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‘BLACK SWANS’ IN BRAZILIAN ENERGY INDUSTRY: IMPACTS OF 2014’S PETROBRAS SCANDAL AND THE COVID-19 CRISIS

‘CISNES NEGROS’ NA INDÚSTRIA ENERGÉTICA BRASILEIRA: IMPACTOS DO ESCÂNDALO DA PETROBRAS DE 2014 E DA COVID-19

"CISNES NEGROS" EN LA INDUSTRIA ENERGÉTICA BRASILEÑA: IMPACTOS DEL ESCÁNDALO DE PETROBRAS DE 2014 Y LA COVID-19

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ABSTRACT

This paper undertakes an analytical and descriptive effort intended to comprehend as well as to enumerate some of the developments that followed two major ‘Black Swan’ events in Brazilian economic history, namely the 2014’s Petrobras scandal and the recent COVID-19 crisis, with a special emphasis on a brief discussion and presentation of its most prominent impacts on the energy segment, as well as on Brazil’s political economy scenario. Two ‘Black Swan’ type events that occurred in recent Brazilian economic history can be considered as watershed moments for the country’s earlier path of development. In the first case, we aim to demonstrate how State-owned Petrobras corruption scandals jeopardized Brazil’s emergence in international affairs during the early 2000s; notwithstanding, the paper also aims to exemplify how the most recent COVID-19 pandemic became yet another factor to bring about a new series of political as well as economic turbulences to the Latin American country.

Keywords: Energy Sector. Black Swan. Brazilian Political Economy. State-Owned Enterprises. COVID-19 Pandemic.

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RESUMO
Este trabalho realiza um esforço analítico e descritivo com o objetivo de compreender e enumerar alguns dos acontecimentos que se seguiram a dois grandes eventos de tipo 'Cisne Negro' na história econômica brasileira, a saber, o escândalo de corrupção na Petrobras em 2014 e a recente crise relacionado a COVID-19, com especial ênfase numa breve discussão e apresentação de seus principais impactos no segmento de energia, bem como no cenário de economia política brasileira. No primeiro caso, buscamos demonstrar como a ascensão do Brasil nas relações internacionais no início dos anos 2000 foi prejudicada pelos escândalos de corrupção na estatal Petrobras; não obstante, este artigo também busca exemplificar como a mais recente pandemia de COVID-19 tornou-se um fator-chave no surgimento de uma nova série de turbulências políticas e econômicas no país latino-americano.

Palavras-chave: Setor Energético. Cisne Negro. Economia Política Brasileira. Empresas Estatais. Pandemia do COVID-19.

RESUMEN
Este trabajo realiza un análisis descriptivo para comprender y enumerar algunos de los eventos que siguieron a dos importantes sucesos de tipo "cisne negro" en la história económica brasileña: el escándalo de corrupción de Petrobras en 2014 y la reciente crisis de la COVID-19. Se hace especial hincapié en un breve análisis y en la presentación de sus principales impactos en el sector energético, así como en el panorama político-económico brasileño. En el primer caso, se busca demostrar cómo el ascenso de Brasil en las relaciones internacionales a principios de la década de 2000 se vio obstaculizado por los escándalos de corrupción en la estatal Petrobras. Asimismo, este artículo busca ejemplificar cómo la reciente pandemia de la COVID-19 se há convertido en un factor clave en el surgimiento de una nueva serie de turbulencias políticas y económicas en el país latinoamericano.

Palabras clave: Sector Energético. Cisne Negro. Economía Política Brasileña. Empresas Estatales. Pandemia de COVID-19.

1 INTRODUCTION

The ‘Black Swan’ concept became relatively popular in both the academic and economic fields due to the homonymous book written by Nassim Nicholas Taleb in 2007, which discussed the occurrence of events of high improbability and randomness, which, once materialized, were then taken to scrutiny to understand their manifestation and undermine their “unpredictability”. As stated by Taleb (2007, p.164) himself, “we are explanation-seeking animals who tend to think that everything has an identifiable cause and grab the most apparent one as the explanation. Yet there may not be a visible [one] […] to the contrary, frequently there is nothing, not even a spectrum of possible explanations.” For the Brazilian energy industry, two such recent - and seemingly inexplicable - events that can be considered as belonging to the category of ‘Black Swans’ were the 2014 Petrobras scandal and the current COVID-19 pandemic crisis. This paper aims to discuss and present the effects and consequences of the aforementioned occurrences on the Brazilian energy segment.

The first section of this paper examines the broader context leading up to the 2014 Petrobras scandal, seemingly highlighting Brazil’s rise in the international system (both economically and politically), which, once corruption scandals emerged, added to the drama's unexpectedness. The second section, in turn, tackles the COVID-19 crisis, whose origins date back to December 31st, 2019, when China reported to the World Health Organization (WHO) about a new type of viral infection that initially plagued most of Asia, and which finally hit Western Europe and the USA within the following months, causing a growing number of deaths and massive global uncertainty. Its impacts on Brazil’s energy sector, in particular, and on the country’s political economy more generally will thus become our primary focus.

2 THE 2014’S PETROBRAS SCANDAL

During the early 2000s, Brazil witnessed significant changes in its international status, reflecting, to a large extent, the country's rapid economic growth, driven by a surge (both in price and volume) in its commodity exports. Brazilian economy historically occupied - and still occupies - a traditional space in international trade as one of the leading providers of *commodities* to global markets, with mineral products, particularly oil and iron ore, having accounted, as a matter of example, for 20% of all Brazilian exports in 2017 (Observatory of Economic Complexity, n/d). Its consistent economic growth by the first decade of the 2000s, especially between 2003 and 2008, prompted The Economist to conclude that Brazil was finally ‘taking off’ in its 2009 edition. Suffice to say that between 2000 and 2008, Brazil had an average economic GDP growth of approximately 3.74% (THE WORLD BANK, n/d).

Table 1

Brazil's GDP Growth Rate (in %) from 2000 to 2008

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008
Brazil	4,38	1,39	3,05	1,14	5,76	3,2	3,96	6,06	5,1

Source: World Bank.
URL:https://databank.worldbank.org/reports.aspx?source=2&series=NY.GDP.MKTP.KD.ZG#

Despite the economic deceleration that followed the Financial Crisis of 2008, Brazil nevertheless managed to keep a somewhat consistent image as a 'rising' power in international politics, much due to its diplomatic articulations within multilateral organizations and with the creation of BRIC (Brazil, Russia, China, and India) in 2009[7]. The country was, moreover, politicallystable under the Workers' Party government, which began in 2003 with Luiz Inácio (Lula) da Silva [2003-2010] and was followed by Dilma Rousseff [2011-2016].

However, in 2014, events of unexpected character had a significant and mostly negative impact on the country`s reputation internationally and on its economy and political stability domestically, a 'Black Swan' event in the country's economic history. Those events revolved around political corruption scandals involving Brazil's biggest state-owned oil-producing company,Petrobras. By that time, high-level business people and politicians were indicted by embezzlement of money through obscure and fraudulent contracts (some even related to the development of pre- salt oil reserves in the country's shore) established by the company, to the point of damaging not only Petrobras' directors but also the image of the Workers' Party and the Brazilian president itself, Dilma Rousseff.

Petrobras was – and still is - the largest public company in Brazil (FORBES, 2020), with operations in more than 20 countries, employing by 2014 more than 60 thousand people (EXAME, n/d). After the scandals, in 2014, Petrobras dismissed around 8,000 employees (about 12% of the total workforce at the time) (G1, 2014). They witnessed its market value drop significantly, from a peak of 316 billion US$ in 2008 (a reflex of Brazil's economic growth) to 44 billion US$ by the endof that same year (MACROTRENDS, n/d). The impact of that 'Black Swan' was felt deeply, and the largest Brazilian State-owned company still had not fully recovered, as evidenced by the stabilization of its market value at relatively low levels compared to pre-crisis levels.

[7] In 2011, the group became BRICS, with the inclusion of South Africa.

Figure 1

Petroleo Brasileiro S.A.- Petrobras Market Capitalization 2006-2020



Source: Macrotrends, 2020. URL: https://www.macrotrends.net/stocks/charts/PBR/petroleo- brasileiro-sa--petrobras/market-cap

Corruption scandals involving Petrobras led to mass discontentment within Brazilian society, which, alongside other social and economic factors, destabilized the country politically and culminated not long afterward in the *impeachment* of Dilma Rousseff in 2016, the second *impeachment* of a Brazilian president since the country's redemocratization in 1988. Following those events, the significant legislative change resulting from the Petrobras corruption scandals was the creation of Law 12846/2013, which established a comprehensive set of administrative penalties for corporations and individuals involved in corruption. The legislative changes (as well as police operations focused on corruption) prompted improvements in corporate compliance mechanisms (KPMG, 2019).

There was also a change in attitude towards governmental offices tasked with fighting corruptionin general. As an example, recent data from the Council of Financial Activities Control (COAF) showed that in 2007, the institute produced 1.555 financial intelligence reports, while from January to September 2019, it produced 5.273 reports (KPMG, 2019). Those reports gathered considerable information on financial activities and, at the same time, helped improve market confidence in corporate activities in Brazil, tackle unfair competition, and manage the country's economic health. Nevertheless, Brazil's path ahead proved even moreturbulent, as the consequences of a different - and even more acute - crisis would hit the country in February 2020.

3 THE 2020 PANDEMIC CRISIS[8]

When the COVID-19 crisis finally hit Brazil[9], some political and economic problems have been raised to the surface. In the political sphere, while Brazil had solid institutions established by its 1988 Constitution, there was a growing sentiment of political risk due to the government's handling of the situation. In 2020, amid the pandemic, a series of parliamentary and judicial inquiries sparked a clash between groups aligned with President Jair Bolsonaro (elected in 2018) and other political parties. In fact, the COVID-19 crisis exposed many fragilities in governmental actions and policies, especially in the health system, the economic sector, and in the coordination between the federative power and other branches of the State's administration.

The Federal Government did not coordinate with state and municipal authorities to jointly combat the virus or to formulate a common strategy to overcome the COVID-19 pandemic. As a result, this policy inconsistency caused a lack of confidence and instability in the economic and financial sectors. For example, since the beginning of the pandemic in Brazil, two ministers of Health have been fired due to disagreements with the President. The Ministers of Justice and of Education were also replaced. Nonetheless, market analysts feared that political tensions and the strengthening of the military within the government could negatively affect Brazil's risk perception abroad (WOOD, 2020).

The aforementioned events created uncertainty, leaving Brazil even more vulnerable, with the IMF projecting a 5% to 9% decline in the country's GDP in 2020 (INFOMONEY, 2020). In this context, the energy sector was among the hardest hit. According to the Brazilian Electricity Regulatory Agency (ANEEL), energy consumption decreased 5,7% in April 2020, in comparison to April 2019, and the loss of revenue from the electricity distribution sector was 6% in the same period compared to 2019 (ROUBICEK, 2020), driven mainly by the reduction of industrial activity. On this note, it is important to keep in mind that the industry alone accounts for 1/3 of the country's energy consumption.

[8] Curiously, according to Nassim Taleb, the COVID-19 pandemic could not be considered a 'Black Swan' event because its effects could have been mitigated in the very beginning in the Chinese province of Hubei. In the author's opinion, if travel to and from the province had ceased and its borders had been closed until the outbreak was controlled and allowed to run its natural course, the current global pandemic would have been prevented. In that case, the pandemic would turn into a 'White Swan' event (TALEB, 2020).

[9] The disease first arrived in Brazil when a 61-year-old man returned from a trip to Italy, as reported on February 26th by the Brazilian Ministry of Health. Therefore, Brazil had, according to some analysts, a certain amount of time to take the necessary measures to prevent – or at least mitigate - COVID-19's rapid spread within its population.

Table 2

Final energy consumption by sector - 2018

Energy sector	11,2%
Residential sector	10,6%
Commercial/public sector	5,2%
Agricultural sector	4,4%
Transport sector	34,8%
Industrial sector	33,8%

Source: Balanço Energético Nacional 2019 / National Energy Balance 2019, EPE / MME

The pandemic also increased energy costs, as distribution companies purchased more energy before the pandemic, resulting in an unconsumed surplus of up to 13% (TERRA, 2020). Moreover, since March 18, the default rate reached almost 10% at the peak of the lockdown. The estimated total impact of COVID-19 on the Brazilian energy sector, accumulated since March, is R$ 9,039 million, of which R$ 3,694 million is due to increased defaults (MINISTÉRIO DE MINAS E ENERGIA, 2020).

In April 2020, due to the pandemic, Petrobras announced the hibernation of 62 platforms and the suspension of production of 23 thousand bpd (AGÊNCIA BRASIL, 2020). The oil company also recorded a 3% drop in oil production in the second quarter of 2020, compared with the first quarter (before the harshest lockdown period), averaging 2.147 million barrels of oil per day (VALOR ECONÔMICO, 2020). The impact of the pandemic on the oil industry globally also caused a sharp drop in the value of Brent oil in international markets (from 65.2 USD/Bbl in January to 21.1 USD/Bbl in May, representing a 67.6% decline in prices)[10], as well as a substantial decrease in domesticdemand, driven by the low industrial activity in Brazil after the lockdown.

[10] On a slightly positive note, according to a Petrobras' report, the reduced demand from the domestic market caused by the effects of COVID-19 drove an increase in net exports of oil and its derivatives in the second quarter of 2020 compared to the first one.

Figure 2

'Black Swan' (The term became synonymous with 'events of unexpected nature' due to the statistician Nassim Nicholas Taleb)



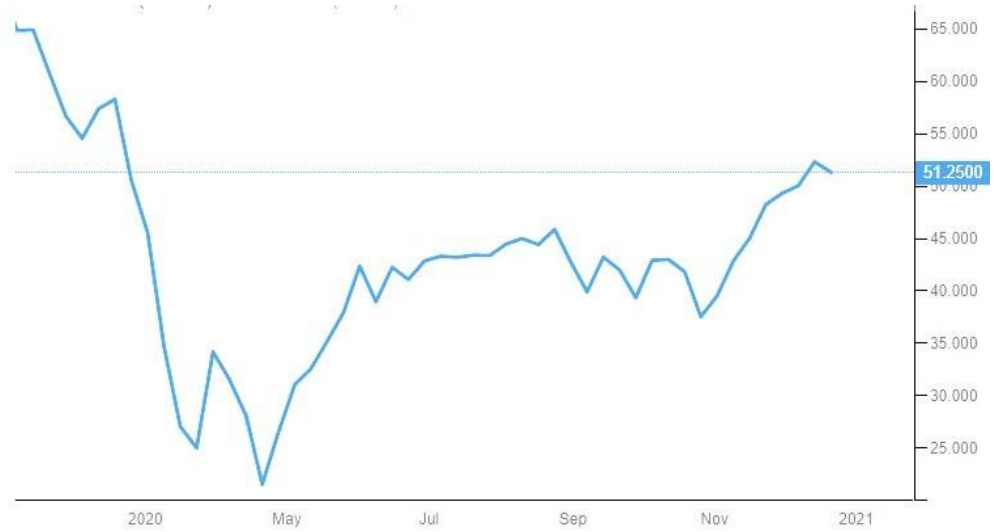
Source: Wikimedia Commons (Public Domain)

The environmental sector was also negatively affected by a government policy that catalyzed illegal mining and deforestation, especially in the Brazilian Amazon, a situation exacerbated by the media's near-total focus on pandemic coverage. Different specialists also pointed out that the drop in oil prices would generatea significant loss for the Brazilian economy overall, since Brazil exports between 600 and 700 thousand barrels per day to international markets (DELGADO, 2020) and this number had to be downgraded, with financial cuts raging from US$ 300 to US$ 600 million for projects of exploration in Brazil for 2020 (PIRES & DELGADO, 2020).[11]

[11] Meanwhile, the National Energy Policy Council (CNPE) approved in June the reduction of royalties by 5% to encourage small and medium-sized companies in the exploration, development, and production of oil and natural gas.

Figure 3

Brent Oil Price (Jan-Dec 2020) in USD/Bbl



Source: Trading Economics, 2010. URL: https://tradingeconomics.com/commodity/brent-crude-oil

Notwithstanding, as a result of the pandemic, the country's energy distribution sector wasconsidered one of the most vulnerable ones[12] during the crisis, which prompted the establishment of a financial aid program, named Conta-covid (Brazilian Electricity Regulatory Agency, 2020), a loan obtained from public and private banks, led by the BNDES, to preserve the liquidity ofcompanies in the sector and alleviate the impacts of bills paid by consumers. The financial assistance granted by the Brazilian Government is R$ 14.8 billion and will serve around 50 energy distributors (BRAZILIAN ELECTRICITY REGULATORY AGENCY, n/d). The main reason for its establishment was justified by a 14% reduction in energy consumption and an increase in defaults, as mentioned previously.

The COVID-19 crisis also affected non-conventional energy markets, albeit positively, with solar generation increasing by 34.8% in June. It was the only energy source to show growth compared to the same period in 2019, driven by the creation of new plants, which increased solar generation from an average of 508 megawatts (MW) in 2019 to 684 MW in 2020. However, all other sources of energy declined[13]. The country is still dealing with the consequences of the aforementioned 'Black Swan' represented by the COVID-19 crisis, amid some uncertainties related to its political and economic future.

[12] According to ANEEL, the distribution sector is the main revenue collector in the Brazilian energy sector, being the gateway for resources, although it remains with only 18% of what it collects (BRAZILIAN ELECTRICITY REGULATORY AGENCY, n/d).

[13] The wind farms had the biggest drop, with a decrease of 7% compared to 2019. This is partly explained by the advance of cold fronts from the South to the Southeast regions of Brazil in the first half of June 2020. Moreover, Hydroelectric decreased its energy generation in 4.6% and thermoelectric had 2.7% of reduction in its volumes of energy generated

4 CONCLUSION

Two ‘Black Swan’ type events that occurred in recent Brazilian economic history can be considered as watershed moments for the country’s earlier path of development. On the one hand, Brazil’s emergence in international affairs during the first decade of the 2000s, reflecting its rapid economic growth and growing political confidence, was utterly jeopardized by the political scandals involving the State-Owned Oil Company Petrobras in 2014. The immediate consequences of that crisis included the dismissal of thousands of employees, a significant drop in Petrobras's market value that has persisted to this day, and a blow to Brazil’s reputation abroad. Domestically, not long after the corruption scandals, the country’s president, then Dilma Rousseff, was impeached, further exacerbating acute domestic political instability.

Having barely recovered from the previous blow caused by those scandals and its internal political crisis, Brazil had to deal with the most recent COVID-19 pandemic. It was time fora new wave of political and economic turbulence to face the government of Jair Bolsonaro (this time). Within this context, certain inaccuracies in policies aimed at the health care system to better tackle the virus, as well as a lack of coordination among different branches of the State’s administration, led to inconsistencies in policy. Meanwhile, the pandemic led to a decline in the country's energy consumption, revenue losses for energy distributors, and a significant number of consumer defaults. Moreover, Petrobras announced the hibernation of dozens of its platforms amid a drop in international oil prices and a substantial decline in domestic demand.

Having impacted the energy sector of the country in particular and Brazil’s political and economic standing in general, those events discussed in the current paper indeed revealed the correctness of one of the many assertions made by Nassim Taleb (2007, p.213) in his renowned book, namely that “the worst case [scenario] is far more consequential than the forecast itself. Thisis particularly true if the bad scenario is not acceptable”.

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