. The Brazilian Ambassador expressed his concern about the frequent postponements by PDVSA regarding the meetings scheduled with Petrobras (MRE 2008a). Foreign policy (H2) passed our hoop test. According to a secret document, the Brazilian Ambassador met Venezuela's Minister of Foreign Affairs, Nicolás Maduro, to discuss the problems involving Petrobras and PDVSA. On occasion, Maduro agreed with the Brazilian Ambassador that the treatment of the matter would benefit from the greater involvement of government bodies from side to side to facilitate overcoming the natural disagreements between the two companies, motivated by competition in the energy sector in South America. Finally, the Brazilian Ambassador committed to using his previous

professional experience in the relationship with Petrobras to deepen the Embassy's relationship with PDVSA and the Ministry of Energy and Petroleum. Furthermore, the Brazilian Ambassador would try to identify alternatives at the political level that could contribute to solving the differences between Petrobras and PDVSA (MRE 2008a).

In May 2009, during the bilateral presidential meeting held in Salvador, Gabrielli met with the President of PDVSA and Minister of Energy and Petroleum, Rafael Ramirez, and President Hugo Chávez. The meetings aimed to discuss pending issues related to the joint operation of the Abreu e Lima refinery to enable the signing of the association agreement between the two companies. According to Lula, the way was already open for the possible definitive signature of PDVSA's participation in the Abreu e Lima refinery. The Brazilian Ambassador, seeking information on the Venezuelan reality and the situation at PDVSA, offered lunch at the Brazilian official residence to Gabrielli and his Petrobras advisors. Afterward, Gabrielli met with Ramirez and discussed the details of possible agreements (MRE 2009a).

Despite all the political efforts, PDVSA failed to meet the deadlines of BNDES, which was responsible for financing Petrobras and PDVSA's investments for the construction. A statement attributed to Petrobras' Supply Director, Paulo Roberto da Costa, resulted in political backlash. The Venezuelan press argued that Petrobras would have set a deadline until August/September 2011 for PDVSA to present the ideal conditions under which it will make its capital contribution to the Refinery Abreu e Lima. If PDVSA failed to meet this requirement, Petrobras would take over the project in Pernambuco alone (MRE 2011c).

According to the TCU report: 'even without the participation of the Venezuelans, there was no justification for the unnecessary financial burden imposed on the project by the frustrating partnership, which was only justified by the division of risks arising from the financial contribution from PDVSA, which never happened, or from the exploitation of oil in the Carabobo field, not even carried out according to the terms agreed in the agreement with Venezuela' (TCU 2015a, p.62). Based on previous diplomatic cables, the decision to keep going with the construction of the 'Abreu e Lima' refinery was not related to the foreign policy either. Foreign policy was a matter of concern after PDVSA's delays, which were a response to a potential rivalry with Petrobras. MRE did not initiate the negotiations, but it acted to mediate the interests of Petrobras with the Venezuelan government. Therefore, foreign policy concerns failed to pass our smoking gun test, as it does not explain the decision-making process of constructing the 'Abreu e Lima' refinery. Instead, MRE was an instrument to forge closer ties with the Venezuelan government after the disagreements between Petrobras and PDVSA.

It was precisely after this delay in the works that the overpricing and the unjustified assumption of risks intensified. In May 2007, the Refinery Anticipation Plan (PAR) was prepared, which included contracting critical equipment and engineering and construction services, intending to anticipate Rnest's departure by one year. It is worth mentioning that former director Paulo Roberto Costa proposed the PAR in February 2007. In less than a month, the Executive Board approved it. PAR anticipated, from 2007 to 2009, more than R\$18 billion in contracts (Câmara dos Deputados 2015). According to the TCU: "the irregularity in the approval of the basic project was aggravated, above all, with the disregard of specific risk analyses by Petrobras' technical-specialized bodies and international consulting firms that indicated an 80% probability of the economic viability being negative" (TCU 2015a, p.3). The construction of the 'Abreu e Lima' refinery was motivated by political reasons since the beginning of the project, and the continuous investment even after PDVSA was out was also inspired by political reasons regarding bribery. On this note, former Petrobras' director, Renato Duque, explained:

(...) When there was a contract, whatever it was, that took place in standard bidding, the Party or the Party treasurer usually looked for the company asking for a contribution. The company usually gave because it was an institutionalised thing in the company that (...) company won a contract and was asked to make donations (...). Paulo Roberto took care of the PP area. I took care of the PT area (...). This involved all the large contracts. In the smaller contracts, there were no such issues (...) PT treasurers who collected these transfers to the Party. Initially it was Danúbio, then Paulo Ferreira and then Vaccari (...) (Duque 2017).

4.2. The purchase of the Ipiranga Group (2007-2010)

The construction of the Abreu e Lima refinery was part of a broader agreement with the Venezuelan government, which also involved the purchase of the Ipiranga Group. In a meeting held on October 5, 2004, Gerson Fernandes, Petrobras Director in Venezuela, reported to the Brazilian Ambassador, João Carlos de Souza-Gomes, that Petrobras and PDVSA discussed several points of common interest, among them the possibility of jointly acquiring the fuel distributor Ipiranga (in a business of approximately 3 to 4 billion dollars) (MRE 2005a). At the beginning of Petrobras-PDVSA negotiations for the purchase of the Ipiranga Group, former Petrobras' International Director, Nestor Cerveró, says:

(...) Buying Ipiranga was already an old idea within Petrobras. In 2000, a negotiation was made to purchase Ipiranga because Ipiranga had a reseller area in the fuel area. Still, it had a powerful area in the petrochemical area in the South, and Petrobras was interested in the petrochemical assets. Then, in 2000 or something, a negotiation was made that ended up not going ahead because the corporate relations of the Ipiranga group were very complicated. There are a lot of gauchos there, by the way. Gaúchos are already complicated. Until today, Petrobras is facing a lawsuit because of a family that feels harmed and has not been consulted (...) (Cerveró 2016a).

In the case of the purchase of the Ipiranga Group, there is a market interest at stake. According to Cerveró, in the 2000s, Petrobras wanted to buy Ipiranga for technical reasons. At that time, the negotiations failed for corporate reasons related to Ipiranga's stakeholders. Market interest succeeds in passing our hoop test. However, two years after the first negotiations failed, political interest in purchasing the Ipiranga Group was renewed. Still, this time, the agreement also involved the construction of the Abreu e Lima refinery, as Cerveró details:

(...) But then, two years later, the subject came back. Rodolfo Landim, who had a significant influence over Dilma, convinced me that it would be essential for us to buy Ipiranga in terms of distribution. Rodolfo Landim was president of Petrobras BR. Moreover, he helped to convince us about the gas station network (Cerveró 2016a).

Asked about why Petrobras and the Brazilian government wanted to resume the negotiations after two years, Cerveró explained: 'it was a deal between the two governments.

The decision was already taken' (Cerveró 2016b). Even though the official reason to resume the negotiations was a market decision – improving the distribution of petrochemical products - Cerveró argued that the cause was linked to Odebrecht, as it “had a deep influence” in the decision-making process (Cerveró 2016b).

In 2005, former vice-president of BNDES, Darc Costa, facilitated a meeting between Hugo Chávez and Eduardo Eugenio Gouvêa Vieira. Chavez was interested in replacing the Brazilian Ipiranga Petroleum Company with PDVSA in its petrochemical unit and nationwide service station chain (Department of State 2005). The proposal was formulated by the governor of the State of Rio de Janeiro, Rosinha Matheus. He also mentioned that although formal negotiations between the two did not take place, informal conversations with Ipiranga confirmed that this company was willing to dispose of its network of service stations (the second largest in Brazil) and its petrochemical assets. However, Ipiranga denied that talks with PDVSA took place (MRE 2004m).

Petrobras was distrustful of PDVSA's investments in Brazil and considered the prospect of PDVSA buying Ipiranga as a threat, not only because it was part of an offensive in the hydrocarbons sector in the region but also because it represented an alternative for Venezuela to avoid dealing with the stalemate in 'Abreu e Lima' refinery. Petrobras based its worries on the long run, as after the conclusion of the 'Abreu e Lima' refinery, PDVSA would get its petroleum refining basis in Brazil. Petrobras believed it would be challenging to prevent PDVSA from gaining ground in Brazil if it happened. Therefore, Petrobras put pressure on president Lula not to allow the selling of the Ipiranga Group to PDVSA. Petrobras' strategy was to propose a joint venture between the two companies, probably to bring PDVSA closer and clarify the Venezuelan strategy. In other words, instead of PDVSA buying alone the Group Ipiranga, Petrobras would become its partner in Ipiranga's purchase. On that occasion, the US embassy reported to the Department of State that formal statements involving Petrobras and PDVSA should not be taken seriously as these companies were competing for the regional market rather than cooperating (Department of State 2005).

PDVSA officially signaled its lack of interest in this joint venture. PDVSA's directors did not like how Petrobras interfered in the negotiations, and some declared that it was necessary to pay Petrobras' directors bribes to invest in Brazil (Carra 2014b). On 19 March 2007, Petrobras, Braskem, and Grup Ultra bought Group Ipiranga for US\$ 4 billion. At that time, a Petrobras director affirmed that the main objective of buying Ipiranga was to avoid PDVSA's operations in the Brazilian market of the fuel refining and distribution area (Carra

2014c). Petrobras continued in the business alone, and, at that moment, the purchase was overpriced. According to Nestor Cerveró, the former Petrobras' International Director:

“(...) they made a market evaluation and bought Ipiranga for 4 billion reais (...) the board of directors approved despite being much questioned by Mantega, which must not have participated in the deal, but the purchase of Ipiranga for 4 billion, when the market attributes in the 2 billion dollars at the time...”. Cerveró explained that Dilma Rousseff was against the deal and questioned the value of the purchase because “at the time (she) was not yet involved in the campaign” (CERVERÓ, 2016b). The overprice approved by Petrobras' directors is linked to bribe money for campaign contributions (Palocci 2017).

Finally, it is possible to conclude that in the case of the purchase of the Ipiranga Group, foreign policy was not a matter of concern. MRE did not initiate talks. Some technical reasons were mentioned to justify the resumption of negotiations, i.e. controlling PDVSA's access to the Brazilian market. However, the decision-making process was motivated mostly by political reasons, as the decision was taken before the board of directors meeting. It was a government decision. The overprice surplus was related to campaign donations, as in the case of constructing the 'Abreu e Lima' refinery. Political parties' interests (party patronage) and Petrobras' board of directors passed the hoop and the smoking gun test. They both took the decision together. However, Petrobras' highest decision-makers were co-opted by political parties, which prevent us from concluding that Petrobras' market interest was a matter of concern. Rather, political parties called the shots.

5. Final remarks

Petrobras became a subject of foreign policy in diplomatic cables between 2008 and 2012 because significant investments were taking place in partnership with PDVSA/Venezuelan government in that period. Even though foreign policy interest was not the trigger to start negotiations neither in the Abreu and Lima Refinery contract nor for the Ipiranga purchase, MRE did intervene in the negotiations by mediating the bad relationship between Petrobras and PDVSA. MRE was assisting Brazil's Presidency of the Republic to get both contracts successfully signed and Petrobras-PDVSA relationship was seen as a threat. MRE did not settled Petrobras' agenda.

Even though Petrobras is Brazil's largest company, diplomatic interest raised substantially only during PT's Administration (2008-2012). This period is related to Petrobras'

2009-2013 Business Plan, in which the significant international contracts were related to constructing the 'Abreu e Lima' refinery and purchasing the Ipiranga Group. Therefore, most of the diplomatic cables that mentioned Petrobras dealt with contract negotiations with Venezuela's PDVSA. It is part of MRE's role to intermediate the interests of the government and Brazilian companies abroad. However, we can conclude that, as a rule, Petrobras is not a matter of foreign policy concern.

In the case of partnerships with PDVSA, there was an approximation between the Brazilian and Venezuelan governments in the period, which motivated several attempts involving representatives of the two companies through the MRE. From the moment PDVSA withdrew from the contracts, it was also the period when most of the overbilling and fraudulent contracts started (creation of PAR). The justification for the delay and the departure, attributed to PDVSA, accelerated illicit attitudes carried out by political parties through Petrobras leaders.

Petrobras' decision-making process was motivated by partisan political reasons. The parties co-opted senior Petrobras career officials to be representatives on the company's board of directors, the highest decision-making body. The value of the contracts was overpriced, so the difference was passed on partly to Petrobras directors and partly to political parties. There is evidence that the leading destination of these resources was presidential campaigns, which is why there was political parties' dispute over management positions and on Petrobras' board of directors. Investment decisions came from the Presidency of the Republic (e.g., partnerships with PDVSA) or from the company's directors, depending on the opportunities they saw/created for overpricing and bribery. In both cases we identified that party patronage explains Petrobras' decision-making process. In most decisions taken by Petrobras' board of directors, not even commercial criteria were discussed. Overprice was seen in both case studies as the result of bribery and the surplus was directed to campaign donations.

Chapter 6. With friends like these, who needs enemies? How market disputes between Brazil's Petrobras and Venezuela's PDVSA led to diplomatic tensions in Bolivia

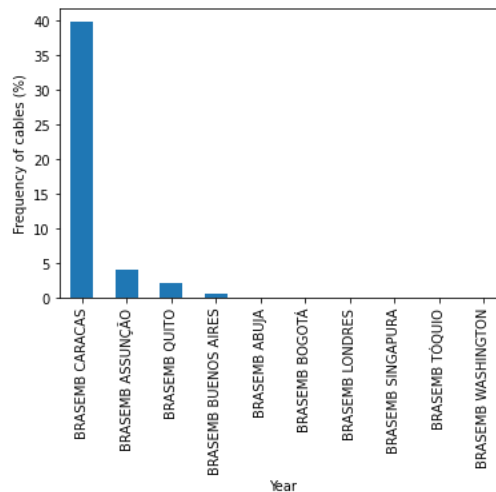
1. Introduction

Brazil's role in South America has been subject to an ongoing debate in academia. Some authors have addressed Brazil's regional leadership by discussing Brazil's capability to keep a sound leadership in South America (Malamud 2011; Mourón and Onuki 2015: 11; Luján and Burian 2018). Most of the literature focused on the analysis of the leadership potential competition within the emergence of different regional multilateral instruments between 2003 and 2010. In this vein, some authors argue that Venezuela was the main challenger to Brazil's leadership in South America (Borges 2007; Alvarez 2021; Nogara 2022). The argument goes that even though the Community of Latin American and Caribbean States (CELAC) was a joint initiative, other multilateral agreements were at the centre of a leadership dispute in the region. While Brazil articulated in favour of the Union of South American Nations (UNASUR), Venezuela created the Bolivarian Alliance for the Peoples of Our America (ALBA), which led to disagreements resulting in the creation of a third bloc, the Pacific Alliance in 2012 (Borges 2007; Nogara 2022).

The literature has mentioned the importance of the energy regional market (Borges 2007; Serbin 2007; Iglecias 2013b; Carra 2014c; Pedrosa 2015) to understand the leadership quest. Some authors show that international agreements between Brazil's Petrobras and Venezuela's PDVSA were pivotal to keeping regional integration projects alive (Carmo et al. 2007a; Flandes and Wojczewski 2010b; Galvão 2010; Carra 2014c; Carmo and Pecequilo 2017). However, little attention has been paid to whether this potential leadership competition happened through the state-owned oil companies' investments in the region. In this article, we developed a database covering all Brazilian diplomatic cables from 1990 to 2017. Based on

quantitative-text analysis, the results show that nearly 40% of all Brazilian diplomatic cables from the Brazilian Embassy in Caracas mentioned ‘PDVSA,’ as shown in Graph 1. We argue that Petrobras-PDVSA relationship is key to understand Brazil-Venezuela bilateral relations.

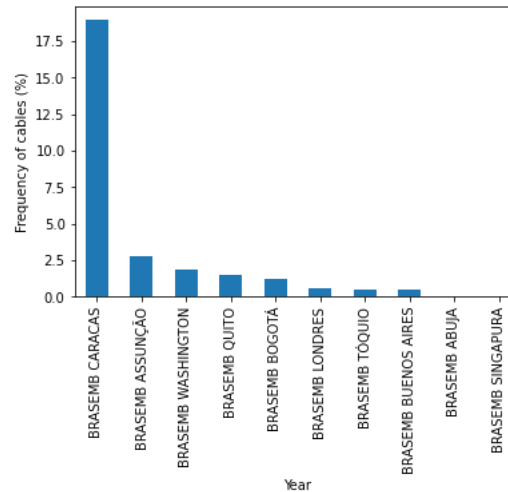
Figure 1. Mentions to ‘PDVSA’ in Brazil’s diplomatic cables by Embassy



Source: the author. Data: Brazil's Ministry of Foreign Affairs

Empirical results show that to analyse Brazil-Venezuela’s relations, it is crucial to investigate the PDVSA-Petrobras relationship. Graph 2 shows a fascinating result, as mentions to Venezuela’s Hugo Chávez accounted for less than 20% of the same sample. PDVSA gained more diplomatic attention to Brazil’s embassy in Caracas than Venezuela’s president, which allows us to infer that whether for competition or cooperation, PDVSA was at the centre of diplomatic communications. Therefore, in this article we propose to discuss Brazil-Venezuela relations through the relationship between the two state-owned oil companies.

Figure 2. Mentions to ‘Chávez’ in Brazil’s diplomatic cables by Embassy



Source: the author. Data: Brazil's Ministry of Foreign Affairs

To examine these oil companies, we searched for the major international contracts negotiated by Petrobras and PDVSA (PDVSA 2005; PETROBRAS 2005b; PETROBRAS 2006; PETROBRAS 2007), as Table 1 illustrates. The renegotiation of concessions refers to the 2006 Bolivia's decree of nationalisation of gas and oil assets, which led to political turmoil between Brazil and Bolivia. The literature argues that this conflict can be traced back to reports of the political intervention of Venezuela's Hugo Chávez (Carra 2014a), who was believed to be on a collision course with Lula's leadership projection in South America, as mentioned previously. In this regard, we aim to investigate whether Lula and Chávez were competing in the regional energy market through the analysis of the negotiations between Petrobras and PDVSA with a third oil company, Bolivia's YPFB.

Table 1. Petrobras' International Contracts with PDVSA

Contract	Parts of the negotiation	Country	Amount	Content	Year
Joint venture/acquisition	PDVSA	Brazil	US\$ 4 billion	Petrobras acquired 100% of Ipiranga	2004/2005
Joint venture	PDVSA	Brazil	BRL\$ 18 billion	Rnest (Abreu and Lima refinery) was the first refinery built by Petrobras in Brazil after an interstice of almost 30 years.	2006
Renegotiation of concessions	YPFB and PDVSA	Bolivia	US\$ 112 million	The sale of Petrobras' Guillermo Elder Bell and Gualberto Villaroel refineries as a result of the renegotiation of contracts	2006

Source: the author. Data: PDVSA (2005) and Petrobras (2005, 2006, 2007)

This article is divided into the following. First, we address a literature review on Brazil-Venezuela bilateral relations, as we believe this discussion is instrumental to understanding the Petrobras-PDVSA relationship. Second, we explain the major works on the bilateral relations and the debate about whether Lula and Chávez were competing or cooperating in the regional political landscape. We discuss a brief history of both companies in the second section to better understand the companies' goals in the regional energy market. In the third section, we explain our database and quantitative text-analysis method that we used in Petrobras' financial reports and Brazil's diplomatic cables. We conducted content analysis on Brazilian and US diplomatic cables in the fourth section, by analysing the negotiations involving the national oil companies in Bolivia. Finally, we discuss the main findings.

2. *Brazil-Venezuela bilateral relations*

The Bolivarian Alliance for the Peoples of Our America (ALBA), founded by Venezuela and Cuba in 2004, presented a daring goal by challenging the American influence under Central America and the Caribbean. On the other hand, the Union of South American Nations (UNASUR), Brazil's diplomatic initiative, did not include Central American countries. Instead, it aimed at bringing closer ties with South American countries without the influence of the US, but with no confrontation with this country. Some authors argue that ALBA and UNASUR were opposing projects (Pedroso 2015). However, other authors (Borges 2007; Serbin 2007) say that the struggle for regional leadership between Brazil and Venezuela did not involve

UNASUR and ALBA. Instead, the bilateral dispute happened through the Brazilian leadership in the Southern Common Market (MERCOSUR) and the Venezuelan leadership in ALBA. On this note, MERCOSUR and ALBA were 'if not in opposition, at least in competition with each other (Briceño-Ruiz 2010: 223).

After considering that UNASUR was stronger than ALBA, Chávez' hijacked UNASUR to turn it into a 'Venezuelan rather than a Brazilian instrument' (Malamud 2011). Member countries chose Cuzco and Cochabamba as the cities to host the UNASUR bloc. According to Malamud (2011), this decision showed more concern about identity claims than pragmatic projects. In other words, UNASUR became part of the Chávez regional leadership project. Unfortunately, neither MERCOSUR, due to its malfunctioning nor UNASUR, worked to strengthen the Brazilian leadership in the region. As a result, MERCOSUR stagnated, and UNASUR became a political forum to discuss Bolivarian ideas instead of pragmatic projects as desired by the Brazilian government (Malamud 2011). Therefore, the argument goes that Brazil and Venezuela 'engaged in a leadership contest...each offered a different vision of how the regional geopolitical, geo-economic, and ideological space should be organized and directed' (Borges 2007: 1343).

According to some authors, Brazil-Venezuela relations under presidents Lula and Chávez were not as cooperative as might be expected of two leftist leaders. Brazilian diplomacy benefited from Chávez's radicalism, as the US considered Brazil a restraining force in the region. However, the Brazilian diplomats began to act deliberately to prove to the world that Brazil was more reliable than Venezuela. A clear signal of that was the visit of Bush to Brazil and Lula to the US in 2007. Lula was promoting the use of biofuel made in Brazil, while Chávez was aligned with the Organisation of the Petroleum Exporting Countries (OPEC) in increasing the oil price. In 2007, Chávez criticised Brazilian ethanol, especially after the agreement between Brazil and the US. This agreement aimed to spread Brazilian ethanol to Central America and the Caribbean. Therefore, Chávez considered Brazil and Petrobras threatening his political and economic influence in the region (Bacoccina 2008).

Many expected that Colombia, Chile, and Peru, right-wing governments then, would confront Lula's projects for the region, but the confrontation came from Chávez. Although both Lula and Chávez represented a new leftist movement in South America, Chávez was the leader who presented more counter-proposes against Lula. In this regard, the Brazilian foreign policy capability of leading the agenda was crucial to consolidate Brazilian projects, such as the UNASUR. Venezuela had two main reasons to contest Brazil's leadership: (a) Brazil was not ready to pay a significant part of the economic costs of regional integration, despite its superior

material resources, and (b) Brazil preserved local power asymmetry, which prevented Venezuela from fully participating in the decision-making of political projects. Therefore, 'Venezuela acquiesces to Brazil's regional leadership more than it accepts or contests it' (Flemes and Wojczewski 2010b).

There is a second line of thought that advocates that Lula and Chávez were not competing for regional leadership, but cooperating. According to Muhr (2013), empirical evidence does not support the idea that Brazil and Venezuela were in a confrontation course. First, UNASUR was a joint initiative between Brazil and Venezuela (Flemes and Wojczewski 2010b), which shows cooperation rather than competition. Second, Brazil and Venezuela pushed together the Initiative for the Integration of Regional Infrastructure in South America (IIRSA) (Flemes and Wojczewski 2010b). Third, Brazil and Venezuela believed that the Interamerican system of institutions was born after the Second World War and worked to maintain the US influence in the Americas. Some authors say that during Lula's and Chávez's administrations in Brazil and Venezuela, respectively, there was a wave of post-hegemonic regionalism, characterised by new regional integration projects without the presence of the US (Flemes and Wojczewski 2010b).

The importance of Brazil to Venezuela was based on the American assumption that Brazil was a 'leftist model,' which should be followed by other leftist governments in the region instead of the model of Venezuela's Chávez, Bolivia's Evo Morales, and Ecuador's Rafael Correa (Carmo and Pecequilo 2017). As a result, there was an increase in the number of mutual visits and the creation of numerous regional integration projects in South America, such as the deals settled by Brazil's Petrobras and Venezuela's PDVSA in the Southern Cone (Carmo et al. 2007a; Galvão 2010; Carra 2014c; Carmo and Pecequilo 2017). In this regard, Brazil and Venezuela were not necessarily competing for regional leadership. Instead, these countries oscillate between competition and cooperation (Galvão 2011b), being, in most cases, cooperative relations. The argument goes that Chávez recognised that regional integration could only be pursued with Brazil's presence (Carmo, Barros, and Valente 2007).

Brazil pushed for South American integration by viewing its role as a stabiliser and thus gaining international prestige because of it (Department of State 2006e). In a talk between the US Embassy and Marcel Biato, deputy foreign affairs advisor to President Lula, when asked about if public perception in Brazil that Lula was too lenient about Morales and Chávez, Biato answered: 'We cannot choose our neighbours. We do not like Chavez's modus operandi or Morales, surprises, but we have to manage these guys somehow and keep the regional integration idea alive' (Department of State 2006b: 1). To sum up, the Brazilian Government

needed to get on with Bolivia and Venezuela to keep its leadership project through regional integration.

Chávez knew that regional integration could only be achieved through the participation of Brazil, and Lula also wanted the involvement of Venezuela as a partner rather than a rival (Carra 2014c). On November 13, 2006, Brazilian President Lula gave ‘his strongest endorsement of President Chavez in years’ by saying that Chávez’s opposition came from ‘governments that had only governed for the elite and could not accept leaders that thought differently and focused on the poor.’ The opposition presidential candidate, Manuel Rosales, argued that Lula’s intervention in local politics was similar to ‘disrespectful incidents by Chavez in other regional elections’ (Department of State 2006c: 1).

Venezuela’s infrastructural weakness played a crucial role in cooling down Chávez’s offensive Venezuelan foreign policy. Brazil strengthened political relations with Venezuela precisely after the ‘*paro Petrolero*’s crisis⁷ by increasing the crude oil exporting to Venezuela to prevent supply shortages from happening, which could lead to political turmoil and pose a severe threat to Chávez’s presidency. The Brazilian strategy was backed by the then President of Brazil, Fernando Henrique Cardoso, and the recently elected President, Lula da Silva. After that, Chávez recovered control of PDVSA (Carmo and Pecequilo 2017). Due to Brazil’s vital role in Chávez’s survival in office, Brazil and Venezuela settled a strategic alliance in 2004 (Villa 2007).

Brazil-Venezuela’s rapprochement between 2003 and 2006 initiated the ‘strategic alliance’ during which both countries started many infrastructure projects in the region. In addition, Chávez travelled numerous times to Brazil and endorsed Brazil’s desire to get a permanent seat in the UN Security Council. Chávez needed the support of Lula to achieve his economic goals in the Southern Cone. PDVSA’s aggressive strategy to access markets in Central and South America depended directly on Chávez’s political alliances (Mares and Altamirano 2007). In this regard, Chávez counted on Lula and the political affinity they both shared to help PDVSA’s projects in the region. A rapprochement in Brazil-Venezuela bilateral relations, primarily thanks to Lula’s presidential diplomacy during his first administration, resulted in the public announcement defining Brazil-Venezuela relations as strategic in 2005 (Pautasso 2018). Under the strategic relationship between Brazil and Venezuela, both governments signed legal instruments in different areas. The project for the construction of the

⁷ The ‘*Paro petrolero*’ crisis (2002-2003) consisted of a huge political strike against the government of Hugo Chávez, promoted mainly by the board of directors and workers of the PDVSA. More than 15,000 employees of the state oil industry who participated in the strike were dismissed from the payroll.

Abreu e Lima refinery was treated as a significant improvement in the bilateral relations, as Chávez was 'proud to see Petrobras and PDVSA working together (Galvão 2010).

Despite the political rapprochement, the relationship between Petrobras and PDVSA was far from ideal. During the carnival of 2006, the samba school 'Vila Isabel' won the traditional carnival parade of Rio de Janeiro with the theme '*Soy loco por ti América.*' The samba lyrics talked about Simón Bolívar's role in Latin America. PDVSA was the main sponsor, paying millions of dollars. After that, the Brazilian press, along with Brazilian and Venezuelan opposition parties and even part of Lula's administration, such as the Brazilian Ministry of Foreign Affairs, became critical of the political influence of Chávez in Brazil (Galvão 2011b). Furthermore, Petrobras' employees considered that PDVSA's strategies were on a collision course with Petrobras'. It is noteworthy that, in the Petrobras Business Plan from 2009-2013 (PETROBRAS 2009) there is no business direction that could explain the international contracts with PDVSA, which was used as proof by Brazil's Federal Audit Court that the construction of Abreu e Lima was motivated by a political decision, not a commercial one by the company (TCU 2016). Therefore, forging closer ties with PDVSA was not Petrobras' interest but Lula's and Chávez's. On that occasion, the US embassy reported to the Department of State that formal statements involving Petrobras and PDVSA should not be taken seriously as these companies were competing for the regional market rather than cooperating (Department of State 2005). In the next section, we analyse the market dispute and the companies' goals at stake in Bolivia.

3. Market dispute between Petrobras and PDVSA

3.1. Petrobras's operations in Bolivia

The Bolivian production of natural gas was 'essential to sustain consumption growth in Brazil, which in 2006 imported 24.7 million m³/day. Of the total exported by the country, Petrobras traded 7.27 million m³/day – 23.4%' (PETROBRAS 2007), which explains the importance of Petrobras' investments in Bolivia. Relying on Bolivia has always been a worry for Brazil's national industries, as they depend on natural gas for their industrial processes and have never considered Bolivia an example of a stable country to rely on (Camioto et al. 2006). Between 1997 and 2000, Petrobras built a large gas pipeline linking the two countries, the so-called Bolivia-Brazil gas pipeline (GASBOL). At the same time, Petrobras started exploration and production actions in Tarija, in the eastern part of Bolivia. From this moment on, Petrobras was operating throughout the gas production and commercial chain (exploration, production, marketing, transport through pipelines, processing, and refining) (Duarte et al. 2008). Petrobras invested 430 million dollars in the construction of GASBOL and obtained a 21% stake in the gas compression plant in Rio Grande, the starting point of this gas pipeline (PETROBRAS 2006).

The GASBOL was the most extensive energy project in Latin America, comprising a total length of 3,150 km, starting in the Rio Grande (Bolivia) and passing through Corumbá (Brazil) and reaching Paulínia (Brazil). One branch connects Paulínia to Guararema (Brazil), and the other branch runs from Paulínia to Canoas, passing through the Brazilian states of Paraná and Santa Catarina (Camioto et al. 2006). There was a demand growth after the construction of GASBOL, requiring investments in distribution networks and equipment. In 2006, sixty percent of Brazil's total demand for natural gas came from Bolivia, and the Brazilian company was responsible for 15% of Bolivia's GDP. This is why Evo Morales' unilateral decision to undertake a nationalisation of gas and oil exploration in Bolivia was considered a severe threat to Brazil's interest. Bolivia would take control of the two Petrobras gas refineries in the country through the state-owned company *Yacimientos Petrolíferos Fiscales Bolivianos* (YPFB) with the technical assistance of PDVSA. There would be an increase in the tax on gas from 50% to 82% (Camioto et al. 2006).

In the 1990s, Brazil did not have enough investments in hydroelectric plants to supply the total demand for energy in the medium term, so natural gas was a growing share of Brazil's energy mix (Camioto et al. 2006). Therefore, guaranteeing a consistent natural gas supply was

essential to the country. In 1992, Petrobras began its activities with YPFB and Total Final Elf in the San Alberto and San Antonio fields, and in 1995 Petrobras created its subsidiary Petrobras Bolivia S.A. Since then, natural gas has increased participation in Brazil's hydrocarbon chain (Pautasso 2018). In mid-1996, Petrobras Bolivia became the country's largest company accounting for more than US\$1.5 billion in investments in Bolivia from 1996 to 2006. In 1999, Petrobras obtained a 70% (reaching 100% in 2003) stake in the Gualberto Villarroel refinery in Cochabamba and the Guillermo Elder Bell refinery in Santa Cruz through a joint venture with Argentina's Pérez Compac International (Duarte et al. 2008).

Regarding the midstream, Petrobras started to use its brand in the Bolivian service station network in 2001, supplying all of Bolivia's demand for unique and premium gasoline, aviation gasoline, and kerosene, and more than 60% of diesel oil demand. Therefore, even though Petrobras was the most significant financial contributor to Bolivia's public accounts, reaching 18% of Bolivian GDP, 20% in direct investments, and 22% of total tax collection in 2005, the Brazilian industry largely depended on the Bolivian gas. Table 2 shows the importance of Bolivian gas in the supply matrix of the Brazilian states, indicating that 75% of natural gas demanded in São Paulo, Brazil's most prosperous state, came from Bolivia. It is essential to highlight that natural gas prices raised after Evo Morales decided to nationalise Petrobras assets in Bolivia. In April 2006, the value was US\$ 5.67 million BTU and, in October 2007, US\$ 6.31 million BTU, which corresponded to an increase of approximately 11.3% concerning its price. Therefore, it directly impacted 2007 Petrobras' results, which resulted in a 17% reduction related to the previous year (Duarte et al. 2008).

Table 2. The supply matrix of the Brazilian states in 2008

States	Participation %
Rio Grande do Sul	70
Sao Paulo	75
Paraná	100
Santa Catarina	100
Mato Grosso do Sul	100
Mato Grosso	100

Source: Duarte et al. (2008)

3.2. PDVSA in Bolivia

Financial reports claim that PDVSA's total revenue expanded from 2002 to 2005 by doubling its revenue in two years (PDVSA 2005). These startling numbers are explained by a shift in the Venezuelan energy strategy dating back to April 2003, in what some authors have called the 'new PDVSA' (Mares and Altamirano 2007). The 'new' PDVSA is distinguished from the 'old' PDVSA precisely because of changes in strategies. Until April 2003, PDVSA's main focus was to maximise shareholder value, while after 2003, the strategic goal was to maximise the value of oil and natural gas resources. To maximise revenue, PDVSA should alter prices and quantities. However, the country was limited to OPEC's quotas and policies, which back then were in the opposite direction, marked by cuts in production levels to guarantee high prices (Mares and Altamirano 2007).

In the 2000s, crude oil represented 75 percent of PDVSA's total energy reserves, while natural gas accounted for 25 percent. However, 90% of PDVSA's natural gas was related to re-injection in oil extraction, highlighting the importance of gas in PDVSA's strategy abroad. By operating in the Southern Cone market, PDVSA could maximise natural gas resources and influence gas quantities and prices, if not in the international market, at least in the regional one. By increasing the company's resources, the company would be able to generate positive results in the trade balance, boosting the country's economic development (Souza et al. 2008), maximising transfers to social programmes (Mares and Altamirano 2007) and financing the government's national development plan of 2006 (PDVSA 2005).

When Evo Morales was elected in Bolivia, promising to change gas policies regarding international oil companies operating in the country, PDVSA saw an opportunity to maximise natural gas resources in the Southern Cone. Bolivia was a pivotal partner to PDVSA's goals. Evo Morales very welcomed Venezuela's support to Bolivia. Bolivia had difficulty supplying the internal market with fuel, primarily diesel oil. While Petrobras exported these products to Bolivia in the late 1990s, Venezuela became the leading supplier thanks to the facilities granted through countertrade and the granting of credits (Pautasso 2018). After opening a commercial office in La Paz in 2006, PDVSA invested in the Bolivian hydrocarbons sector for the first time. Evo Morales and Hugo Chávez signed five agreements in the hydrocarbons sector, allowing the beginning of joint ventures between Bolivia's YPFB and PDVSA (Pautasso 2018). Hugo del Granado Cosío, a petrochemical engineer, and HGC's consultant reported that the political rapprochement between the governments of Bolivia and Venezuela facilitated the negotiations between the two state-owned companies regarding not only joint ventures but also

'chains of service stations, plants for the separation of liquefiable from natural gas, the production of petrochemical products, and the supply of 200,000 barrels of diesel per month under preferential conditions to supply the domestic deficit market, up to joint exploration and exploitation efforts' (PDVSA 2005; Cosío 2007).

PDVSA's decision to invest in Bolivia was a turning point in the company's internationalisation strategy in the region. Since the mid-eighties, PDVSA's main investment focus has been Central and North America. PDVSA was the fourth largest supplier for the U.S. market and the largest supplier for Central America, representing 1 million b/d and 600,000 b/d of exports, respectively (Mares and Altamirano 2007). However, the market expansion to the Andes depended on building an oil pipeline in Cartagena and refineries in Peru and Chile. Recent political tensions between Chávez and the presidents of Colombia and Peru postponed these projects. Therefore, it was cheaper to expand to the Southern Cone (Pautasso 2018).

Since Bolivia was central to PDVSA, the company's new internationalisation strategy involved other South American countries, such as Uruguay and Brazil. For instance, while PDVSA's exports to Uruguay accounted for 30,000 b/d of diesel in 2005, this number more than doubled after 2007 (PDVSA 2005). Moreover, through a joint venture between PDVSA and Uruguay's ANCAP, the Venezuelan company bought the La Teja refinery to send 50,000 b/d of heavy oil to the Orinoco Belt. As a result, some analysts predicted that PDVSA's total investment in Bolivia would reach 1.5 billion dollars in two and a half years (PDVSA 2005; Mares and Altamirano 2007).

The changes in PDVSA's strategy were not a result of geopolitical disputes between Chávez and Lula. Instead, they were motivated to increase the company's profit abroad, which would positively impact the government's coffers. Chávez was pushing the expansion of PDVSA in South America. The Venezuelan government believed the investment return would compensate for transfer prices to refineries abroad (Mares and Altamirano 2007). In addition, the Bolivian gas was very strategic to Venezuela's interests. By providing technical assistance and advising Bolivia's state-owned gas company YPF (Herrera 2006), PDVSA was hoping to replace Petrobras in Bolivia as the primary energy company in the country, which would provide not only natural gas to Venezuela but also access to the Southern Cone oil market. Therefore, Brazil-Bolivia negotiations were seen as a window of opportunity for PDVSA. PDVSA's total investment on natural gas accounted for 28 and 21.5 percent in 2006 and 2007, respectively, the highest shares in PDVSA's history. PDVSA considered that there was a window of opportunity for natural gas in 2006 and 2007 (Mares and Altamirano 2007), especially considering the perspective of replacing Petrobras in Bolivia, which would increase

PDVSA's international account and help finance Chávez's expansionist fiscal policy (Mares and Altamirano 2007).

4. Methods

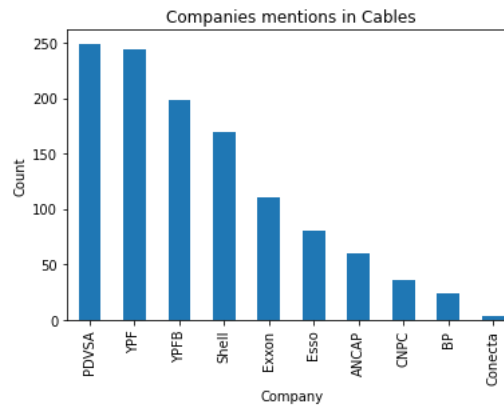
Literature on foreign policy and diplomacy acknowledges that analysing data on diplomatic cables can be challenged whether we use qualitative or quantitative methods (Gephart 1997; Connelly et al. 2021). Many authors consider textual data a vital unity of analysis in political science. In many cases, content analysis has been used to make some inferences on political documents, as they can potentially offer important insides into the policy positions of the decision-makers at a specific point in time. Many authors count specific keywords as a common way to measure themes and, thus, the political actors' main interests in such matters. On this note, some authors assume that the frequency of occurrence of keywords represents the strength or importance of specific values related to a 'content dictionary' of other keywords (Gephart 1997).

Through computer-supported quantitative content analysis, the software can automatically code, classify, and count words (Gephart 1997). Some authors have triangulated the analysis of the co-occurrence of words, the substitution model of quantitative content analysis, qualitative coding, or simply listing keywords (Gephart 1997; Oleinik 2011). In this article, we wrote a Python script to tokenize the data as the following. Our database consists of all declassified documents from Brazil's Ministry of Foreign Affairs (MRE) from 1994 to 2017 and Petrobras' financial reports from 2004 to 2012. As pdf documents are not machine-readable, we converted all Brazilian diplomatic cables from 1994 to 2017 collected in Brasilia from pdf to html. Then, we quantified the frequency of the keywords 'PDVSA' and 'YPFB' by year compared to other international oil companies, as shown in the tables below. Quantitative-text results consisted of descriptive statistics on mentions of international oil companies by year and frequency, as shown in Graphs 3 to 6.

We then conducted a content analysis of all these documents to verify the main international contracts negotiated by Petrobras and PDVSA. The 2006 Bolivian crisis involving international oil companies operating in that country raised most diplomatic concerns in the cables we gathered. We cross the information with secret diplomatic cables sent by American Ambassies to the Department of State (released by Wikileaks), primary documents from

Brazil's Court of Auditors (TCU), and testimonials from Petrobras' former director Nestor Cerveró.

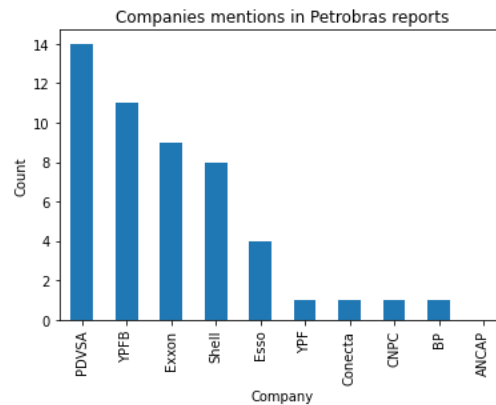
Figure 3. Companies mention in Cables



Source: the author. Data: Brazil's Ministry of Foreign Affairs

However, there is a problem regarding quantifying word mentions, as they can present biased results. For instance, at a given Brazilian embassy, a diplomat could have mentioned 'PDVSA' several times in the same cable for a particular reason. Still, that same embassy may not mention PDVSA ever again. Conversely, mentions could have been more distributed throughout the years in another embassy. In this article, we were more interested in the second case. Therefore, we used a dummy variable (TRUE/FALSE) for 'Petrobras' mentions to avoid any lopsided results. So, if the diplomat only said it once or several times in the same telegram/cable, it didn't make any difference anymore. Our primary goal was to focus our process tracing on empirical evidence. We used the same logic as other oil companies mentioned in diplomatic cables. World-count results were crucial to identify the most mentioned oil companies in both datasets.

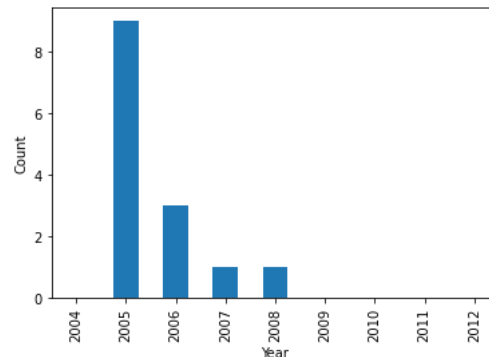
Figure 4. Companies mentioned in Petrobras' financial reports



Source: the author. Data: Petrobras (2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012)

The results show that 'PDVSA' was the oil company most mentioned by MRE. We observed the same effect in Petrobras' financial reports from 2004 to 2012, as Graph 4 illustrates. Therefore, we conclude that PDVSA was the most popular oil company to MRE and Petrobras, which might explain why 'PDVSA' was mentioned more in diplomatic cables than 'Hugo Chávez,' as we showed in the introduction. The empirical results showed where we should look. In other words, based on these results, we conducted our case study on PDVSA-Petrobras contracts. Graph 5 shows the 'PDVSA' mentions in Petrobras' financial reports between 2004 and 2012. Graph 6 offers similar results for 'YPFB' mentions in the same sample. Results show mentions of both companies were concentrated between 2005 and 2008, mostly in 2005.

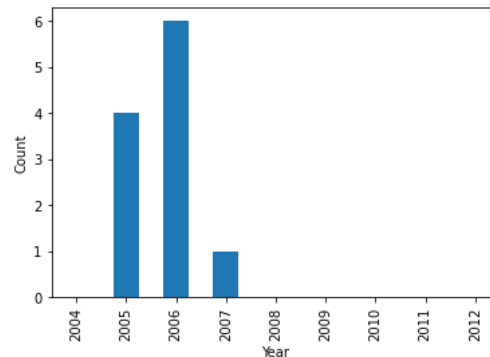
Figure 5. ‘PDVSA’ mentions in Petrobras’ reports



Source: the author. Data: Petrobras (2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012)

During this period, Petrobras and PDVSA were negotiating three international contracts: the construction of the Abreu and Lima refinery, the purchase of Ipiranga Group, and the renegotiation of the concession contracts between Petrobras and Bolivia’s YPF as a result of Evo Morales’ decree of nationalisation of international oil companies’ assets in the country. We showed the contracts’ details in Table 1. As we mentioned previously, we chose to focus on Bolivia as our case study for two main reasons. First, most of the literature on Petrobras and PDVSA says that Bolivia was a strategic territory, as we showed in the previous section. Second, many authors argue that Lula and Chávez were disputing regional leadership in the Southern Cone. Therefore, the 2006 Bolivian gas crisis is instrumental in analysing the Petrobras-PDVSA relationship, identifying the main interests in the negotiation table and thus verifying whether Lula and Chávez were competing or cooperating and the role of the two state-owned oil companies. We discuss the negotiation involving Petrobras, YPF, and PDVSA in the following section.

Figure 6. ‘YPFB’ mentions in Petrobras’ reports



Source: the author. Data: Petrobras (2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012)

5. The 2006 Bolivian gas crisis

Evo Morales was elected in January 2006 after a political campaign promising to distribute Bolivia’s natural wealth resources to the people, which resulted in the renegotiation of natural gas contracts with international oil companies operating in the country. A Brazilian diplomat called it the worst-ever diplomatic conflict between the two countries (Carra 2014c) and the most serious one in the region during the 2000s. Since the so-called Gas War, natural gas has been at the centre of the political debate in Bolivia. This popular insurrection deposed President Gonzalo Sánchez de Lozada in October 2003. In March 2005, Bolivia’s President Mesa faced tremendous political pressure to approve a new General Hydrocarbon Law that would be much more restrictive to foreign oil companies operating in Bolivia.

Morales was aware of Bolivia’s lack of technical capacity to maintain natural gas production at current levels without foreign partners. Moreover, the country did not have the resources to keep significant investments in research, exploration, and technical training of the energy market workforce, which could undermine his political agenda (Duarte et al. 2008). After Venezuela’s Hugo Chávez official offered to assist Bolivia through PDVSA’s technical support to Bolivia’s state-owned energy company YPFB, Morales decreed the nationalization of the entire hydrocarbon sector in that country.

Fulfilling his paramount commitment to the campaign (Duarte et al. 2008), Supreme Decree No. 28,701 of May 1, 2006, modified the legal rules for the natural gas sector, the most

crucial sector of Bolivia's economy, which was historically under the control of foreign companies from Brazil, Canada, South Korea, Spain, Argentina, and the United Kingdom. As a result, they all had their concession contracts for natural gas exploration cancelled. In addition, decree No. 28,701 imposed significant changes in the sector by affecting the contracts' tax, operational and financial aspects (PETROBRAS 2007).

The result of Decree 28,701 was a political backlash in the oil and gas sector in the region, as there was a general climate of distrust among investor countries, especially with Petrobras. The Brazilian company was the largest company operating in Bolivia. In 2005, Petrobras accounted for 18% of Bolivian GDP, 22% of its tax collection, and 20% of FDI (Duarte et al. 2008). The economic threat that Decree No. 28,701 posed to Petrobras was tremendous. In 2006, 50% of the natural gas supply in Brazil was obtained from the Bolivian reserves operated by Petrobras, Total, and Repsol, which was transported by the gas pipeline between the two countries. As a result, Petrobras was forced to renegotiate the gas contracts in force since the 1990s, significantly impacting the company's profit margins. Petrobras' participation in Bolivia's natural gas revenue fell from 82% to nearly 30% (Fuser 2014).

Hugo Chávez's political support through PDVSA's technical assistance was prominent in the negotiations on the gas sector involving international companies in Bolivia (Cosío 2007). Venezuela's intervention in Bolivia's affairs can be traced back based on six primary pieces of evidence. First, Morales' nationalisation announcement on 1 May happened immediately after a meeting with Chávez and Castro in Cuba. Second, 48 hours after the previous meeting with Morales and Castro, Chávez organised a new summit in Puerto Iguazú. He invited Kirchner, Lula, and Morales to discuss the nationalisation act. One day before the summit, Chávez declared his full support for Morales by offering technical support from PDVSA (Carra 2014c; Guimarães and Maitino 2017). Petrobras Director of International Affairs, Nestor Cerveró, noted that Chávez perceived Bolivia as an opportunity for Venezuela to gain ground in South America by replacing Petrobras with PDVSA in Bolivia. Cerveró reported several meetings with Bolivian officials in which members of the Venezuelan PDVSA 'were often present, giving the Bolivians advice' (Department of State 2006b: 1). As another supplier of natural gas, Venezuela could further weigh the Brazilian leverage power, as it could place itself in a position closer to that of Bolivia.

Third, Chávez sent a flight to pick up Morales the night before. Fourth, Chávez sent Venezuelan lawyers to assist and advise Bolivia's YPFB regarding the nationalisation process. As a result, the type of contract offered by the Morales government to companies operating in Bolivia was very similar to the ones provided by PDVSA to foreign companies in Venezuela.

Fifth, Chávez stated his intention to invest US\$1.5 billion in the Bolivian energy sector after twenty days of the nationalisation law (Herrera 2006). Finally, Chávez supported the Bolivian nationalisation law in all international forums stating that foreign private companies should contribute to Bolivia's energy development (Cosío 2007), and that PDVSA would do the same.

Regarding Chávez's political influence over the region, PDVSA's President Ramírez advocated that Venezuela was not 'playing with any country.' Instead, it was investing in South American integration to achieve the union of 'sister countries' based on complementarity, brotherhood, and reciprocity (MRE 2006a: 1). In this regard, PDVSA had a vital role to play, as, according to him, this company was committed to Venezuela's sovereign interests and the well-being of its inhabitants, as a deep relationship is building between PDVSA and the country like never before (MRE 2006a). From behind the scenes, however, PDVSA was deeply involved in the negotiations between Petrobras and YPF. The Brazilian and the Venezuelan companies were the main references to YPF, such as the Bolivian company's CEO, Jorge Alvarado, stated in his inauguration ceremony speech, in which he said that he hoped to raise YPF to the level of corporate management that he had as a reference to Petrobras and PDVSA (MRE 2006b).

After the nationalisation act, the Brazilian government reacted with 'a stunningly bland public statement' (Carra 2014a: 207) , according to which Lula recognised Bolivia's sovereignty to act as it did. Still, he also reaffirmed that Brazil would protect the interests of Petrobras (Department of State 2006b). Given Petrobras's massive participation in the Bolivian oil and gas sector, the Brazilian company had a strong position at the beginning of the negotiations (Pautasso 2018). Moreover, Petrobras was the largest foreign investor in Bolivia, with USD 1.5 billion invested there. Besides, the company's activities in Bolivia generate yearly revenues of USD 1.2 billion, representing 15% of its GDP (Department of State 2006e: 1).

Although the Brazilian President and the Brazilian Ministry of Foreign Affairs defended conciliation with La Paz, Petrobras reiterated that it would not accept being excluded from commercialisation activities (MRE 2005b). Petrobras' CEO, José Sérgio Gabrielli, threatened to freeze investments in Bolivia and that 'unilateral measures, made in an unfriendly way, force Brazil to react.' (Department of State 2006a: 1). Petrobras considered PDVSA's investments in Argentina, Bolivia, Ecuador, Paraguay, and Peru as a political interference of Hugo Chávez in Petrobras' affairs (Goes and Schüffner 2007; 2006c; 2006b; 2006a). As a client of Bolivian gas, Petrobras was concerned about the negative economic impacts of the Bolivian decision on its economy and of the increased PDVSA's influence in that market. If

PDVSA had managed to influence the Bolivian gas supply, it would have handled its control of most of the South American supplies.

Since the beginning of the negotiations, Morales had been manoeuvring to bring Lula to the negotiation table, as both Morales and Chávez held the view that Lula's direct involvement in the talks would be beneficial to Bolivia and Venezuela's interests, given their political affinity with the Brazilian president (Pautasso 2018). Therefore, it is possible to affirm that there was no political tension or leadership quest between Lula and Chávez at this moment, otherwise Chávez and Morales would not pressure for Lula's participation in the negotiation table.

Diplomatic cables show that the Brazilian government was aware of and worried about the potential Bolivian occupation of Petrobras' property since 2005. For example, the Brazilian ambassador was reporting the new regulations on the collection and distribution of taxes on hydrocarbon production and evaluated that 'despite the political language of one of the regulations, there is no provision for the occupation of fields and company facilities.' (MRE 2005d). However, the Brazilian government believed that, in the short run, freezing these investments could bring political unrest and give rise to opposition leaders in Bolivia (Department of State 2006c). Keeping Petrobras in Bolivia was crucial to prevent this threat from happening. Therefore, Lula asked Petrobras to moderate its discourse.

After the military occupation the Petrobras' facilities in 2006, the company's strategy was to let this issue remain at the government-to-government level, as its employees have been told to 'stay put, shut up, keep their heads down, and let the Brazilian government negotiate with the Bolivian government' (Department of State 2006a: 1). If Lula had responded to Bolivia's provocations bluntly, public criticism against Brazil in Bolivia would gain ground. Bolivian media was a concern among Brazilian diplomats, as 'Unfortunately, in this country, subterfuge, nuances, and diplomatic language are not always understood. They are often interpreted in a lopsided way' (MRE 2005b: 3). For instance, before the nationalisation act, the Bolivian media reported that Minister Dilma Rousseff would have declared that nationalisation of the hydrocarbon sector would not be a problem for Brazil, which was not true (MRE 2005c).

From this moment on, high-level ministerial officials from the ministries of Energy and Foreign Relations joined the negotiations, as well as the direct participation of Lula and Morales. In a talk with the US Consul General in Brazil, Petrobras' Cerveró informed that Bolivian President Evo Morales needed USD one billion by year-end for 'budget support.' If he failed, Morales could be forced out of office before the end of his term, as has already happened to other Bolivian presidents. Petrobras knew this domestic situation and proposed a

price hike personally. However, having a Bolivian military on the property with guns changed the negotiation (Department of State 2006c), turning a market dispute into a diplomatic and political crisis.

To reduce the negative impressions of Lula being ‘caught asleep at the switch and unwilling to stand up forcefully for vital Brazilian interests’ (Department of State 2006a: 1), Brazil called Bolivia, Venezuela, and Argentina for an emergency summit to discuss this issue. Brazil was facing a stalemate, as a harsh response would confirm Brazil’s position as an imperial state. On the other side, keeping a passive tone regarding the nationalisation process could cause damage to Lula’s image less than six months before the presidential election.

At that time, Petrobras expressed interest in remaining in the refining business as long as it could maintain technical and administrative control; otherwise, it would prefer to sell 100% of its shares (Cosío 2007). According to a confidential talk between a high-level Brazilian official to the US Embassy in Brazil, Petrobras had three main options. First, the company could keep operations temporarily while legally preparing to break contractual obligations, but the Brazilian government would prefer not to break a contract. Second, Petrobras could pull out from the contract unilaterally and immediately. Third, Petrobras could ask for international arbitration (Department of State 2006b). Considering that Petrobras would not accept a massive price increase under any circumstances nor a role as just a service provider, Biato concluded:

"This is a poker game, where Brazil's interests are big, but Bolivia's potential for loss is much bigger. But in poker, as in diplomatic negotiations, the players must have some sense that their opponents are operating from a base of logic and rationality. At this point, the Brazilian government has lost confidence that Morales possesses those qualities. There is a sense in the Brazilian Government that Morales, just put this out there, did what he wanted to do for his political reasons, and now expects all the rest of us to sort it out" (Department of State 2006a: 1).

Although Bolivia’s potential for loss was much more significant, President Evo Morales insisted on a tax increase from 50 to 82 percent regarding the price of hydrocarbons in Bolivia. The reason is that according to Cerveró, the Bolivian government had access to Petrobras’ pricing formula, and they did know that the company could still operate at the 82 percent tax rate (Department of State 2006c). According to Cerveró, the nationalisation decree was designed to scare Petrobras (and other oil companies) at the negotiating table and make

them more willing to accept Bolivian government terms (Department of State 2006b). However, the Bolivian government did not consider the Brazilian electoral calendar.

For the past few months, Lula had been facing several accusations of corruption in the so-called 'Mensalao' involving the government and senior PT leaders (Fuser 2014). Therefore, the Brazilian government would not be able to be as condescending as Morales and Chávez would expect. Instead, the Brazilian government's attitude after the nationalisation showed increasing firmness (Cosío 2007), such as in the interview President Lula da Silva gave to the Brazilian News Center (CBN). In all the articles in the local press, three points of the interview were highlighted: a) President Lula's statement that Brazil will demand compensation for nationalization that eventually affects Petrobras' investments; b) President Lula's willingness to meet the Bolivian demand for a higher gas price, and c) Brazil's willingness to achieve energy independence by 2008 (MRE 2006c).

As a result, the Bolivian Minister Solíz Rada, who was in charge of negotiations, resigned, and Vice President García Linera took control of the negotiations on behalf of Bolivia. At the same time, the Brazilian government took a step back as Lula declared at a MERCOSUR meeting that 'we must be aware that we have to help Bolivia, we have to work in joint projects, we have to work for development (Guimarães and Maitino 2017). Finally, the primary outcomes of the negotiation were as follows: (1) there would be no change in volumes or the formula for the purchase price of natural gas agreement between YPFB and Petrobras (PETROBRAS 2006); (2) Petrobras' operations would be concentrated in the exploration and production and gas and energy segments, following the sale of the Guillermo Elder Bell and Gualberto Villaroel refineries to Bolivia's YPFB for US\$ 112 million, which was considered below the market price. In addition, due to the entry into force of new contracts in Bolivia, Petrobras' international proved reserves increased to 1 billion and 90 million boe, which were 14% lower than in 2006, representing 7.3% of the Company's total reserves (PETROBRAS 2007).

Pending issues were solved at a meeting between Petrobras and YPFB, especially the payment of noble liquids, referring to the year 2007, in the amount of US\$ 100 million. The meeting, held at the headquarters of the Brazilian company, was chaired by the President of YPFB, Santos Ramirez, and by the advisor to the President of Petrobras, André Ghirardi (MRE 2008g). The outcome of the negotiations was made possible thanks to Lula's pressure on Petrobras to pay more for the Bolivian gas. Furthermore, Lula's public statement stated that the Bolivian people could count on Brazil's solidarity and support and recognised Morales' claims over Bolivia's natural resources (Pautasso 2018). Lula's statement was followed by Brazil's

Minister of Energy and Spain's Secretary of State, who declared respectively that 'it is a good business to stay in Bolivia' and 'We are going to invest a similar amount in the coming years (1,000 million dollars) to ensure, fundamentally compliance (of supply) with Argentina' (Cosío 2007).

6. Final remarks

This article aimed to analyse Brazil-Venezuela's relations by focusing on the relationship between Petrobras and PDVSA. Empirical evidence shows that the Brazilian embassy in Venezuela mentioned the keyword 'PDVSA' much more than 'Hugo Chávez.' Besides, 'PDVSA' accounted for almost 40% of all Brazil's diplomatic cables coming from Caracas, which shows the importance of analysing PDVSA to understand Brazil-Venezuela relations. Some authors believe there was political competition between Brazil and Venezuela in the region's energy market. Indeed, secret diplomatic cables prove that the political interference of Venezuela was pivotal in triggering the diplomatic conflict between Brazil and Bolivia. However, we argue that this political interference was not based on a political leadership quest against Brazil but on Chávez's efforts to open a new market to PDVSA and increase its revenue. In fact, Petrobras and PDVSA were trapped in a regional market dispute that was solved thanks to political interference and goodwill, especially between Lula, Morales, and Chávez.

We do not put in doubt Brazil's leadership capabilities nor Chávez's political claims over other multilateral instruments. Instead, we focused on the relationship between Petrobras and PDVSA, as empirical evidence showed that the Venezuelan oil company was crucial for the analysis. We searched for the main joint negotiations involving the companies in the region and we analysed the renegotiation of concession contracts in Bolivia. Bolivia's gas assets were strategic for both companies and PDVSA interfered in a number of ways in Petrobras-YPFB negotiations, which is why we chose Bolivia as our case study.

Some diplomats expressed that the 2006 Brazil-Bolivia crisis was the most critical diplomatic conflict in the 2000s. Through content analysis on diplomatic cables, we found that the Bolivian gas market was at the centre of a market dispute between Petrobras and PDVSA. In this article, we tested if the Bolivian-Brazilian gas crisis was an example of a political dispute between Lula and Chávez. Our results show that Petrobras and PDVSA were on an aggressive course in the region, and this market dispute became a diplomatic conflict in Bolivia. Contrary

to what part of the literature would expect, we find no evidence of competition at the government-government level.

Despite Lula and Chávez's political rapprochement, Chávez perceived Bolivia as an opportunity for PDVSA to gain ground in South America by replacing Petrobras in Bolivia. Oil and consequently PDVSA's success abroad was central to fund Chávez's domestic projects in Venezuela. Meanwhile, Petrobras considered PDVSA's investments in Argentina, Bolivia, Ecuador, Paraguay, and Peru as a political interference of Hugo Chávez in Petrobras' affairs. The relationship between Petrobras and PDVSA's employees was not great, as the secret documents from the US Department of State reported. Petrobras' employees believed that PDVSA was Hugo Chávez's political instrument to gain ground in the region.

We argue that what explains Venezuela's interest in Bolivia was not a quest for political leadership against Brazil but an opportunity for increasing PDVSA's profit. By replacing Petrobras in Bolivia, PDVSA would take control of essential assets in the country, facilitating gas distribution in the Southern Cone. So much so that Chávez and Morales asked for Lula's presence in the negotiations as they believed it would be beneficial to them.

Chávez needed Lula's support at the international and regional levels, as we explained earlier. Petrobras was alone at the negotiation table during most of this period. However, after the Bolivian military invasion of the Petrobras building and the nationalisation of the company's assets in Bolivia, the market dispute turned into a diplomatic and political crisis involving three countries. From then on, the political stalemate escalated into a government-to-government level negotiation, and the Brazilian government asked Petrobras to stay away from the talks. Therefore, misunderstanding between Petrobras, PDVSA, and YPFB led to Lula and MRE's involvement in the conflict, which resulted in a high number of mentions of PDVSA in Brazilian diplomatic reports, as shown in Graphs 4 and 5. The final result of negotiations is disputed. PDVSA was ready to take control of Petrobras' assets in Bolivia, which did not happen at the end. However, Petrobras had a huge commercial loss as a result of the negotiations and political accommodations. Evo Morales and Bolivia's YPFB managed to get a better deal as a result of Lula's and MRE direct involvement in the conflict. On this note, Morales and Chávez were right in pressuring for Lula's participation in the negotiation. There was no evidence that Venezuela's involvement in the most important diplomatic crisis in the region in the 2000s was a result of a leadership confrontation with Brazil.

Chapter 7. Uruguay's ANCAP and Conecta SA

At the end of 2001, the Uruguayan Parliament approved the *Administración Nacional de Combustibles, Alcoholes y Portland* (ANCAP) bill on the de-monopolisation, which authorised the company to associate with private and foreign capital. The union of workers of the entity and the left coalition *Frente Amplia* articulated the holding of a popular referendum as a way to derogate the law. The year of 2002 was challenging for the Government of President Jorge Batlle since the Argentine crisis and its effects on the Uruguayan economy was the central point of the political agenda (MRE 2002a).

It was in the wake of this process that the first negotiations between Petrobras and ANCAP and between the two governments began. In this vein, the Brazilian embassy, in an official communication to the Ministry of Foreign Affairs, requested that this 'window of opportunity' should be transmitted to Petrobras' president (MRE 2002a). Back then, there was the understanding among Brazilian diplomats - which proved right - that President Batlle might have a fondness for an association with Petrobras over other private international oil companies - and that this could be of interest to Brazil. Months later, still in 2002, Batlle transmitted to Francisco Thompson-Flôres, Brazilian Ambassador in Montevideo, his interest in holding a meeting between the ANCAP and Petrobras Presidents to continue the association between the two-state companies and their preference for the company in the bidding process that would take place in the coming months. At the end of the diplomatic communication, the Brazilian Ambassador requested that this political interest expressed by the Uruguayan President was transmitted to the new President of Petrobras (MRE 2002b).

At that time Uruguay had a reasonable number of international oil companies already operating in the country, and all had expressed interest in the association with ANCAP (MRE 2004b). These companies were the French Gaseba Uruguay S.A. - Gaz de France Group, responsible for the distribution of street gas in the city of Montevideo; British gas company Cruz del Sur S.A. British gas., responsible for the operation and maintenance of the natural gas pipeline for southern Uruguay; the U.S. Esso Standard Oil Co. and Texaco Uruguay S.A. and the Anglo-Dutch Shell Uruguay Ltda, all three actors in the distribution of petroleum fuels (MRE 2002c).

Despite all this, President Batlle expressed a preference for Petrobras behind the scenes. Meeting the wishes of President Batlle, two months later, there was a meeting between the presidents of the two state companies, Jorge Sanguinetti Sáez (ANCAP) and Francisco Gros (Petrobras), in Rio de Janeiro. These negotiations, made public during the year, had a positive impact on the Uruguayan press. According to a survey by the Brazilian embassy in Montevideo, 189 articles were published in the Uruguayan media concerning Brazil, of which 22 could be classified as positive, 153 neutral, and 14 negatives. Among the matters with a very positive emphasis on Brazil were those related to Petrobras' negotiations with ANCAP (MRE 2002d).

The ANCAP project for the de-monopolisation was not approved, however, which did not harm other negotiations involving energy between the two governments. Petrobras had an economic and logistical interest in the Uruguayan La Teja refinery. The main objective was to export diesel oil to the Argentine market, which was deficient in this product and, taking advantage of logistics, supplying the Uruguayan market as well. In 2004, the then Brazilian Ambassador to Montevideo, Eduardo dos Santos, reported his visit to the inauguration of the expansion of the ANCAP La Teja Refinery, which was attended by President Jorge Batlle, and expressed the view that 'the act was marked by a political imprint' (MRE 2004b).

Ambassador Eduardo dos Santos reported a conversation with Batlle, in which the Uruguayan head of state expressed concern about the energy situation in Uruguay and raised the possibility of building a direct power line with Brazil. Just the day before, Batlle invited Petrobras International Director Nestor Cuñat Cerveró, and Petrobras Energia (Argentina) Executive Director-General Alberto Guimarães, as well as other officials from the Brazilian state company 'to analyse the energy situation of the continent' (MRE 2004b).

The goal of the Uruguayan Government to take advantage of Petrobras' commercial interest in exporting diesel to Argentina went beyond petroleum and also involved electricity. Uruguay's electricity supply problems were considered with great concern by the Government of both countries - and also as a great opportunity. In 2004, the then Minister of Industry, Energy and Mining, José Villar, visited for dinner at the Embassy Residence, shortly after returning from Argentina, where he had been to address the issue of reducing Argentina's electricity supply to Uruguay. He informed the Brazilian Ambassador that he would go to Rio de Janeiro to meet with the Minister of Mines and Energy, Dilma Roussef, at Petrobras headquarters. The objective was to assure the Brazilian fuel supply to the Uruguayan thermoelectric plants (MRE 2004c).

The Uruguayan energy framework was aggravated by the suspension of the supply of Argentine gas to Uruguayan industries, which led the Uruguayan Government to revise its estimates of economic growth. Furthermore, this event strengthened public and local authorities' perception that the energy matrix of the country should be changed to replace current ties with Argentina by stronger ties with Brazil. The country was responsible for supplying about a third of Uruguayan demand for electricity in 2004 (MRE 2004f).

Uruguay's energy crisis got worse after the increase in demand for natural gas in Argentina, as a result of little water accumulated in hydroelectric dams. This situation has made Argentina very dependent on power generation, especially because there was an increasing energy demand from economic activity and also because of the winter. Besides, Uruguay's power purchase contracts in Argentina provided that, in exchange for lower prices, supply could be suspended at times of peak demand. All these Argentine domestic factors added together caused the energy shortage of Uruguay, experienced at that time (MRE 2004a).

Itamaraty considered that replacing Argentina as the main power supply to Uruguay was a significant political opportunity. The Brazilian Ambassador reported talks with the President of Eletrobras and the Secretary of Energy of the Ministry of Mines and Energy about the construction of an electricity transmission line between Brazil and Uruguay. It is important to highlight that for many years Itamaraty advocated that foreign affairs were a State policy, not a government policy. But according to the Brazilian Ambassador, in a diplomatic cable sent to Brasilia, the possibility of making an energy connection with Uruguay would give Brazil a substantial political advantage in the local context and corroborate the integration of Southern Cone infrastructure, 'a priority in President Lula's government program' (MRE 2004h).

In this same diplomatic cable, the Ambassador affirms that the association between Petrobras and ANCAP would certainly create a physical and economic bond and, consequently, give higher density to the bilateral relationship. It is important to highlight that in Uruguay, there was an absolute lack of confidence about the future of Mercosur. In the Ambassador's view, although very attracted to the bloc, the country had not yet secured a secure niche for its trade. Therefore, 'any positive gesture in the area of infrastructure integration would be very well accepted by the public, not to mention the political actors' (MRE 2004h). In that same year, there was a meeting between the Foreign Ministers of Brazil and Uruguay. Both Celso Amorim and Didier Operti stressed the importance of the beginning of the Santana do Livramento-Rivera electrical interconnection, which would enable the energy exchange between the systems of both countries. The chancellors stressed the need to deepen efforts for

energy integration in the region while leaving political motivations outside the official statement (MRE 2004d).

In August 2004, the Brazilian Ambassador also reported, in a confidential diplomatic cable, an informal conversation with the Minister of Industry, Energy and Mining, José Villar, in which he found out that ANCAP President, Juan Luis Aguerre Cat, would meet with the Petrobras board next week. In a 'trustworthy' way, Cat told the Brazilian Ambassador that, on occasion, both parties would consider the possibility of associating themselves in Argentina in operations aimed at the distribution of fuels and petroleum products, as the two companies have already had gas station networks in that country (MRE 2004j).

In late 2004, Petrobras completed negotiations for the purchase of 55% of the capital of Conecta, a natural gas distribution company in the interior of Uruguay, an acquisition that would mark the beginning of the company's activities in Uruguay, the eighth southern country in which Petrobras operated. Petrobras' decision was perceived as a political result of negotiations between the two governments, and not as a trade negotiation. Not only did President Jorge Batlle express great satisfaction after the deal, but also the President of Uruguay reaffirmed the support of the new Government to the initiative and 'placed the operation already in the context of close cooperation between Brazil and the Tabaré Vázquez Government' (MRE 2004i).

To complete the energy integration project, Ambassador Eduardo dos Santos reported, in June 2006, his management with the then Secretary of the Presidency of the Republic, Ambassador Raúl Lago, regarding the participation of Brazilian companies in the competition for the construction of the San José Thermoelectric Power Plant. Before meeting with Ambassador Raúl Lago, the Brazilian Ambassador had met Ivo Magalhães and Ivan Ferrucci Vacino, representatives of Odebrecht in Uruguay. At the meeting together with the Secretary of the Presidency of the Republic, Eduardo dos Santos reported information he knew about the bidding process and expressed 'the importance of the presence of Brazilian companies in energy projects in Uruguay, especially when the two Governments begin to discuss the interconnection project Garabi-Salto Grande' (MRE 2004g).

The Ambassador continued the statement saying that Brazil's National Bank for Economic and Social Development (BNDES) had already approved the financing for the Odebrecht/Siemens consortium, which was competing for the bidding of San José. He concluded by stating the expectation, by Itamaraty, that, in the analysis phase of the technical proposals, there would be no disqualification of a Brazilian company with recognised technical capacity. He stressed the 'how relevant it would be for the strengthening of bilateral economic-

trade relations and the strengthening of regional infrastructure, the victory of the Odebrecht/Siemens consortium'. Ambassador Raúl Lago expressed confidence in the competitiveness of Brazilian companies, especially Odebrecht, given their renown in such disputes (MRE 2004g).

Indeed, from the Uruguayan point of view, the project was necessary to diversify its energy matrix and also to obtain energy at low costs. Besides, New York's oil price at that time was at \$41.55, Uruguay was highly reliant on power generation through thermoelectric plants, and the country imported 100% of the total oil consumed. For all that, local authorities were apprehensive about the need to readjust electricity tariffs and fuel prices. More than a third of the electricity currently consumed in Uruguay came from Brazil (MRE 2004e).

For these reasons, on the occasion of the Battle of Las Piedras ceremony, the Brazilian Ambassador reported that President Batlle said 'Brazil is saving Uruguay'. In a diplomatic cable sent to Brasilia, the Ambassador concluded that the Brazilian decision to provide energy to the country contributed to the process of intensifying bilateral relations. But, more important than that, there was a new energy-dependence of Uruguay on Brazil. This measure has reversed the conception of the local energy matrix, causing Uruguay to replace ties with Argentina with links with Brazil, which, in the Ambassador's view, would be politically beneficial for Brazil, as it would pave the way for new promotion initiatives of business in the country (MRE 2004e).

Final remarks

The negotiations involving the concession contract between Petrobras, ANCAP and Conecta were the result of a window of opportunity seen by the Brazilian Ambassador in Montevideo. He realised that given the technical difficulties Uruguay was facing regarding the energy dependence on Argentina and the political willingness of Uruguay's President Batlle to settle agreements with Petrobras, the Brazilian company should take advantage of this scenario. Therefore, MRE initiated talks and settled Petrobras' agenda in Uruguay. In MRE's view, Petrobras' decision was perceived as a political result of negotiations between the two governments, and not as a trade negotiation. MRE's interest in the matter was to bring Uruguay closer to Brazil and to Mercosur, as 'any positive gesture in the area of infrastructure integration would be very well accepted by the public, not to mention the political actors' (MRE 2004h). Petrobras' purchase of 55% of the capital of Conecta mark the beginning of the company's activities in Uruguay, which reinforced the participation of Brazilian companies in the region. We found a direct participation of the Brazilian Ambassador in Uruguay in intermediate talks

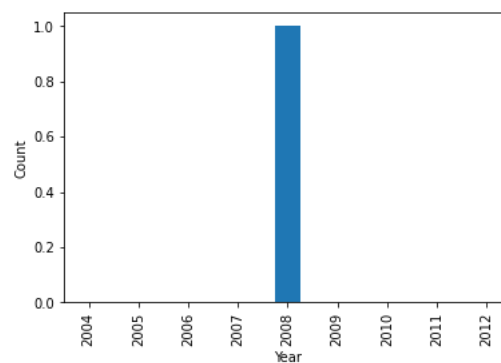
between the Uruguayan government and Odebrecht for the interconnection project 'Garabi-Salto Grande' (MRE 2004g). All in all, we can affirm that MRE settled Petrobras' agenda in Uruguay and foreign policy concerns were at stake in the negotiation process. There was no evidence of party patronage. Petrobras' board of directors did not initiate talks. Rather, Petrobras was called to action by MRE.

Chapter 8. Other contracts

1. YPF

YPF is the only case where mentions of the company in Brazilian diplomatic cables were much higher than commercial mentions in Petrobras' financial reports. In fact, the only mention of YPF found in Petrobras' reports referred to a 2008 concession contract between Petrobras, BG Group, and YPF in the pre-salt area of the Santos Basin. The deposit was located in the BM-S-9 block, which back then was operated by Petrobras (45%), BG Group (30%), and Repsol YPF (25%) (PETROBRAS 2008). However, we found no diplomatic cable related to the same subject, which shows little political or diplomatic concern on this matter. So, what explains such difference in the number of mentions?

Figure 1. YPF's mentions in Petrobras' reports

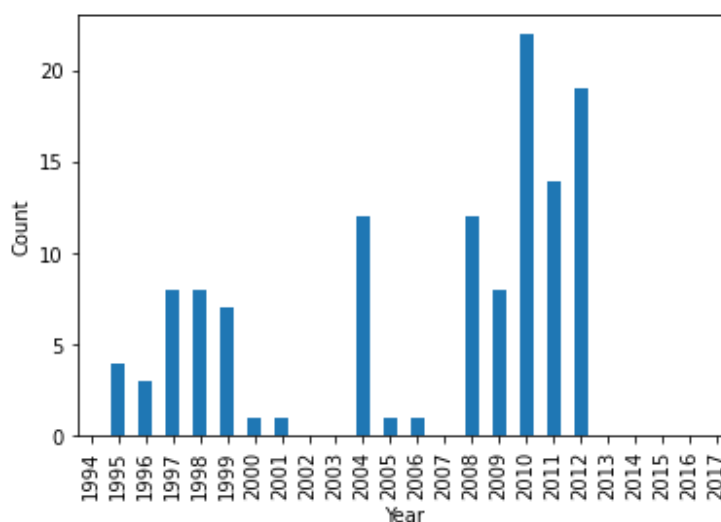


Source: the author. Data: Petrobras (2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012)

It is essential to highlight that YPF did show a lot in diplomatic cables but not related to the pre-salt area block previously mentioned. Most diplomatic concern about YPF was divided into two main topics. First, between 1995 and 2000, Petrobras and YPF worked on an energy integration project related to a gas duct to supply the Brazilian market with 2.5 million cubic meters per day. Second, between 2008 and 2012, Petrobras, YPF, Shell, and Esso were facing charges in Argentina because Argentina's National Commission for the Defence of Competition (CNDC) was investigating these companies for "abuse of position dominant in the fuel market." According to Argentina's Minister of Planning and Federal Public Investment, Julio de Vido, there would be a distortion of up to 30% in diesel oil prices, representing around 3.5 billion pesos. Back then, MRE was monitoring Petrobras's legal

situation in Argentina. We found no direct involvement of MRE in mediating or settling official meetings to assist Petrobras (MRE 2008b; MRE 2012). MRE's role was to report any legal resolutions to Brasilia simply. As the legal process lasted for over a year, with many judicial advancements, the mentions of YPF raised between 2008 and 2012, as the graph below illustrates.

Figure 2. YPF's mentions in diplomatic cables



Source: the author. Data: Brazil's Ministry of Foreign Affairs

In the 1990s, however, the relationship between Petrobras-YPF sparked Brazilian diplomatic actions. MRE considered strategic Petrobras' project of participating in prospecting projects in the Southern and Northwest regions of Argentina and operating in the Argentina gas market (MRE 1995a; MRE 1995c; MRE 1999). As a result, Petrobras' Director Paulo Roberto Costa, as well as directors of Petrobras' Gaspetro and the Assistant to the Petrobras' CEO, attended official meetings at the Brazilian Embassy in Buenos Aires. According to Paulo Roberto Costa, Petrobras was planning to extend the gas pipeline from Uruguaiana to Porto Alegre, allowing its connection with the Brazil-Bolivia gas pipeline and completing the Bolivia-Brazil-Argentina ring. After the meeting, MRE asked Petrobras for the list of Brazilian manufacturers of products of interest to YPF (MRE 1995c).

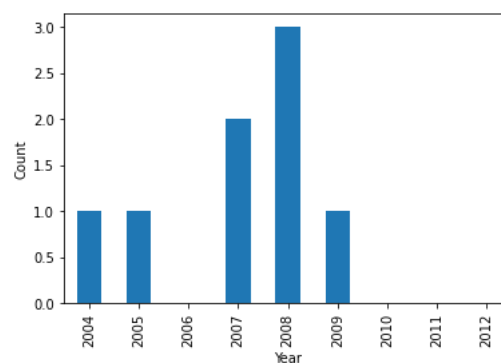
The Brazilian Ambassador in Buenos Aires asked Petrobras' CEO to come to Buenos Aires to attend an official meeting at the YPF's office. The Brazilian Ambassador writes: "The time has come to schedule a new visit by the President of Petrobras, Dr. Joel Renno, to Buenos Aires to resume the vital contacts between the Brazilian State and YPF, as well as other Argentine companies in the oil sector." In the same diplomatic cable, he argues that the President of YPF,

Jose Estenssoro, identified Petrobras' CEO as a dear colleague and that it would be wise to take advance of the goodwill to advance in the talks regarding "our strategic interests in the areas of production, refining, and marketing of hydrocarburets" (MRE 1995b). As a result, on April 9, 1996, Petrobras and YPF signed a concession agreement related to downstream areas, which could reach US\$ 1 billion in investments. Petrobras' goal was to control 6% of the Argentine market within five years by opening 1,500 fuel stations in Argentina. Based on the Brazilian Ambassador's diplomatic message, MRE was interested in fostering Brazilian investments in Argentina and keeping the Brazilian industry's participation in all the commercial sectors of the Argentine economy (MRE 1997; MRE 1998). However, given the time period, this 1996 concession contract between Petrobras and YPF is not part of our sample, as we do not count on Petrobras' financial reports for the same years. Therefore, regarding the specific contract mention in the 2008 Petrobras' report related to the concession contract between Petrobras, BG Group, and YPF in the pre-salt area of the Santos Basin, we found no MRE or political party's agenda settling.

2. Shell

In April 2005, Petrobras purchased Shell's assets in Colombia, Uruguay, and Paraguay explain the mentions in Petrobras' financial reports. The total purchase accounted for US\$ 140 million and allowed Petrobras to control 39 gas stations in Colombia, a lubricants plant in Bogotá, and a terminal in Santa Marta. In Paraguay, Petrobras became the leader in the distribution sector (20% of the market). The operation covered fuel distribution stations throughout Paraguay, gas storage tanks, and installations for the sale of aviation products at the airports of Asuncion and Ciudad del Este.

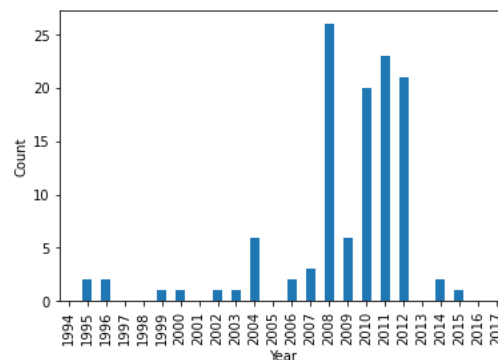
Figure 3. Shell's mentions in Petrobras' reports



Source: the author. Data: Petrobras (2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012)

When asked by the press about the plans of the Paraguayan branch regarding biofuels, Petrobras' General Manager in Paraguay, Erio Mathias, answered that biofuels could be used in Paraguay without any details. In 2007, using Brazilian biofuels in the country was just a future possibility, which probably explains the lack of diplomatic interest in Petrobras' acquisition. On this note, commercial interest was not part of an ongoing foreign policy goal. Instead, most of Shell's mentions in Brazilian diplomatic cables were related to reporting the purchase itself (MRE 2007; MRE 2008c; MRE 2010a) or a tax conflict between the Argentine government and the Shell company, which led the international company to challenge some tax resolutions in court (MRE 2010b).

Figure 4. Shell's mentions in diplomatic cables



Source: the author. Data: Brazil's Ministry of Foreign Affairs

Brazilian diplomats reported this conflict without direct interference by Brazilian diplomats (MRE 2008f; MRE 2011b). Furthermore, there were no official meetings in the Brazilian embassy, and Brazilian diplomats did not mediate the conflict. Therefore, the contract referring to the purchase of Shell's assets did not represent a Brazilian diplomatic interest. For this reason, we argue the purchase contract with Shell as being of purely commercial interest to Petrobras, as we summarised in the table. In this regard, Petrobras' board of directors settled Petrobras' agenda guided by profit interest.

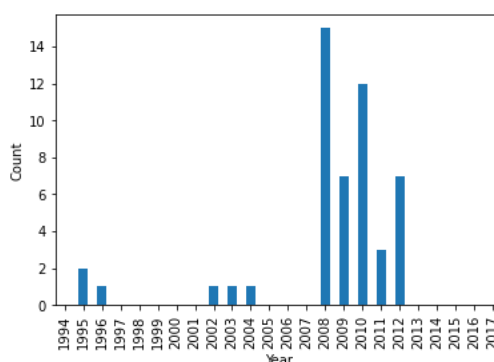
Besides Petrobras' acquisition, in the 2009 financial report, the company reported developments in the FPSO Espírito Santo, which was operated by Shell (50%) in partnership with Petrobras (35%) and ONGC (15%), started producing in Parque das Conchas (former BC-10) in the northern region of the Campos Basin. Furthermore, a consortium formed by Petrobras (66%), Shell (20%), and Galp Energia (14%) "proved the presence of oil in pre-salt

reservoirs in Block BMS-8 (Bem-te-Vi), in ultra-deep waters in the Santos Basin. Therefore, Espirito Santo is expected to start production, with a capacity of 100 thousand bpd of oil and 1.4 million m³/d of natural gas, operated by Shell, with Petrobras share of 35%" (PETROBRAS 2008; PETROBRAS 2009). However, we found no diplomatic cable reporting Block BMS-8's of international contracts signed with Shell concerning this reservoir. Therefore, once again, we found no foreign policy goal at stake regarding Shell-Petrobras international contracts.

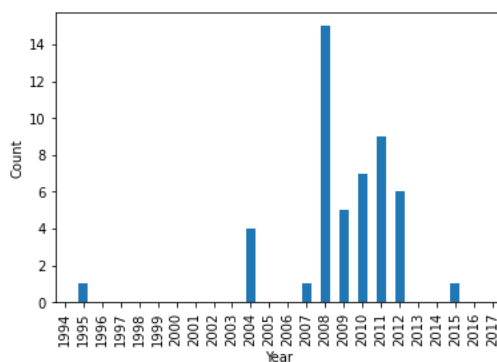
3. *Exxon and Esso*

The contracts involving these two companies will be analysed together because they both represented a purchase of Petrobras assets in operating contracts in Chile. In addition to acquiring the Esso distribution network in Chile, Petrobras invested in constructing cargo pipelines. They are discharged to the ocean to facilitate the distribution of fuels from tankers (MRE 2010c). When it comes to Exxon's assets in Chile, Petrobras' acquisition included 230 service stations (13% of the local market) as well as terminals distribution and sale of fuel at 11 airports and shareholdings in the National Society of Oil Pipelines (22%) and Sociedade de Investimentos de Aviação (33%) (MRE 2008h; MRE 2011a).

Figure 5. Esso's mentions in cables

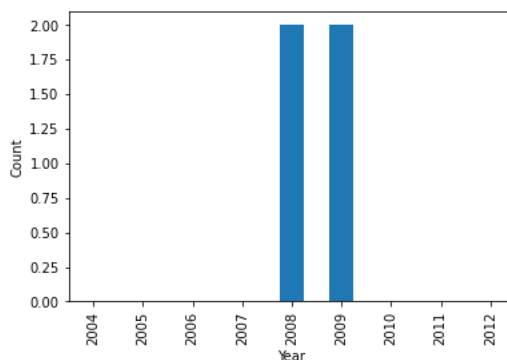


Source: the author. Data: Brazil's Ministry of Foreign Affairs

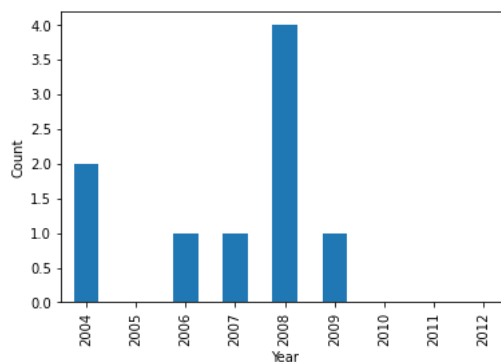
Figure 6. Exxon's mentions in cables

Source: the author. Data: Brazil's Ministry of Foreign Affairs

Both companies saw increased mentions in diplomatic cables between 2008 and 2012 due to asset acquisitions. There was diplomatic interest in purchasing Exxon's assets in Chile because it represented a market gain for Brazilian biofuels in the region by controlling the stations and the Chilean distribution network (MRE 2008d). On 5 August 2009, Petrobras' directors announced a plan to start trading ethanol with Chile in cooperation with the state-owned ENAP. The host of the inauguration ceremony was the President of the Republic and the Brazilian Ambassador in Chile as well as the heads of the Embassy's Cultural Sector and SECOM, José Fernando de Freitas, Manager-Petrobras Executive for the Southern Cone, and Mr. Wilson Reichenback, General Manager of the company in Chile, and had the presence of, among other authorities, the Minister of Mines and Energy, Mr. Santiago Gonzalez, and the president of the state-owned Chilean oil company, ENAP, Mr. Rodrigo Azocar. They discussed strategic diplomatic and commercial plans involving Petrobras in Chile, involving (a) increasing market share distribution from 16% to 20% in the medium term; and (b) contributing to the diversification of the energy matrix of this country, introducing biofuels and increasing use of vehicle gas (LNG) by 2010 ", or even before the end of the current year" (MRE 2009b). Despite MRE's foreign policy interest in Petrobras' contracts in Chile, MRE did not initiate talks. Instead, the Brazilian diplomatic service took advantage of Petrobras' ongoing negotiations to extract political gains.

Figure 7. Esso's mentions in Petrobras' reports

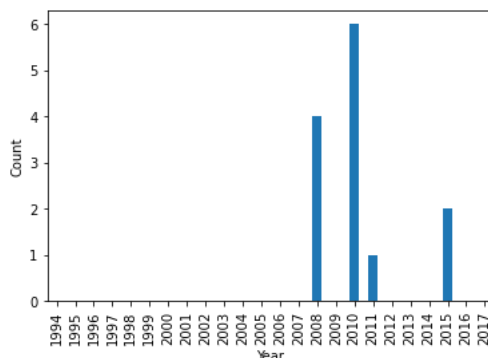
Source: the author. Data: Petrobras (2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012)

Figure 8. Exxon's mentions in Petrobras'

Source: the author. Data: Petrobras (2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012)

4. CNPC

Between 2008 and 2010, there was diplomatic interest in establishing new partnerships, especially involving Petrobras and CNPC. This interest stemmed from the CNPC's objective of operating in the biofuels market in South America and creating a joint venture with a Petrobras partner (not directly with Petrobras, which is why it does not enter the table of signed contracts). In December 2009, Petrobras also signed a Memorandum of Understanding with Petrochina International, a subsidiary of the CNPC, which foresees a feasibility study for the production, logistics, and commercialisation of bioethanol. It was, therefore, of strategic interest for Brazilian foreign policy to be able to count on Chinese support for the biofuel sector, as the contract included projects construction of ethanol production plants in Brazil to be exported and marketing in China" (MRE 2010d).

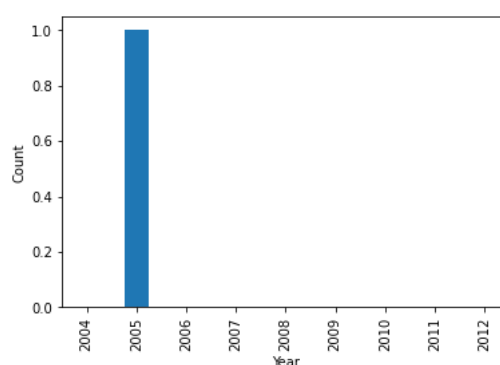
Figure 9. CNPC's mentions in diplomatic cables

Source: the author. Data: Brazil's Ministry of Foreign Affairs

The parenthood between Petrobras and CNPC regarding biofuels projects counted on the direct participation of the Brazilian Ambassador in China, who invited China to join the Brazilian effort to promote bioenergy in Africa. This trilateral cooperation would increase export opportunities for Brazilian products, services, and technology. In addition, the MRE believed that promoting Brazilian biofuels in Africa would benefit China as a way to guarantee a clean and sustainable energy supply. CNPC's representative said to the Brazilian Ambassador that CNPC intended to open an office in Brazil to foster investment opportunities in the oil and renewable energy sectors. However, the Brazilian Ambassador reported to MRE that there was still resistance from the Chinese government regarding triangular cooperation in Biofuel production in African and Asian countries. But the Brazilian Ambassador believed Petrobras could work to overcome with a well-targeted information effort science on the topic, which was his suggestion to the company. He advocated that the positive attitude of Chinese companies such as CNPC on biofuels could also be subject to more specific measures by Petrobras (MRE 2010d). MRE had information that Petrobras and CNPC had discussed possible joint exploration and production of oil in third parties countries. Also active in the chemical sector, Petrochina plans internally to expand operations in biofuels, especially in the production of ethanol in China (MRE 2008i). Despite all the diplomatic interest in the potential joint projects between Petrobras and CNPC, no international contract was successfully signed in the end. As we are analysing Petrobras' international contracts that the Brazilian company effectively signed, we did not take into account the diplomatic interest in the potential projects for the purposes on this thesis.

As of 2011, political efforts toward the biofuels sector cooled down, and diplomatic interest ceased. From then on, mentions of CNPC were concentrated in Petrobras' financial reports, but specifically dealing with the contract for the sale of Petrobras assets in Peru to the Chinese state-owned company CNPC, which already occurred in a phase of the divestment program of Petrobras. In this case, the sale of assets was part of this new strategy to withdraw the company, with no diplomatic or political interests in dispute being observed. On the contrary, the concession contract in question was among the least mentioned and reported in the entire sample. This was the only real international contract signed between the two companies for the period deemed, which is why we considered it as being motivated by commercial interest alone.

Figure 10. CNPC's mentions in Petrobras' reports



Source: the author. Data: Brazil's Ministry of Foreign Affairs

Chapter 9. Concluding remarks

This thesis analysis Petrobras' agenda setting for international contracts. After the Petrobras corruption scandal, we believe it is crucial to deeply analyse the company's decision-making process and bring all the information available to the public. Even though the TCU, Brazil's Chamber of Deputies, Brazil's Federal Police, as well as the Car-Wash Operation, have contributed to open access to Petrobras' decision-making process, there has been no

systematic analysis of who sets Petrobras' agenda for international contract and the role of Brazilian foreign policy in the matter. Despite being a NOC, Petrobras' international contracts are not all the same and, as a result, we argue the same decision-makers do not drive them.

We divided the hypotheses into three main explanations directly connected to the major decision-makers we believed were participating in the negotiations: MRE, political parties, and Petrobras' board of directors. Following empirical results based on quantitative text- analysis, we conducted content analysis on the major international contracts. We collected all Brazilian diplomatic cables and Petrobras financial reports for the period deemed. We crossed the information with diplomatic cables of US Department of State, TCU, Brazil's Chamber of Deputies, and Brazil's Operation Car Wash on corrupt decisions taken by Petrobras' former directors. We also collected diplomatic cables in London, Paris, and Montevideo. We described the initiators of Petrobras' international agenda-setting process. We classified them by contract subject, companies in the negotiation, type of contract, place of investment, and the initiator (MRE, political party and Petrobras' board of directors.)

We argue that the initiators of Petrobras' international contracts depend on the type of contract and the place of investment. We summarised our main results in the table below. We offer some exciting findings which we believe are instrumental to further analysis. We find party patronage interest in all the joint-ventures contracts deemed, all related to international contracts that initially would count on PDVSA's partnership for projects in Brazil.

Table 1. Table of results. Who initiated Petrobras' international negotiations?

Contract Subject	Companies in the negotiation	Type of contract	Place of investment	MRE (H1)	Political party (H2)	Petrobras' board of directors (H3)
Construction of Abreu e Lima refinery	PDVSA	Joint-venture*	Brazil		X	X
Acquisition of Ipiranga	PDVSA	Joint-venture*	Brazil		X	X
Renegotiation with YPFB	YPFB and PDVSA	Concession	Bolivia			X
Acquisition of assets	Shell	Concession	Colombia, Uruguay, and Paraguay			X
Acquisition of assets	Conecta/ANCAP	Concession	Uruguay	X		
Partnership with YPF	YPF	Concession	Argentina			X
Acquisition of assets	Exxon/Esso	Concession	Chile			X
Sale	CNPC	Concession	Peru			X

*In both cases, negotiations between Petrobras and PDVSA started as joint-venture negotiations but changed when PDVSA withdrew from both contracts.

Source: The author. Data: (PETROBRAS 2004; PETROBRAS 2005a; PETROBRAS 2006; PETROBRAS 2007; PETROBRAS 2008; PETROBRAS 2009; PETROBRAS 2010; PETROBRAS 2011; PETROBRAS 2012)

Overall, joint-ventures in Brazil offered the most crucial opportunities for bribes, which called political parties' attention. Because the Petrobras scandal also involved the cartel of Brazilian companies in construction contracts with Petrobras, we argue that bribery opportunities were easier for international contracts that took place in Brazil, which explain political parties' interest in the Abreu and Lima refinery. In the case of the Ipiranga purchase, Petrobras' board of directors was interested in the overpricing of the purchase to get bribe money for themselves and give campaign contributions to political parties (Palocci 2017). Dilma Rousseff was reported to be against the acquisition precisely because 'at the time (she) was not yet involved in the campaign' (Cerveró 2016b). Furthermore, as a rule, oil companies do not seek JVs because the financial efficiency is affected by different cultures (Gomes 2009)

and the difficulty in knowing each other's goals (Radon 2013), which was precisely what happened between Petrobras and PDVSA.

On the other hand, concession contracts were settled by Petrobras' board of directors and we found no evidence of political parties' interference in the negotiation process. However, the acquisition of assets in Uruguay, which started by the potential acquisition of ANCAP and resulted in the acquisition of Conecta SA, was the only case where we can affirm that MRE called the shots. Petrobras' potential investments were seen as crucial to bringing Uruguay closer to MERCOSUR in a context of energy crisis. In other words, the Brazilian Ambassador in Montevideo initiated talks and raised Petrobras' interest in the country. Therefore, the Petrobras-ANCAP contract is the only case where Petrobras was used as a Brazilian foreign policy tool.

In the cases where MRE did not settle the agenda but got involved in the negotiation during the process, we find that MRE was interested in promoting Brazilian biofuels in some of the contracts, such as in Chile, and mediating the conflicted relationship between Petrobras and PDVSA. In most cases (Abreu and Lima, Ipiranga, and Bolivia), mediating market disputes between Petrobras and PDVSA explained MRE's interest in Petrobras' international contracts. In these cases, MRE served as mediator between Petrobras and the Venezuelan government. MRE assisted Brazil's Presidency of the Republic in getting both contracts successfully signed, and the Petrobras-PDVSA relationship was seen as a threat. Therefore, most of the diplomatic cables that mentioned Petrobras dealt with contract negotiations with Venezuela's PDVSA, whether in the case of the Abreu and Lima refinery, the Ipiranga purchase, or Bolivia's YPF. Mediating such matters aligns with some of MRE's core competencies, such as in Art. 1, I, IV, and Art. 40, I (Presidência da República). Furthermore, it is essential to highlight that the literature on international oil contracts argues that conflicts of interest between the host State and the foreign State/company are not uncommon and may result in more extended negotiations (Radon 2013).

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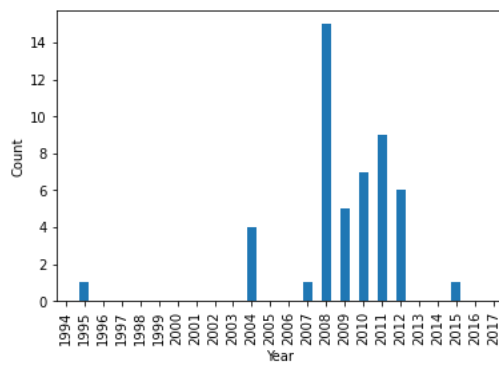
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Appendices

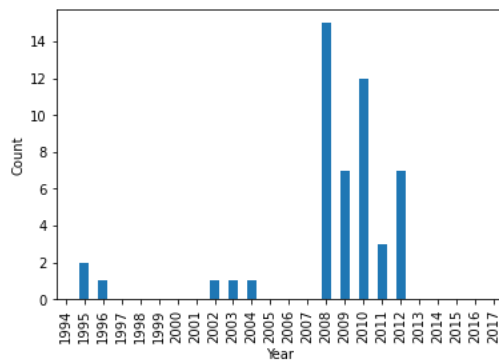
1. Quantitative-text analysis data

1.1. Frequency of Keyword mentions in Diplomatic Cables (1994-2017)

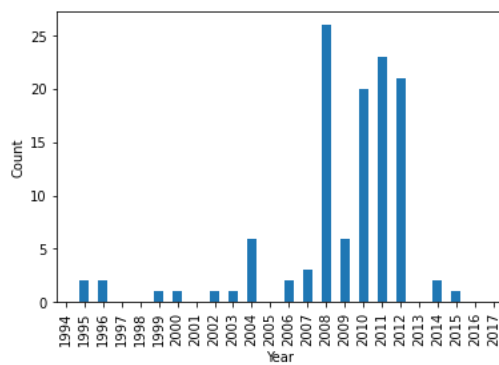
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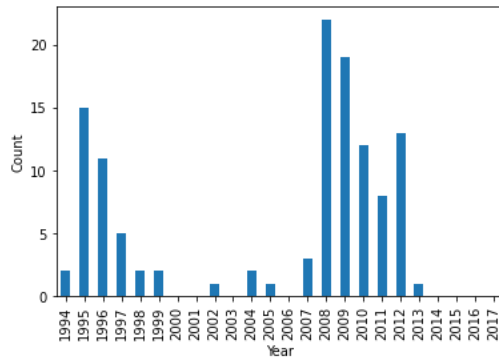
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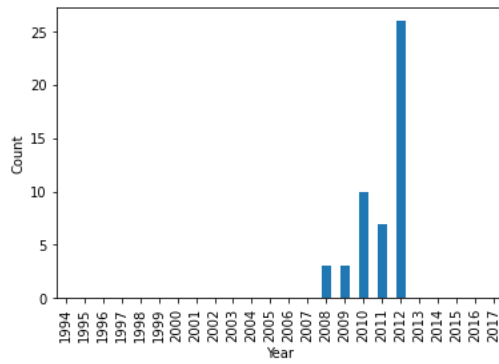
c) Shell



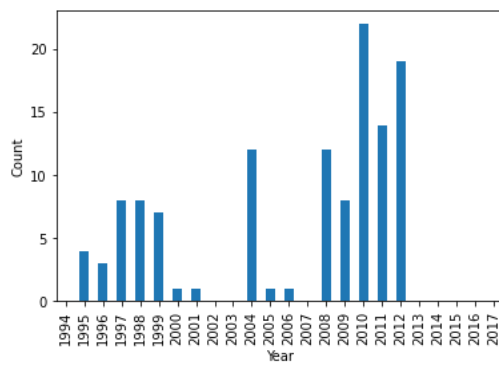
d) PDVSA



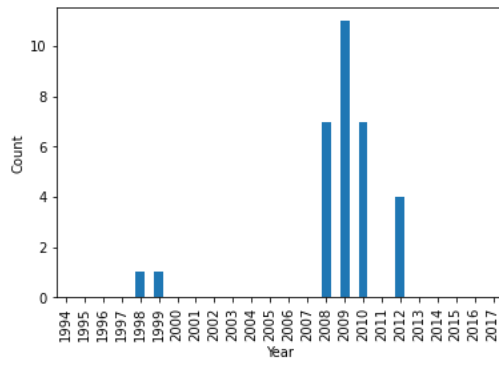
e) YPFB



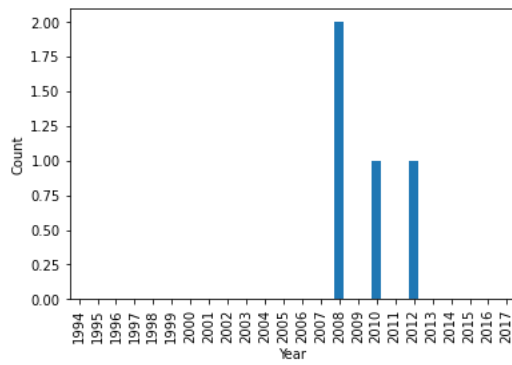
f) YPF



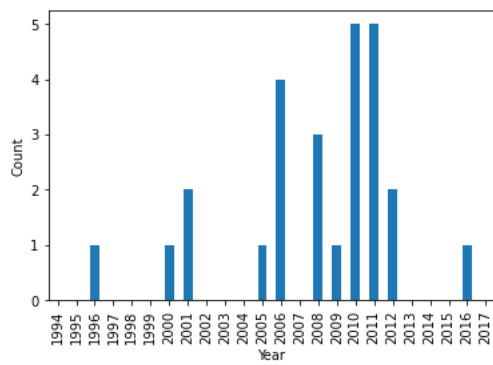
g) ANCAP



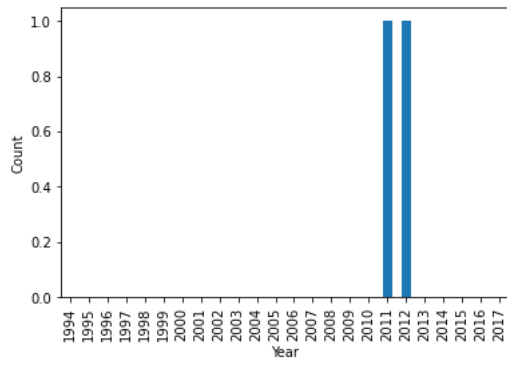
h) Conecta SA



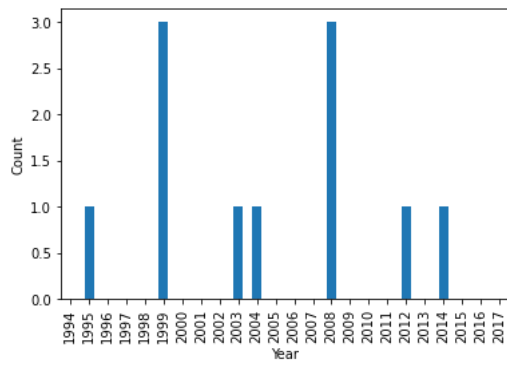
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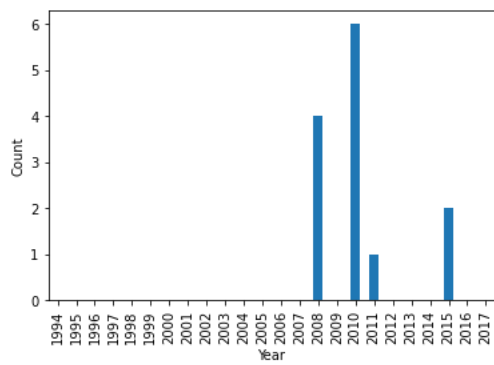
j) Abreu and Lima refinery



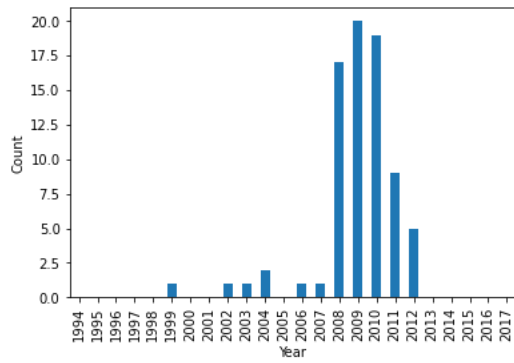
k) Ipiranga



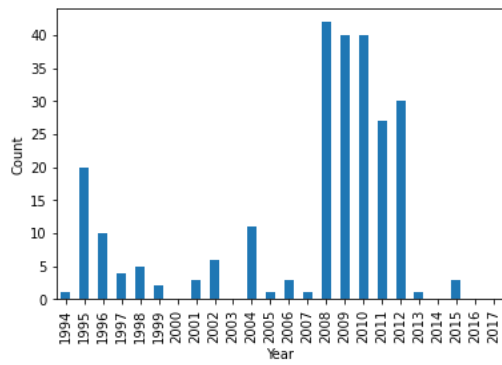
l) CNPC



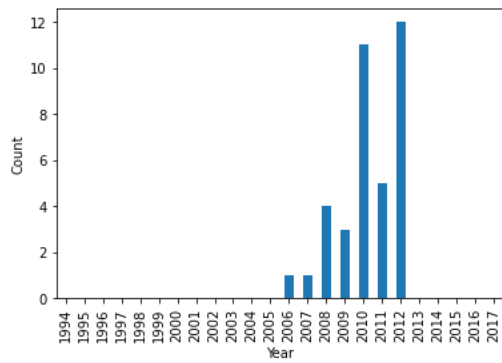
m) Chávez



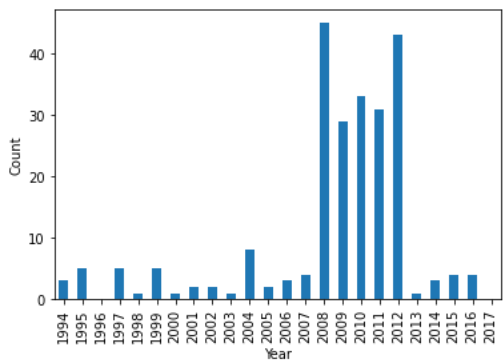
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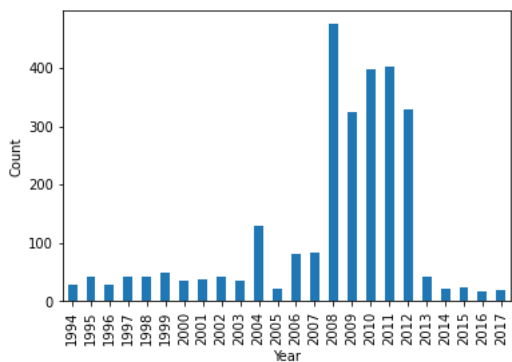
o) Evo Morales



p) Natural gas

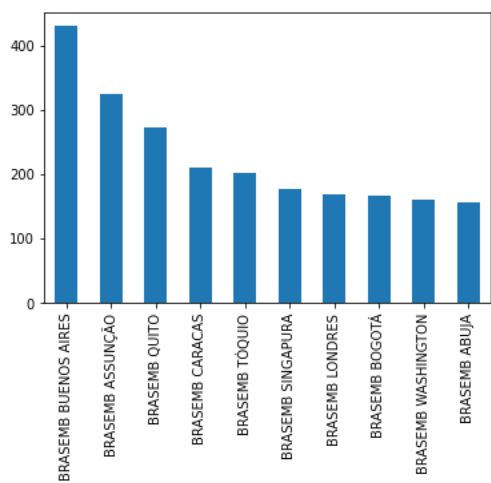


q) Petrobras

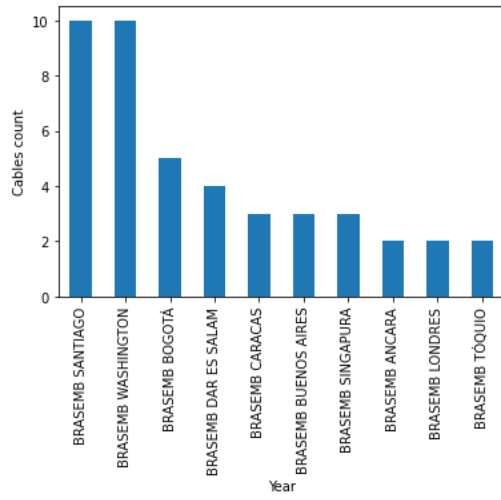


1.1.1. Top 10 Brazil’s Embassies that mentioned the keyword

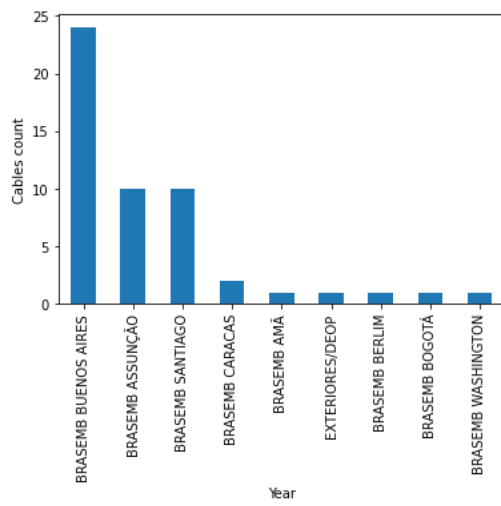
a) All the mentions to all companies



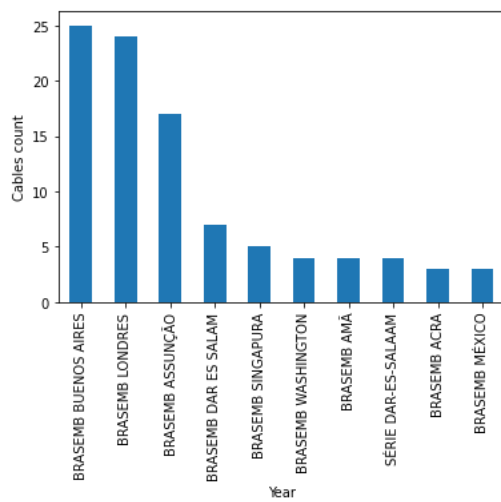
b) Exxon



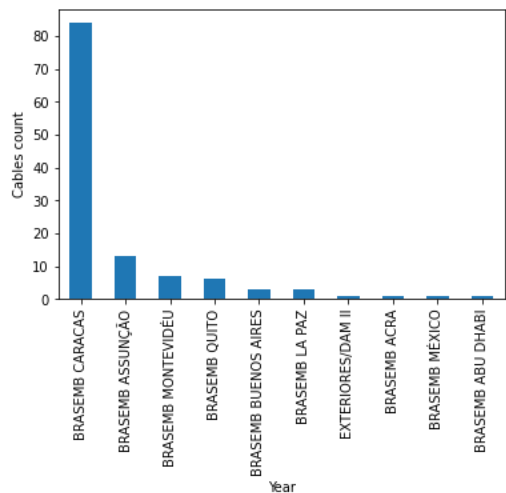
c) Esso



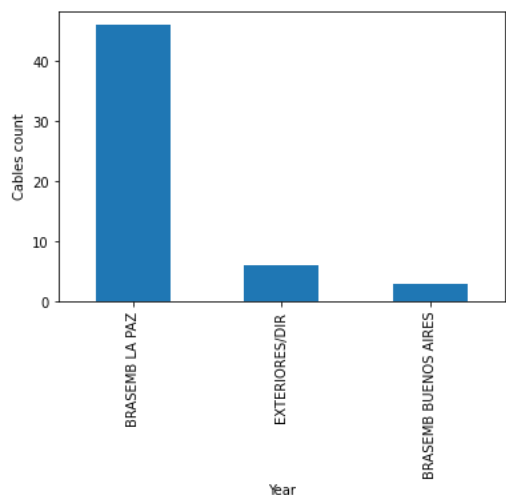
d) Shell



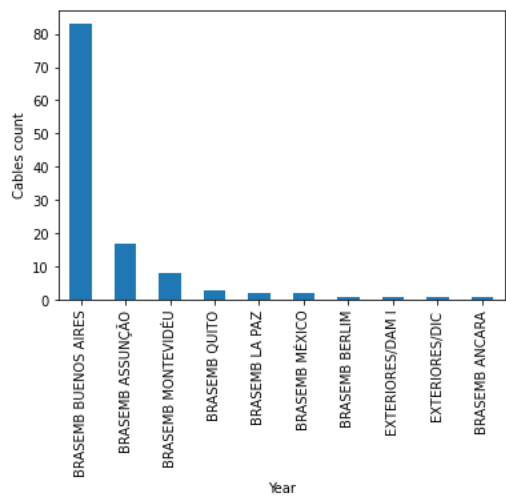
e) PDVSA



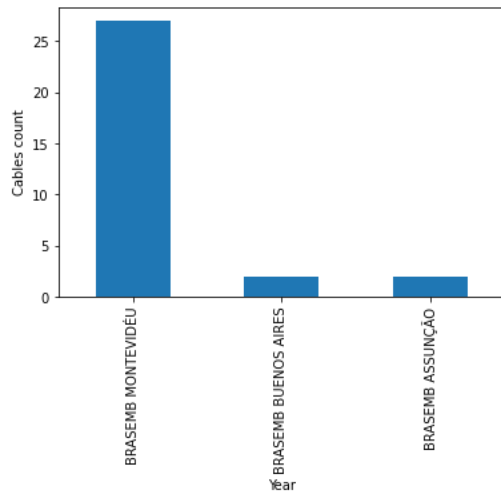
f) YPFB



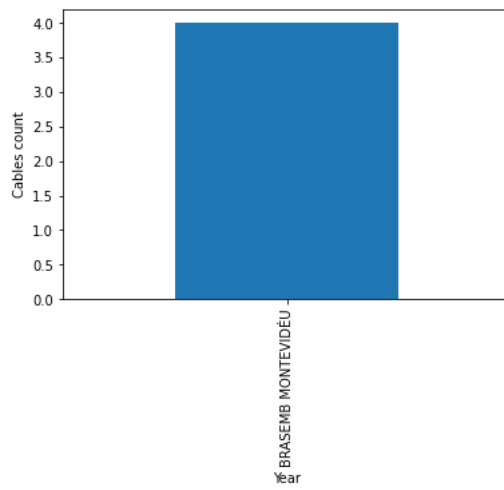
g) YPF



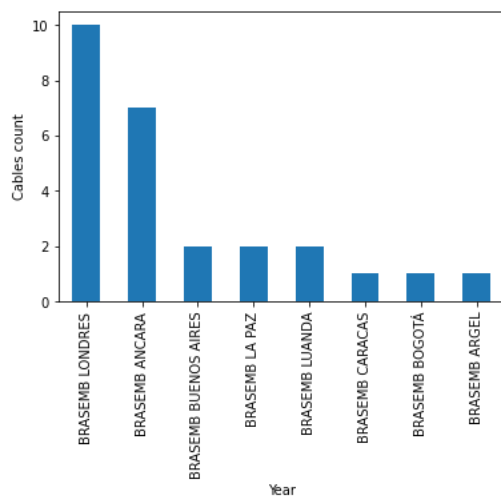
h) ANCAP



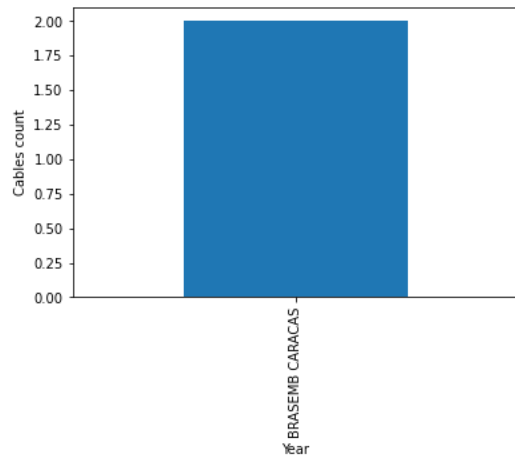
i) Conecta SA



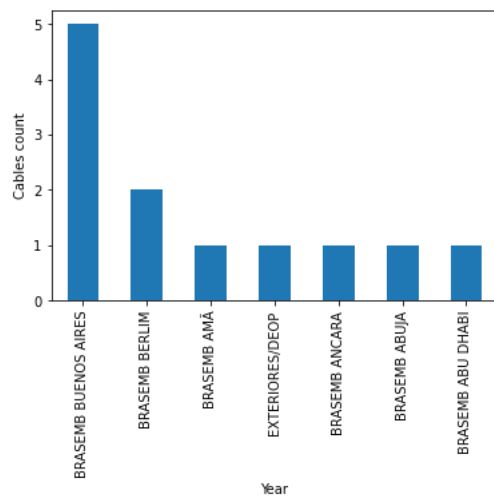
j) BP



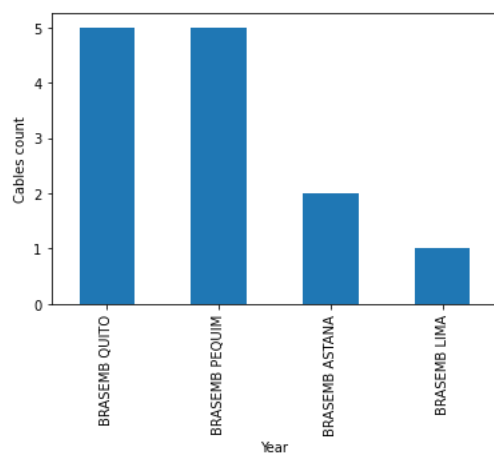
k) Abreu and Lima Refinery



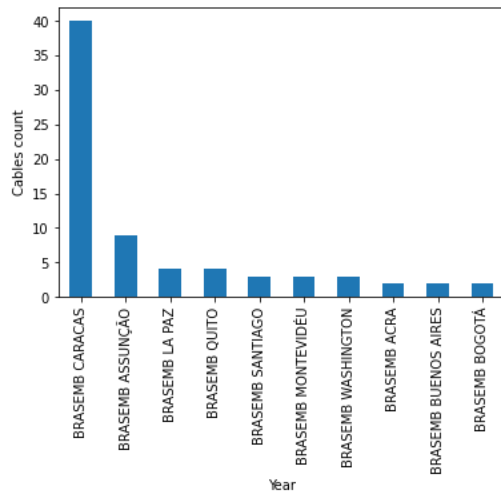
l) Ipiranga



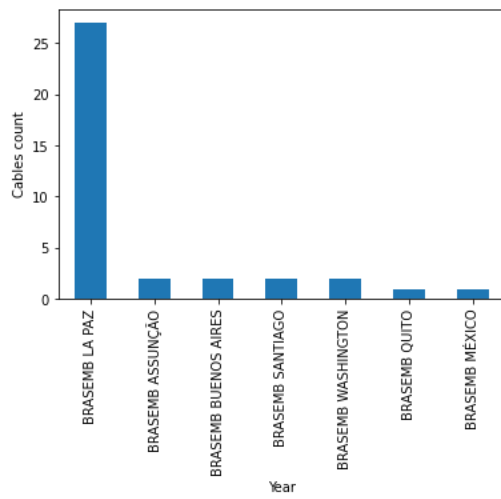
m) CNPC



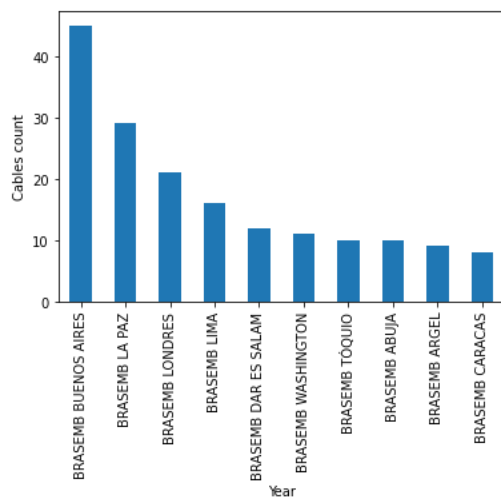
n) Chávez



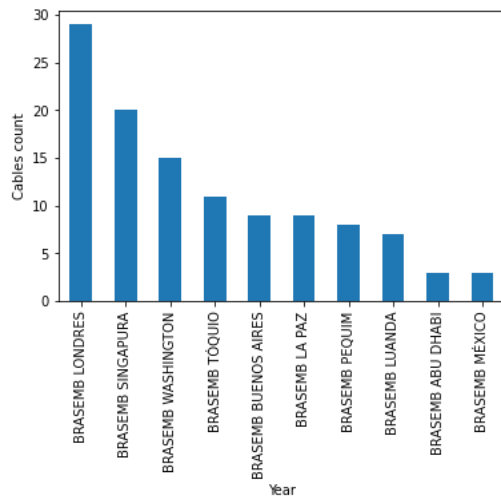
o) Evo Morales



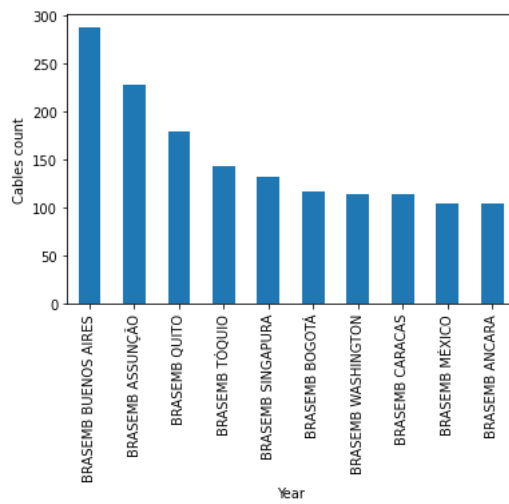
p) Natural gas



q) Pre-salt

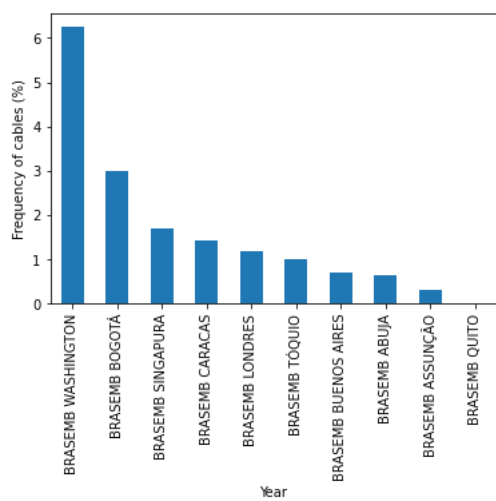


r) Petrobras

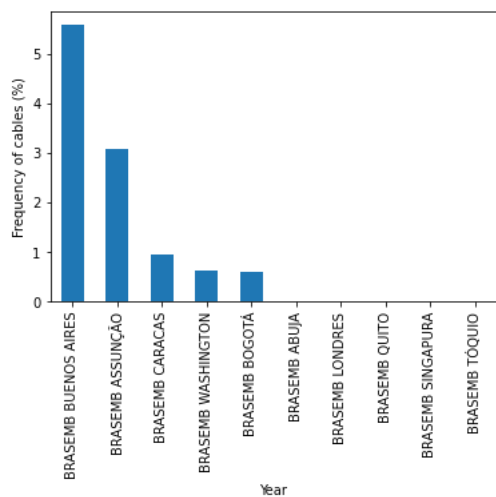


1.1.2. Representative mentions of the keyword in relation to the total number of cables

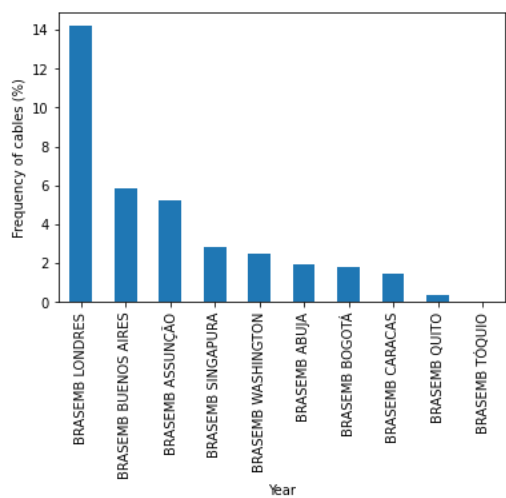
a) Exxon



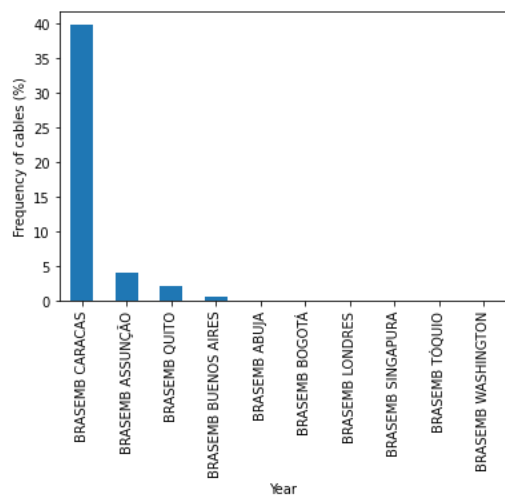
b) Esso



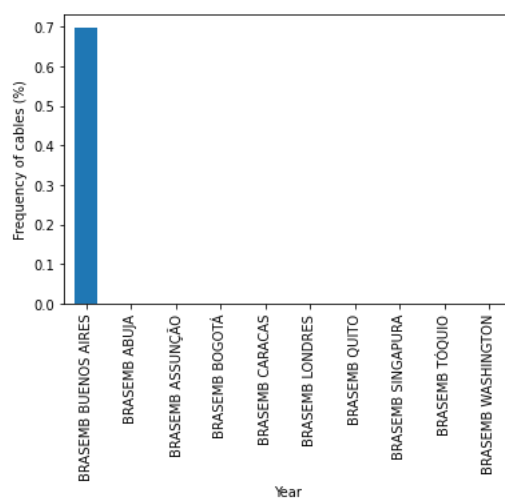
c) Shell



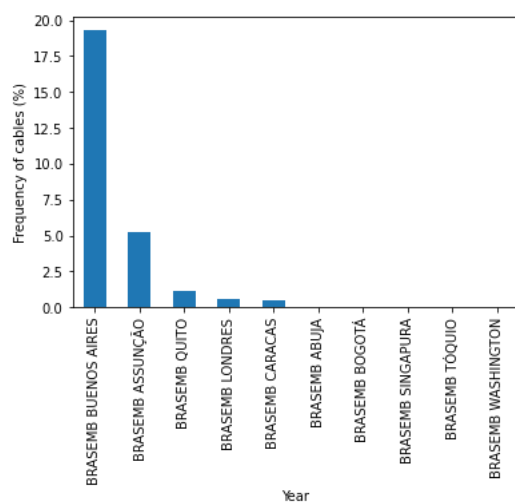
d) PDVSA



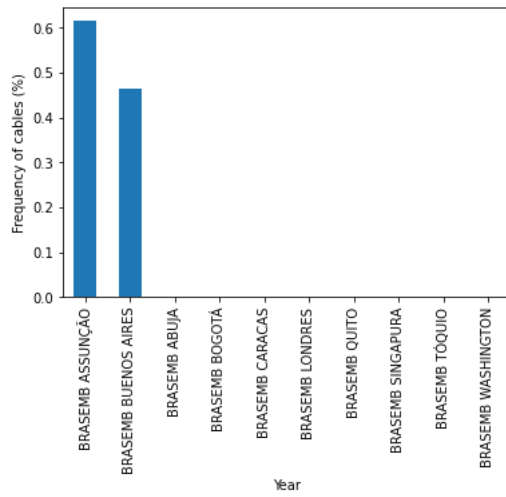
e) YPFB



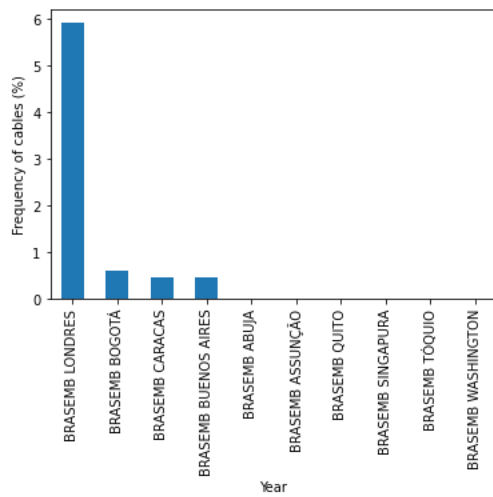
f) YPF



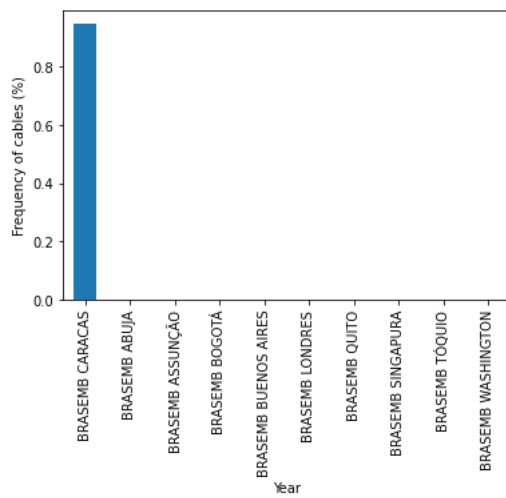
g) ANCAP



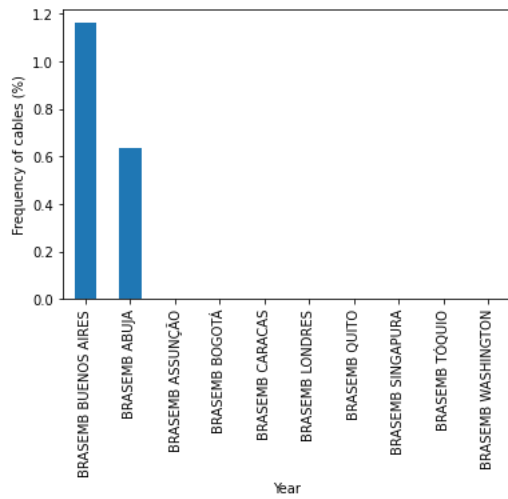
h) BP



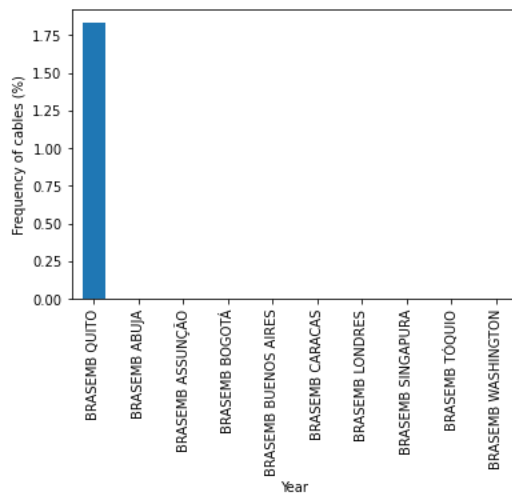
i) Abreu and Lima refinery



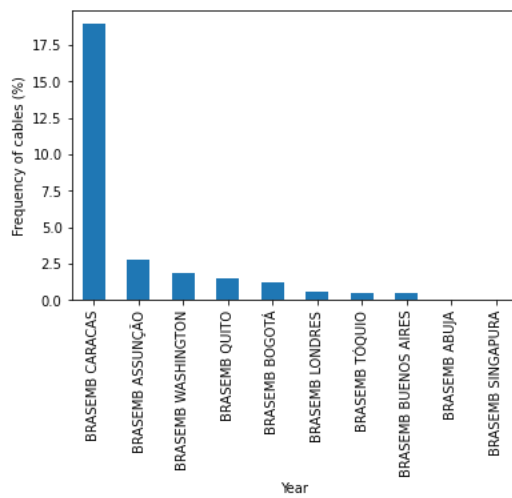
j) Ipiranga



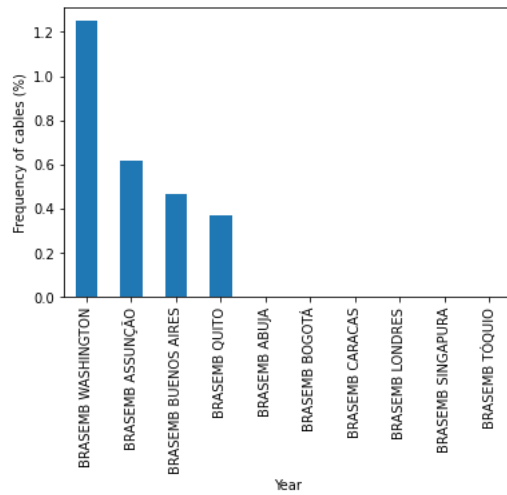
k) CNPC



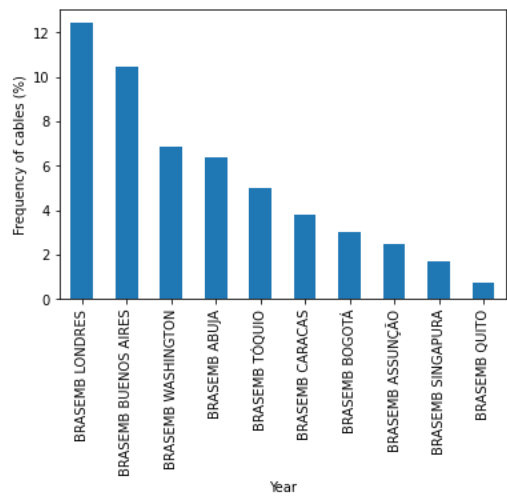
l) Chávez



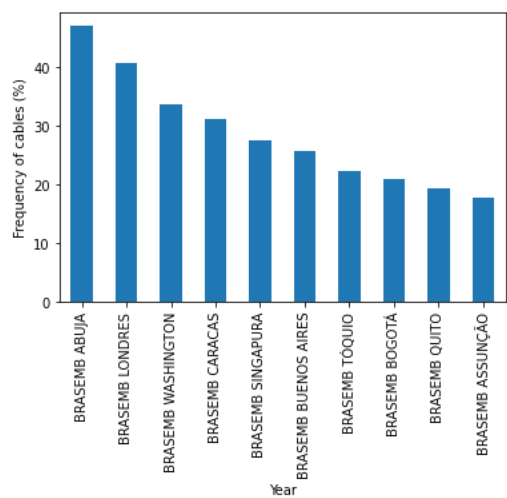
m) Evo Morales



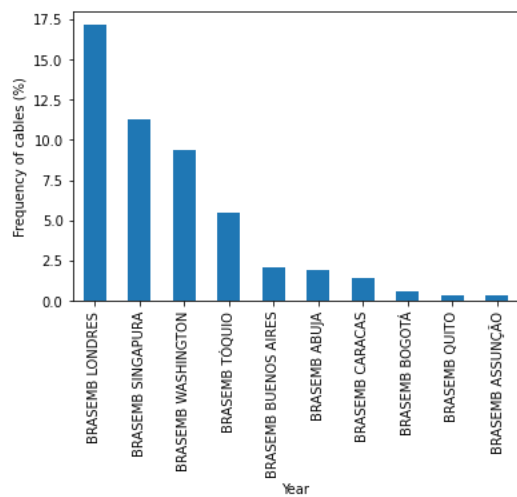
n) Natural gas



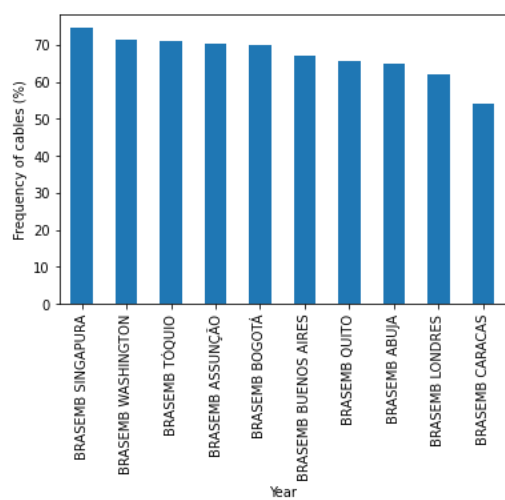
o) Petroleo/Oil



p) Pre-salt

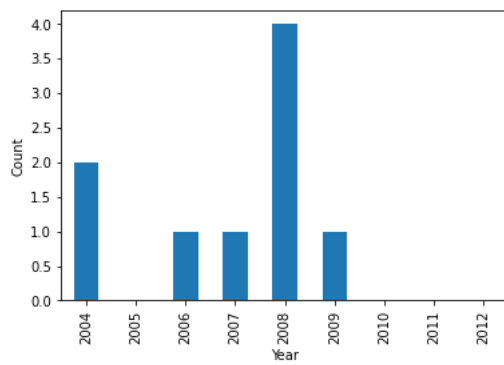


q) Petrobras

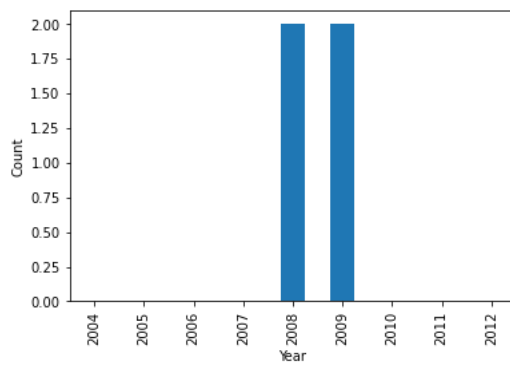


1.2. Frequency of Keyword (companies) mentions in Petrobras' reports (2004-2012)

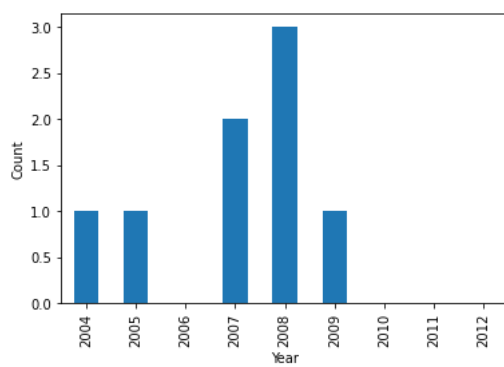
a) Exxon



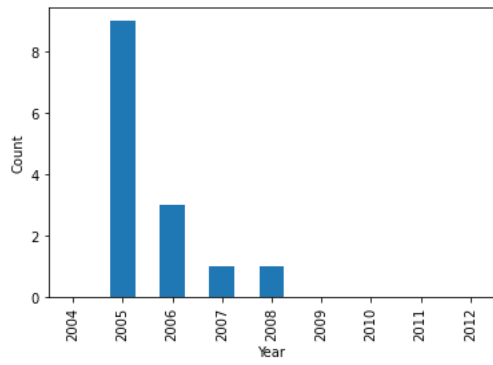
b) Esso



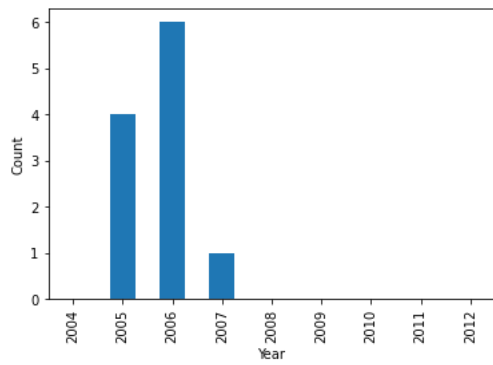
c) Shell



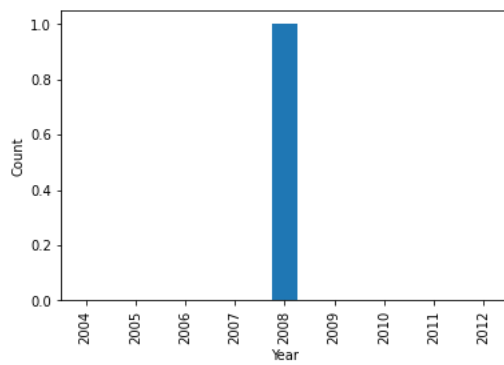
d) PDVSA



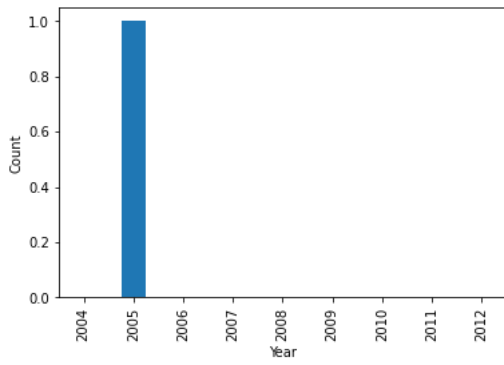
e) YPFB



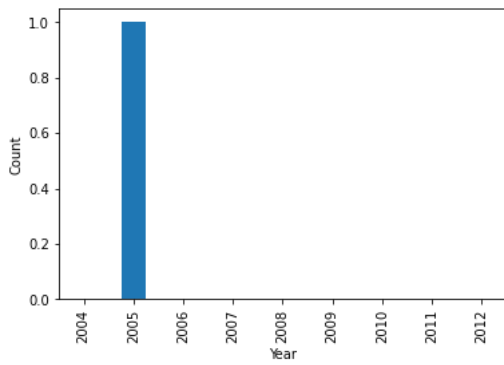
f) YPF



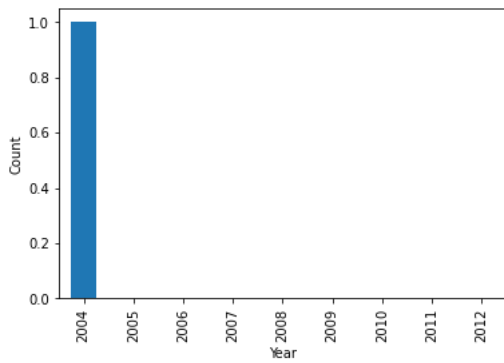
g) Conecta SA



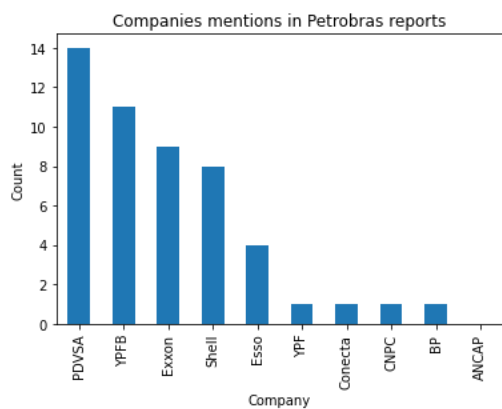
h) CNPC



i) BP

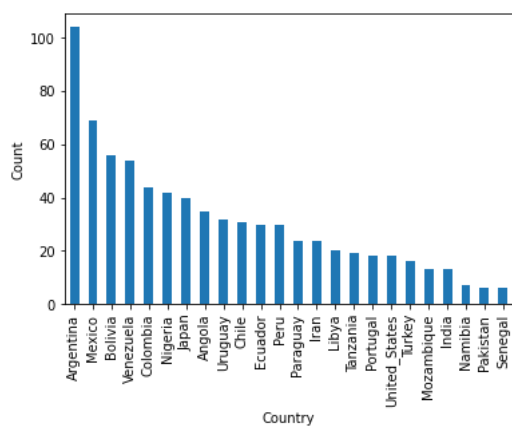


j) All companies

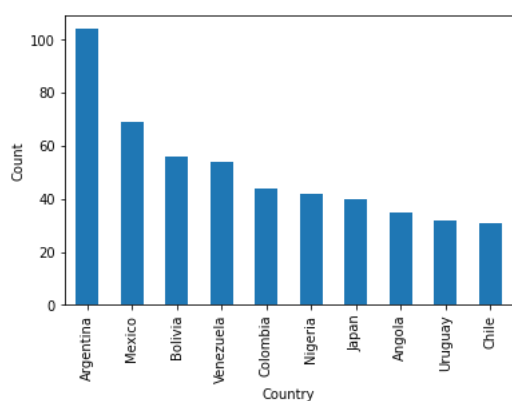


1.2.1. Frequency of Keyword (countries) mentions in Petrobras' reports (2004-2012)

a) All countries



b) Top 10 countries



2. Diplomatic cables collected at the National Archives, London, UK

Folder number	From	To	Date	Subject
FCO 96/653 File N. 160/308/1	UK's Embassy in Brazil	The Foreign and Commonwealth Office (FCO)	November 22, 1977	Energy matters in Brazil/ offshore oil exploration
MELI 60/308/1	The Foreign and Commonwealth Office (FCO)	UK's Embassy in Brazil	February 9, 1977	Record of a meeting held at the Foreign and Commonwealth Office at 1100 on February 9, 1977, between the Minister of State and the Brazilian Ambassador
T541/156		Restricted	1990	UK Government relationship with oil companies abroad
Confidential (w/o)	Miss E A Clarke – Assistant Private Secretary		June 20, 1990	Chancellor's meetings with the Chairman of BP and the President of Exxon. The Chancellor and Sir Peter Middleton are meeting Mr Robert Horton (BP) and Lee Raymond (Exxon)
Confidential (w/o)	The Foreign and Commonwealth Office (FCO)	The Chancellor and Sir Peter Middleton	July 27, 1990	Briefing for Sir Peter Middleton lunch with John Collins, Chairman of Shell/ Shell group-Brazil
Confidential (w/o)	Janet Wright/consultant	The Foreign and Commonwealth Office (FCO)	July 26, 1990	World Oil Market Outlook – Line to take

Confidential 1537/4	The Foreign and Commonwealth Office (FCO)	UK's Embassy in Brazil	April 7, 1965	Shell's interest in the Western Hemisphere/Brazil and Petrobras
131533/4	UK's Embassy in Brazil	American Department/FCO	August 27-28, 1958	Recent talks between Petrobras and UK petroleum equipment manufacturers
131533/6	UK's Embassy in Brazil	American Department/FCO	August 27-28, 1958	Oil in Brazil. Negotiations between foreign oil companies in Brazil and Petrobras
AB1533/6	UK's Embassy in Brazil	The Foreign and Commonwealth Office (FCO)	September 26, 1958	Foreign oil companies in Brazil and Petrobras
AB1533/9	The Foreign and Commonwealth Office (FCO)	UK's Embassy in Brazil	October 14, 1958	The position of the British oil interests in Brazil
B 1533/15	UK's Embassy in Brazil	The Foreign and Commonwealth Office (FCO)	December 10, 1958	Dismissal of Colonel January Nunes, the President of Petrobras, and Colonel Bittencourt, the President of the National Petroleum Council.

3. Diplomatic cables collected at Ministere des Affaires etrangeres et du Developpement International, Paris, France

Folder number	From	To	Date	Subject
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243BBSG	Ministere des Affaires etrangeres et du Developpement International (MAEDI)	Direction de la cooperation scientifique et technique (DCST)	1984	Biomass
1-243BSG	Ministere des Affaires etrangeres et du Developpement International (MAEDI)	Direction de la cooperation scientifique et technique (DCST)	1988	Meeting in Brasilia in 1988 about the Brazilian energy resources
1-243BSG/107	Ministere des Affaires etrangeres et du Developpement International (MAEDI)	Direction de la cooperation scientifique et technique (DCST)		Cooperation between RHODIA, UNICAMP and Escola de Medicina de Sao Paulo about the economic and social issue of the polo petroquimico de Camacan.
226/STD/S	French Embassy in Brazil	Ministere des Affaires etrangeres et du Developpement International (MAEDI)	1981	Vegetal oils in Brazil: PROOLEO and PRO DIESEL
665/QA	French Embassy in Brazil	Ministere des Affaires etrangeres et du Developpement International (MAEDI)	1981	Updates regarding ANGRA I
996/STD/S 3 and 1840/STD/S 3	French Embassy in Brazil	Ministere des Affaires etrangeres et du Developpement International (MAEDI)	1981	Energy from deep waters in Brazil
1127/STD/S 2	French Embassy in Brazil	Ministere des Affaires etrangeres et du Developpement International (MAEDI)	1981	PROALCOOL

1551/STD/S 2	French Embassy in Brazil	Ministere des Affaires etrangeres et du Developpement International (MAEDI)	1981	Renewable energies France-Brazil
1668/STD/S 2	French Embassy in Brazil	Ministere des Affaires etrangeres et du Developpement International (MAEDI)	1981	Diesel in Brazil (85% mineral and 15% vegetal)
2833/STD/S 2	French Embassy in Brazil	Ministere des Affaires etrangeres et du Developpement International (MAEDI)	1981	Trading "vegetoleo," the new diesel fuel
0350	Bureau de Recherches Geologiques et minieres Service Geologique national	Stuyck-Taillandier, Ministry of Foreign Affairs	March 19, 1981	List of the most critical institutions in Brazil regarding energy including Petrobras
2623/STD/S 3	Robert Richard, Ambassador of France in Brazil	Ministere des Affaires etrangeres et du Developpement International (MAEDI)	December 10, 1981	Report on Petrobras, French oil companies and foreign policy
1088 STD/S-2	Jean Beliard, Ambassador of France in Brazil	Jean Francois-Poncet, Minister of Foreign Affairs	April 29, 1980	PROALCOOL
1088 STD/792PO	Jean Beliard, Ambassador of France in Brazil	Jean Francois-Poncet, Minister of Foreign Affairs	April 29, 1980	Brazil's strategy to replace petroleum with ethanol

4. Petrobras' board of directors

Position	2005	2006	Nomination	Position in the Federal Government
President	DILMA VANA ROUSSEFF	DILMA VANA ROUSSEFF	Federal Government	Chief Minister of the Civil House (from 06/2005)
Adviser	ANTONIO PALOCCI FILHO	GUIDO MANTEGA	Federal Government – MPDG	Minister of Economy
Adviser	ARTHUR ANTONIO SENDAS	ARTHUR ANTONIO SENDAS	Federal Government	
Adviser	CLAUDIO LUIZ DA SILVA HADDAD	ROGER AGNELLI	Federal Government	
Adviser	FABIO COLLETTI BARBOSA	FABIO COLLETTI BARBOSA	Minority shareholders	
Adviser	GLEUBER VIEIRA	GLEUBER VIEIRA	Federal Government	
Adviser	JAQUES WAGNER	SILAS RONDEAU CAVALCANTE SILVA	Federal Government	Minister of Institutional Relations/ Minister of Energy
Adviser	JORGE GERDAU JOHANNPETER	JORGE GERDAU JOHANNPETER	Preferred shareholders	
Adviser	JOSE SERGIO GABRIELLI DE AZEVEDO	JOSE SERGIO GABRIELLI DE AZEVEDO	Federal Government	
Position	2007	2008	Nomination	Position in the Federal Government
President	DILMA VANA ROUSSEFF	DILMA VANA ROUSSEFF	Federal Government	Chief Minister of the Civil House
Adviser	GUIDO MANTEGA	GUIDO MANTEGA	Federal Government – MPDG	Minister of Economy
Adviser	ARTHUR ANTONIO SENDAS	ARTHUR ANTONIO SENDAS	Federal Government	

Adviser	ROGER AGNELLI	LUCIANO GALVAO COUTINHO	Federal Government	President of the BNDES
Adviser	FABIO COLLETTI BARBOSA	FABIO COLLETTI BARBOSA	Minority shareholders	
Adviser	FRANCISCO ROBERTO DE ALBUQUERQUE	FRANCISCO ROBERTO DE ALBUQUERQUE	Federal Government	
Adviser	SILAS RONDEAU CAVALCANTE SILVA	SILAS RONDEAU CAVALCANTE SILVA	Federal Government	Minister of Energy until 2007
Adviser	JORGE GERDAU JOHANNPETER	JORGE GERDAU JOHANNPETER	Preferred shareholders	
Adviser	JOSE SERGIO GABRIELLI DE AZEVEDO	JOSE SERGIO GABRIELLI DE AZEVEDO	Federal Government	
Position	2009	2010	Nomination	Position in the Federal Government
President	DILMA VANA ROUSSEFF	GUIDO MANTEGA	Federal Government – MPDG	Chief Minister of the Civil House / Minister of Economy
Adviser	GUIDO MANTEGA	MARCIO PEREIRA ZIMMERMANN	Federal Government	Minister of Economy / Minister of Energy
Adviser	SERGIO FRANKLIN QUINTELLA	SERGIO FRANKLIN QUINTELLA	Federal Government	
Adviser	LUCIANO GALVAO COUTINHO	LUCIANO GALVAO COUTINHO	Federal Government	President of the BNDES
Adviser	FABIO COLLETTI BARBOSA	FABIO COLLETTI BARBOSA	Minority shareholders	
Adviser	FRANCISCO ROBERTO DE ALBUQUERQUE	FRANCISCO ROBERTO DE ALBUQUERQUE	Federal Government	
Adviser	SILAS RONDEAU CAVALCANTE SILVA	SILAS RONDEAU CAVALCANTE SILVA	Federal Government	
Adviser	JORGE GERDAU JOHANNPETER	JORGE GERDAU JOHANNPETER	Preferred shareholders	

Adviser	JOSE SERGIO GABRIELLI DE AZEVEDO3	JOSE SERGIO GABRIELLI DE AZEVEDO3	Federal Government	
Position	2011	2012	Nomination	Position in the Federal Government
President	GUIDO MANTEGA	GUIDO MANTEGA	Federal Government – MPDG	Minister of Economy
Adviser	MARCIO PEREIRA ZIMMERMANN	MARCIO PEREIRA ZIMMERMANN	Federal Government	Executive Secretary of the Minister of Energy
Adviser	SERGIO FRANKLIN QUINTELLA	SERGIO FRANKLIN QUINTELLA	Federal Government	
Adviser	LUCIANO GALVAO COUTINHO	LUCIANO GALVAO COUTINHO	Federal Government	President of the BNDES
Adviser	JOSUE CHRISTIANO GOMES DA SILVA	JOSUE CHRISTIANO GOMES DA SILVA	Minority shareholders	
Adviser	FRANCISCO ROBERTO DE ALBUQUERQUE	FRANCISCO ROBERTO DE ALBUQUERQUE	Federal Government	
Adviser	ANTONIO PALOCCI FILHO/MIRIAM APARECIDA BELCHIOR	MIRIAM APARECIDA BELCHIOR	Federal Government	Minister of Planning
Adviser	JORGE GERDAU JOHANNPETER	JORGE GERDAU JOHANNPETER	Preferred shareholders	
Adviser	JOSE SERGIO GABRIELLI DE AZEVEDO	MARIA DAS GRACAS SILVA FOSTER	Federal Government	
Adviser		SILVIO SINEDINO PINHEIRO	Employee representative	
Position	2013	2014	Nomination	Position in the Federal Government
President	GUIDO MANTEGA	GUIDO MANTEGA	Federal Government	Minister of Economy

Adviser	MARCIO PEREIRA ZIMMERMANN	MARCIO PEREIRA ZIMMERMANN	Federal Government	Executive Secretary of the Minister of Energy
Adviser	SERGIO FRANKLIN QUINTELLA	SERGIO FRANKLIN QUINTELLA	Federal Government	
Adviser	LUCIANO GALVAO COUTINHO	LUCIANO GALVAO COUTINHO	Federal Government	President of the BNDES
Adviser	MAURO GENTILE RODRIGUES DA CUNHA	MAURO GENTILE RODRIGUES DA CUNHA	Minority shareholders	
Adviser	FRANCISCO ROBERTO DE ALBUQUERQUE	FRANCISCO ROBERTO DE ALBUQUERQUE	Federal Government	
Adviser	MIRIAM APARECIDA BELCHIOR	MIRIAM APARECIDA BELCHIOR	Federal Government	Minister of Economy / Minister of Planning
Adviser	JORGE GERDAU JOHANNPETER	JOSÉ GUIMARÃES MONFORTE	Preferred shareholders	
Adviser	MARIA DAS GRACAS SILVA FOSTER	MARIA DAS GRACAS SILVA FOSTER	Federal Government	
Adviser	JOSE MARIA FERREIRA RANGEL	SILVINO SINEDINO PINHEIRO	Employee representative	

Source: the authors adapted from (TCU 2016, p.57)

5. Performance efficiency by company/year

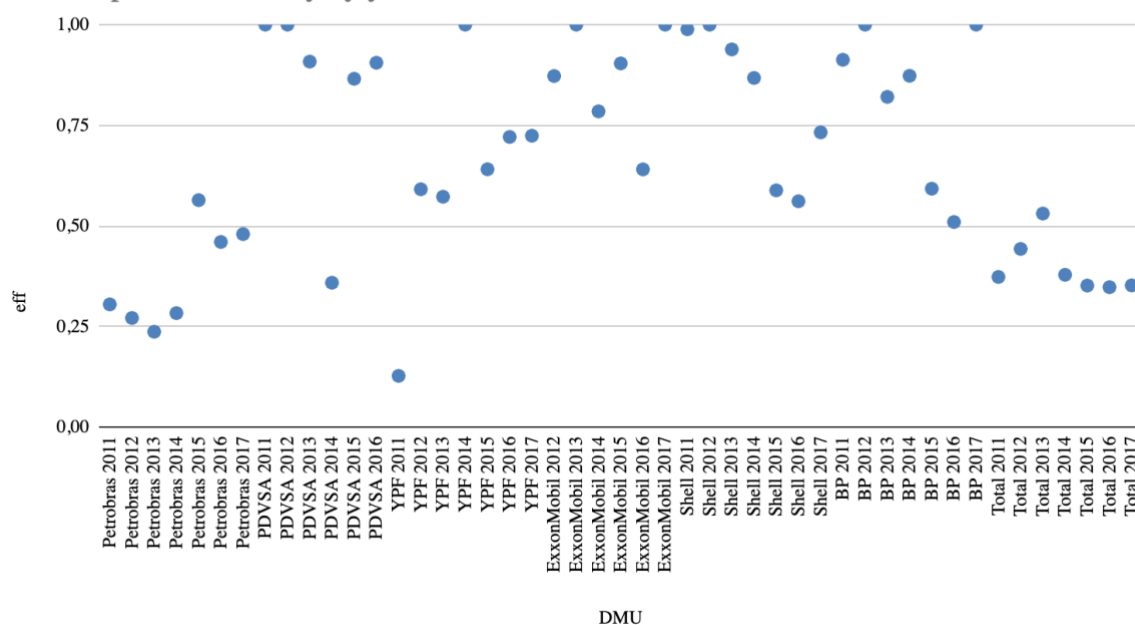
DMU	eff
Petrobras 2011	0,30492
Petrobras 2012	0,2711
Petrobras 2013	0,23688
Petrobras 2014	0,28317
Petrobras 2015	0,56397

Petrobras 2016	0,46
Petrobras 2017	0,47955
PDVSA 2011	1
PDVSA 2012	1
PDVSA 2013	0,90821
PDVSA 2014	0,35868
PDVSA 2015	0,86551
PDVSA 2016	0,90535
YPF 2011	0,12721
YPF 2012	0,591
YPF 2013	0,5724
YPF 2014	1
YPF 2015	0,6407
YPF 2016	0,721
YPF 2017	0,724
ExxonMobil 2012	0,87237
ExxonMobil 2013	1
ExxonMobil 2014	0,78462
ExxonMobil 2015	0,90368
ExxonMobil 2016	0,64039
ExxonMobil 2017	1
Shell 2011	0,98861
Shell 2012	1
Shell 2013	0,93847
Shell 2014	0,86759
Shell 2015	0,58829
Shell 2016	0,5612
Shell 2017	0,73239
BP 2011	0,91276
BP 2012	1
BP 2013	0,82054
BP 2014	0,87288
BP 2015	0,59235
BP 2016	0,50962
BP 2017	1
Total 2011	0,37307
Total 2012	0,44271
Total 2013	0,53062
Total 2014	0,37839
Total 2015	0,35164
Total 2016	0,34763
Total 2017	0,35208

Source: the authors

5.1. Dispersion of Oil companies' Efficiency by year

Oil companies' Efficiency by year



6. Time in office of Petrobras' board of directors (years)

Nome	Início	Fim	Duração (anos)	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
ANTONIO PALOCCI FILHO*	01/04/2005	31/03/2006	1,00		■										
ARTHUR ANTONIO SENDAS	01/04/2005	20/10/2008	3,56		■	■	■	■							
CLAUDIO LUIZ DA SILVA HADDAD	01/04/2005	03/04/2006	1,01		■										
DILMA VANA ROUSSEFF	01/04/2005	19/03/2010	4,97		■	■	■	■	■	■					
FABIO COLLETTI BARBOSA	01/04/2005	23/09/2011	6,48		■	■	■	■	■	■	■				
GLEUBER VIEIRA	01/04/2005	02/04/2007	2,00		■	■	■								
JAQUES WAGNER	01/04/2005	03/04/2006	1,01		■										
JORGE GERDAU JOHANNPETER	01/04/2005	02/04/2014	9,01		■	■	■	■	■	■	■	■	■	■	
JOSE SERGIO GABRIELLI DE AZEVEDO	30/06/2005	13/02/2012	6,63		■	■	■	■	■	■	■				
GUIDO MANTEGA	04/04/2006	26/03/2015	8,98			■	■	■	■	■	■	■	■	■	■
ROGER AGNELLI	04/04/2006	21/09/2007	1,47			■	■								
SILAS RONDEAU CAVALCANTE SILVA	04/04/2006	28/04/2011	5,07			■	■	■	■	■	■				
FRANCISCO ROBERTO DE ALBUQUERQUE	03/04/2007	29/04/2015	8,08				■	■	■	■	■	■	■	■	■
LUCIANO GALVAO COUTINHO	04/04/2008	29/04/2015	7,07				■	■	■	■	■	■	■	■	■
SERGIO FRANKLIN QUINTELLA	08/04/2009	29/04/2015	6,06					■	■	■	■	■	■	■	■
MARCIO PEREIRA ZIMMERMANN	22/03/2010	27/02/2015	4,94						■	■	■	■	■	■	■
MIRIAM APARECIDA BELCHIOR	22/07/2011	29/04/2015	3,77								■	■	■	■	■
JOSUE CHRISTIANO GOMES DA SILVA	01/11/2011	29/04/2013	1,49								■	■	■		
MARIA DAS GRACAS SILVA FOSTER	13/02/2012	06/02/2015	2,98									■	■	■	■
SILVIO SINEDINO PINHEIRO**	20/03/2012	29/04/2013	1,11									■	■		
JOSE MARIA FERREIRA RANGEL	30/04/2013	02/04/2014	0,92										■	■	
MAURO GENTILE RODRIGUES DA CUNHA	30/04/2013	29/04/2015	2,00										■	■	■
SILVIO SINEDINO PINHEIRO**	03/04/2014	29/04/2015	1,07											■	■
JOSÉ GUIMARÃES MONFORTE	03/04/2014	24/04/2015	1,06												■

Source: (TCU 2016, p.57)

Anexe

Python (Do File)

1. Word_count_embassies

```
# -*- coding: utf-8 -*-
"""Word_count_embaxadas_NOVO.ipynb

Automatically generated by Colaboratory.

# hello
"""

!pip install unidecode

from google.colab import drive
drive.mount('/content/gdrive')

folder = "gdrive/MyDrive/Text analysis"
files = [folder+'/01.1990-12.1994 (tudo)/tudo_1990-94.txt',
         folder+'/01.1995-12.1999 (tudo)/tudo.txt',
         folder+'/01.2000-12.2004 (ok)/Tudo (2).txt',
         folder+'/01.2004-12.2008/Tudo (1).txt',
         folder+'/01.2008-12.2012 (ok)/Tudo.txt',
         folder+'/01.2013-12.2017/Tudo (4).txt']

### Lendo arquivo texto em Python
arq = open(folder+'/01.1990-12.1994 (tudo)/tudo_1990-94.txt', 'r',encoding="utf8").read()

# biblioteca para usar expressoes regulares
import re

#biblitoeca para processamento de texto
import nltk

#biblioteca do python para coisas de texto
import string

#função para contar palavras do python
from collections import Counter

#funcoes do nltk para buscar stopwords do portugues e "tokenizar" sentenças
from nltk.corpus import stopwords
from nltk.tokenize import word_tokenize

import unidecode

#biblioteca para trabalhar com informações em formato de tabela, como se fosse um excel
import pandas as pd
import matplotlib.pyplot as plt
```

```

nltk.download('punkt')
nltk.download('stopwords')

#variavel onde vou colocando as linhas da tabela
dados = []

#lista de stopwords
stop_words = set(stopwords.words('portuguese'))

#Lista de pontuação
punctuation = list(string.punctuation)

# regras que seram aplicadadas antes da tokenização para converter palavras compostas em únicas
RULES = [
    ("evo morales" , "evomorales"),
    ("abreu e Lima" , "abreuelima"),
    ("abreu lima" , "abreuelima"),
    ("exxon-mobil" , "exxon"),
    ("exxonmobil" , "exxon"),
    ("exxon mobil " , "exxon"),
    ("gás natural" , "gasnatural"),
    ("gas natural" , "gasnatural"),
    ("pre-salt" , "presal"),
    ("pré-sal" , "presal"),
    ("pre-sal" , "presal"),
    ("conecta s.a." , "conectasasa"),
    ("british petroleum" , "britishpetroleum"),
    (" bp " , "britishpetroleum")
]

#palavras que quero ver depois na minha analise e saber a contagem delas

KEYWORDS = [
    "exxon",
    "esso",
    "shell",
    "pdvsa",
    "pasadena",
    "ypfb",
    "ypf",
    "ancap",
    "conectasasa",
    "britishpetroleum",
    "abreuelima",
    "ipiranga",
    "cnpc",
    "chavez",
    "venezuela",
    "evomorales",
    "gasnatural",
    "petroleo",
    "presal",
    "petrobras"
]

for file in files:

```

```

arq = open(file, 'r',encoding='utf8').read()

#defino aqui como fazer a separação de cada telegrama (vai ser aquele Pagina 1/)
telegramas = arq.split("Página 1/")

#isso é um loop, ou seja, é um trecho de código que vai repetir e executar 1 vez para cada telegrama
for telegrama_text in telegramas:

    #defino um dicionario para ir armazenando temporariamente as informações deste telegrama
    tel = {}

    # uso aquele negocio de expressoes regulares pra encontrar o texto que aparece logo após o termo "De:
"

    m = re.search('D[eE]: (.+?)\n', telegrama_text)
    if m:
        # salvo o texto encontrado dentro da variavel com um subnome de 'de'
        tel['de'] = m.group(1)

    # uso aquele negocio de expressoes regulares pra encontrar o texto que aparece logo após o termo
"Para: "

    m = re.search('Para: (.+?)\n', telegrama_text)
    if m:
        # salvo o texto encontrado dentro da variavel com um subnome de 'para'
        tel['para'] = m.group(1)

    # uso aquele negocio de expressoes regulares pra encontrar o texto que é formado pelo padrao
"2digitos/2digitos/4digitos"
    m = re.search('Recebido em: (\d{2}/\d{2}/\d{4})', telegrama_text)
    if m:
        # salvo o texto encontrado dentro da variavel com um subnome de 'data'
        tel['data'] = m.group(1)
        # salvo o texto encontrado (buscando só pelo ano, isto é, pelo terceiro valor entre as barras) dentro
da variavel com um subnome de 'ano'
        tel['ano'] = m.group(1).split('/')[2]

    # aqui as palavras compostas sao substituidas por acronimos para serem buscados a partir das
palavras chave (ex: evo morales -> evomorales)
    telegrama_text_treated = telegrama_text.lower()
    for rule in RULES:
        telegrama_text_treated = telegrama_text_treated.replace(rule[0], rule[1])

    #essa função quebra uma sentença em uma lista de palavras (tokens), separa pontuação, etc.. e também
transforma tudo para minusculo
    tokens = nltk.word_tokenize(unidecode.unidecode(telegrama_text_treated))

    #aqui eu estou fazendo um filtro, deixando nessa nova lista somente as palavras que não sao as
stopwords
    filtered_tokens = [w for w in tokens if not w in stop_words]

    #aqui eu estou fazendo um filtro, deixando nessa nova lista somente as palavras que não sao pontuações
    filtered_tokens = [w for w in filtered_tokens if not w in punctuation]

    #aqui eu passo uma lista de palavras e ele retorna um dicionario de frequencia, quantidade de
aparições de cada palavra
    word_counts = Counter(filtered_tokens)

    # agora aqui eu adiciono na minha variavel temporaria a contagem de cada palavra que quero analisar
futuramente
    for k in KEYWORDS:

```

```

tel['count_'+k] = word_counts[k]
tel['dummy_'+k] = word_counts[k] >= 1

# joga a variavel temporaria na lista que contem todos os telegramas
dados.append(tel)

#dados
#word_counts.most_common():10]

df = pd.DataFrame(dados)
#df = df[df.de.notnull()]
df.head()

df.to_excel(folder+'/keyword_count_processado.xlsx')

df.de.value_counts().head()

df.groupby("de").sum().head()

#top5 = df.de.value_counts().index[:3]
for k in KEYWORDS:
    print(k)
    df.groupby('ano')['dummy_'+k].sum().plot(kind='bar')
    plt.ylabel("Count")
    plt.xlabel("Year")
    plt.show()

# geral - todos os telegramas
df_filtered = df[df.de.notnull()]
top = df_filtered.de.value_counts().index[:10]
df_filtered[df_filtered.de.isin(top)].de.value_counts().plot(kind='bar')

# 1. Qual é o TOP 10 das embaixadas que mais mencionaram a palavra chave X?
# A contagem é feita considerando se apareceu ou não a palavra chave no telegrama. Múltiplas aparições
da palavra chave no mesmo telegrama conta somente 1x.

# TOP 10 Embaixadas com cables mencionando "Petrobras"
for k in KEYWORDS:
    print(k)
    df_filtered = df[df.de.notnull()]
    df_filtered = df_filtered[df_filtered["dummy_"+k]==True]
    df_filtered.de.value_counts().head(10).plot(kind="bar")
    plt.ylabel("Cables count")
    plt.xlabel("Year")
    plt.show()

# 2. Pra cada país, qual o percentual dos telegrams contém a palavra chave? (Top 10)
# Filtrando somente as top 10 embaixadas que mais comunicaram com o Brasil, olha-se a taxa de
comunicações que incluíam a palavra chave X.
top = df.de.value_counts().index[:10]
for k in KEYWORDS:
    print(k)

(df[df.de.isin(top)].groupby('de')['dummy_'+k].mean().sort_values(ascending=False).head(10)*100).plot(
kind='bar')
plt.ylabel("Frequency of cables (%)")

```

```

plt.xlabel("Year")
plt.show()

df.de.value_counts()

cols = {
    "count_exxon": "Exxon",
    "count_esso": "Esso",
    "count_shell": "Shell",
    "count_pdvsa": "PDVSA",
    "count_ypfb": "YPFB",
    "count_ypf": "YPF",
    "count_ancap": "ANCAP",
    "count_conectasasa": "Conecta",
    "count_cnpc": "CNPC",
    "count_britishpetroleum": "BP"
}

tmp = (
    df
    [lambda x: x.ano.astype(float).between(2004,2012)]
    .rename(columns=cols)
    [cols.values()]
    .sum()
    .sort_values(ascending=False)
)

tmp.plot(kind="bar")
plt.ylabel("Count")
plt.xlabel("Company")
plt.title("Companies mentions in Cables")
plt.show()

```

tmp

2. World_count_Petrobras_reports

```

# -*- coding: utf-8 -*-
"""Word_count_relatorios_Petro_NOVO.ipynb

Automatically generated by Colaboratory.

# hello
"""

!pip install unicode

from google.colab import drive
drive.mount('/content/gdrive')

folder = "gdrive/MyDrive/Text analysis"
files = [folder+'Annual_reports/Annual report 2004.txt',
         folder+'Annual_reports/Annual report 2005.txt',
         folder+'Annual_reports/Annual report 2006.txt',
         folder+'Annual_reports/Annual report 2007.txt',
         folder+'Annual_reports/Annual report 2008.txt',

```

```

    folder+'/Annual_reports/Annual report 2009.txt',
    folder+'/Annual_reports/Annual report 2010.txt',
    folder+'/Annual_reports/Annual report 2011.txt',
    folder+'/Annual_reports/Annual report 2012.txt'
]

file = files[0]

### Lendo arquivo texto em Python
arq = open(folder+'/01.1990-12.1994 (tudo)/tudo_1990-94.txt', 'r',encoding="utf8").read()

# biblioteca para usar expressoes regulares
import re

#biblioteca para processamento de texto
import nltk

#biblioteca do python para coisas de texto
import string

#função para contar palavras do python
from collections import Counter

#funcoes do nltk para buscar stopwords do portugues e "tokenizar" sentenças
from nltk.corpus import stopwords
from nltk.tokenize import word_tokenize

import unidecode

#biblioteca para trabalhar com informações em formato de tabela, como se fosse um excel
import pandas as pd
import matplotlib.pyplot as plt

nltk.download('punkt')
nltk.download('stopwords')

#variavel onde vou colocando as linhas da tabela
dados_companies = []
dados_countries = []

#lista de stopwords
stop_words = set(stopwords.words('portuguese'))

#Lista de pontuação
punctuation = list(string.punctuation)

# regras que seram aplicadas antes da tokenização para converter palavras compostas em únicas
RULES_NORMAL_CASE = [
    ("Equador", "Ecuador"),
    ("Estados Unidos", "United_States"),
    (" USA ", "United_States"),
    (" US ", "United_States"),
    (" EUA ", "United_States"),
    ("Irã", "Iran"),
    ("Libia", "Libya"),
    ("Moçambique", "Mozambique"),
    ("Paquistão", "Pakistan"),

```



```

("Turquia", "Turkey"),
("Uruguai", "Uruguay"),
("Japão", "Japan"),
("Paraguai", "Paraguay"),

```

```
]
```

```

RULES = [
("evo morales" , "evomorales"),
("abreu e Lima" , "abreuelima"),
("abreu lima" , "abreuelima"),
("exxon-mobil" , "exxon"),
("exxonmobil" , "exxon"),
("exxon mobil " , "exxon"),
("gás natural" , "gasnatural"),
("gas natural" , "gasnatural"),
("pre-salt" , "presal"),
("pré-sal" , "presal"),
("pre-sal" , "presal"),
("conecta s.a." , "conectasasa"),
("british petroleum" , "britishpetroleum"),
(" bp " , "britishpetroleum")

```

```
]
```

#palavras que quero ver depois na minha analise e saber a contagem delas

```

KEYWORDS_COMPANIES = [
"exxon",
"esso",
"shell",
"pdvsa",
"ypfb",
"ypf",
"ancap",
"conectasasa",
"cnpc",
"britishpetroleum",
"petrobras"

```

```
]
```

```

KEYWORDS_COUNTRIES = [
"Angola",
"Argentina",
"Bolivia",
"Colombia",
"Chile",
"Ecuador",
"United_States",
"India",
"Iran",
"Libya",
"Mexico",
"Mozambique",
"Namibia",
"Nigeria",
"Pakistan",

```

```

"Peru",
"Portugal",
"Senegal",
"Tanzania",
"Turkey",
"Uruguay",
"Venezuela",
"Japan",
"Paraguay"
]

```

for file in files:

```

    arq = open(file, 'r', encoding='utf8').read()

    #defino um dicionario para ir armazenando temporariamente as informações deste arquivo
    companies = {}
    countries = {}

    # uso aquele negocio de expressoes regulares pra encontrar o texto que aparece logo após o termo "De:
    ..
    # m = re.search('D[eE]: (.+?)\n', telegrama_text)
    # if m:
    # # salvo o texto encontrado dentro da variavel com um subnome de 'de'
    # tel['de'] = m.group(1)

    # uso aquele negocio de expressoes regulares pra encontrar o texto que aparece logo após o termo "Para:
    ..
    # m = re.search('Para: (.+?)\n', telegrama_text)
    # if m:
    # # salvo o texto encontrado dentro da variavel com um subnome de 'para'
    # tel['para'] = m.group(1)

    # uso aquele negocio de expressoes regulares pra encontrar o texto que é formado pelo padrao
    "2digitos/2digitos/4digitos"
    # m = re.search('Recebido em: (\d{2}/\d{2}/\d{4})', telegrama_text)
    # if m:
    ## salvo o texto encontrado dentro da variavel com um subnome de 'data'
    # tel['data'] = m.group(1)
    # # salvo o texto encontrado (buscando só pelo ano, isto é, pelo terceiro valor entre as barras) dentro da
    variavel com um subnome de 'ano'
    # tel['ano'] = m.group(1).split('/')[2]
    companies['ano'] = int(re.search('(\\d\\d\\d\\d).txt', file).group(1))

    # for Companies

    # aqui as palavras compostas sao substituidas por acronimos para serem buscados a partir das palavras
    chave (ex: evo morales -> evomorales)
    telegrama_text_treated = arq.lower()
    for rule in RULES:
        telegrama_text_treated = telegrama_text_treated.replace(rule[0], rule[1])

    #essa função quebra uma sentença em uma lista de palavras (tokens), separa pontuação, etc.. e também
    transforma tudo para minusculo
    tokens = nltk.word_tokenize(unidecode.unidecode(telegrama_text_treated))

```

```

# aqui eu estou fazendo um filtro, deixando nessa nova lista somente as palavras que não são as stopwords
filtered_tokens = [w for w in tokens if not w in stop_words]

# aqui eu estou fazendo um filtro, deixando nessa nova lista somente as palavras que não são pontuações
filtered_tokens = [w for w in filtered_tokens if not w in punctuation]

# aqui eu passo uma lista de palavras e ele retorna um dicionário de frequência, quantidade de aparições
de cada palavra
word_counts = Counter(filtered_tokens)

# agora aqui eu adiciono na minha variável temporária a contagem de cada palavra que quero analisar
futuramente
for k in KEYWORDS_COMPANIES:
    companies['count_'+k] = word_counts[k]

# for COUNTRIES
for rule in RULES_NORMAL_CASE:
    arq = arq.replace(rule[0], rule[1])

countries_text_treated = arq
tokens2 = nltk.word_tokenize(unidecode.unidecode(countries_text_treated))
filtered_tokens2 = [w for w in tokens2 if not w in stop_words]
filtered_tokens2 = [w for w in filtered_tokens2 if not w in punctuation]
word_counts2 = Counter(filtered_tokens2)
for k in KEYWORDS_COUNTRIES:
    countries[k] = word_counts2[k]

# joga a variável temporária na lista que contém todos os telegramas
dados_companies.append(companies)
dados_countries.append(countries)

# dados
# word_counts.most_common():10

companies_df = pd.DataFrame(dados_companies)
countries_df = pd.DataFrame(dados_countries)
# df = df[df.de.notnull()]
# df.head()

companies_df.head(2)

countries_df.head(2)

companies_df.to_excel(folder+'/companies_count_processado_reports_petro.xlsx')
countries_df.to_excel(folder+'/countries_count_processado_reports_petro.xlsx')

# top5 = df.de.value_counts().index[:3]
for k in KEYWORDS_COMPANIES:
    print(k)
    companies_df.set_index('ano')['count_'+k].plot(kind='bar')
    plt.ylabel("Count")
    plt.xlabel("Year")
    plt.show()

cols = {

```

```

    "count_exxon": "Exxon",
    "count_esso": "Esso",
    "count_shell": "Shell",
    "count_pdvsa": "PDVSA",
    "count_yxfb": "YPFB",
    "count_yfp": "YPF",
    "count_ancap": "ANCAP",
    "count_conectasasa": "Conecta",
    "count_cnpc": "CNPC",
    "count_britishpetroleum": "BP"
}

tmp = (
    companies_df
    .rename(columns=cols)
    [cols.values()]
    .sum()
    .sort_values(ascending=False)
)

tmp.plot(kind="bar")
plt.ylabel("Count")
plt.xlabel("Company")
plt.title("Companies mentions in Petrobras reports")
plt.show()

tmp

countries_df.sum()

tmp = (
    countries_df
    .sum()
    .sort_values(ascending=False)
)

tmp.plot(kind="bar")
plt.ylabel("Count")
plt.xlabel("Country")
plt.show()

tmp = (
    countries_df
    .sum()
    .sort_values(ascending=False)
    [:10]
)

tmp.plot(kind="bar")
plt.ylabel("Count")
plt.xlabel("Country")
plt.show()

```