



SUSTAINABILITY IN THE OIL INDUSTRY - A COMPARATIVE FINANCIAL ANALYSIS OF INTEGRATED AND VERTICALIZED COMPANIES

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ABSTRACT

This case study article analyzes the financial sustainability of the main Brazilian oil company in relation to a group of five other international organizations, all vertically integrated. The companies object of the study were Petrobras, ExxonMobil, Shell, BP, Chevron and Total. To that end, we carried out a careful financial analysis based on observations made in published annual reports, especially in the SEC, the Securities and Exchange Commission. The indicators were (i) operational performance; (ii) liquidity; (iii) capital structure; and (iv) profitability. Although the sample comprises similar companies, we observed that the levels of performance and consequent economic and financial sustainability differ between them. The theory of modern organization is based on three pillars: corporate finance theory, corporate governance theory and organizational design theory. This article deals with finance and governance theories. We found out that Petrobras had, in the analyzed period, a financial performance below the expected for that group. Mistaken decisions regarding the regulatory model, the project portfolio, the business plans, the capital structure and the prices practiced for byproducts were decisive in this result.

Keywords: financial sustainability, oil industry, performance indicators.

1. INTRODUCTION

Consumption and production: according to the BP Statistical Review 2015 report (BP, 2015), world primary energy consumption in 2014 was 12,928.4 million tons of oil equivalent, and 56% (BP, 2015) of all this consumption used oil (32%) and natural gas (24%) energy products.

the International Energy Agency (IEA, 2013), forecasting world primary energy consumption for the year 2035 in its New Policies scenario, estimates that primary energy consumption in Brazil will be 33% higher in 2035 when compared with 2011. In this scenario, the IEA estimates that petroleum in its forms of oil and gas products will participate with 50.5% of the supply to the consumption. In other words, in addition to the country increasing consumption, Brazil will continue to be dependent on these energy sources, which gives great relevance to the companies analyzed here. The Agency also expects a 19.2% increase in CO₂ emissions between 2011 and 2035, which should affect the operational requirements for the oil and gas production industry. As Lee

et Saen (2011) remark, carbon emission limit goals and related regulations have been a sign of efficiency measurement of firms, their competitive capacity and consequent long-term survival.

Reserves: The world oil reserves, known and proven between the end of 1994 and the end of 2014 as reserves that could be technically and commercially exploited, grew 52.1% in the 20 years analyzed. These data point to a sustainability scenario in the energy supply, since the reserve versus production (R / P) ratio is 52.5 years (BP, 2015). It should be noted that the reserve/production ratio, from 1994 to 2014, has been increasing, which means that new discoveries have been made and were sufficient to meet the increase in production of oil.

As for natural gas, proved reserves increased by 57.1% between 1994 and 2014, which resulted in a reserve/ production ratio of 54.1 years at the end of 2014. It should also



be noted that the curve of the RP ratio remained stable throughout the analyzed period (BP, 2015).

RP measurement is crucial to the perception of global energy supply safety and, therefore, to our sustainability as a society, but it is also fundamental for the analysis of the sustainability of companies, which have as their main goal the supply of these energy sources (BP, 2015).

Goal

Given the sustainability issues presented and suffered by the companies, the article aims to perform a comparative analysis about Petrobras versus ExxonMobil, Shell, BP, Chevron and Total as to their economic and financial sustainability, the “P – Profit” of the Sustainability pillars. The following groups of performance indicators will be considered: operations, liquidity, capital structure and profitability.

2. METHOD

The Brundtland Report, presented in the World Commission on the Environment at the United Nations General Assembly in April 1987 (UN, 1988), is a landmark in the formulation of the concept of sustainability. The concept gained further evolution when John Elkington, in 1994, defined the so-called Sustainability Tripod, known as 3Ps or “PPP - People, Planet and Profit”, in which it is suggested that the theme be treated in economic, social and environmental perspectives (Elkington, 2004). This new formulation supported the launch of the Dow Jones Sustainability Index (Dow Jones, 2014). Hockerts (1999) pointed out that managerial decisions will result in greater corporate sustainability when simultaneously considering financial, social and environmental aspects. Authors such as Roca et Searcy (2012) demonstrated that oil companies are the ones that mostly use and advertise performance indicators. Lambrecht et Myers (2008) also highlighted the financial indicators as being the ones that most need the attention and care from the managers of these companies. Lambrecht and Myers (2008), Brealey et Myers (1992), Myers et Turnbull (1977), Acharya et al. (2011) and other authors support the analyzes of financial sustainability of companies as performed in this article.

Petrobras, ExxonMobil, Shell, BP, Chevron and Total are all companies from the oil industry, vertically integrated and with international operations, and so we considered them as relevant elements for the definition of the sample. The analyzed period covers the years between 2009 and 2014. The main sources of the research are the SEC’s (U.S. Securities and Exchange Commission) (SEC, 2015) 20F and 10K reports. We also analyzed the annual reports and strategic plans of the six companies. The sample was selected according with

the three following factors: oil industry companies; vertically integrated in the exploration, production, refining, logistics and distribution segments; and with similar operational dimensions.

3. RESULTS: COMPANIES’ SUSTAINABILITY

Operational Performance Indicators

From the point of view of operational sustainability, i.e., reserve and production, this article analyzes companies’ evolution and their reserve/production relationship. Provided that daily production measures the company’s ability to generate revenue on a day-to-day basis, its reserves will give us a projection of how long it will take. The petroleum industry has the reserve/production ratio, expressed in years, as one of its main indicators of sustainability.

As shown in figure 1 below, we could observe that Petrobras’ reserves presented little variation in relation to the group analyzed. The subtle growth in company’s reserves reflects the confirmation of new discoveries in the pre-salt areas and depletion by production of reserves in its mature fields (Petrobras, 2015).



Figure 1. Confirmed reserves

Source: SEC Reports.

In the group stands out the ExxonMobil’s performance in 2010 which was mainly driven by the development of the Kearl Expansion project in Canada, when company’s reserve reached 1 billion barrels of oil equivalent (boe). (ExxonMobil, 2015).

As for production, the following figure 2 shows there was also little variation in Petrobras’ performance in relation to the group. The main reason is that, in spite of the average increase of 301 thousand barrels/day of oil coming from the pre-salt fields in 2013, there was practically equal loss of production in mature fields (Petrobras, 2015). We also could observe the accentuated fall in BP production in 2011 compared to 2010, caused by the moratorium of its production



in the Gulf of Mexico, due to the accident in Macondo (BP, 2015).

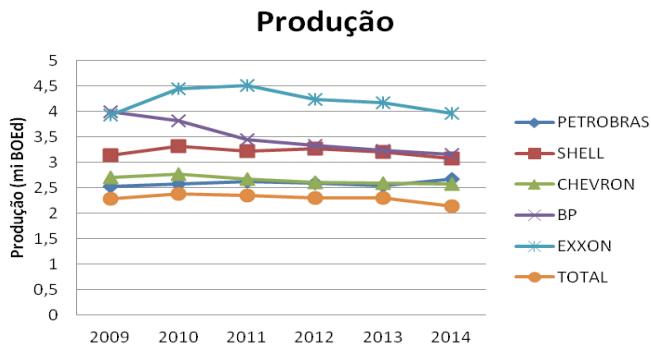


Figure 2. Oil & Gas Production
Source: SEC

The reserve/production ratio, presented in figure 3 below, demonstrates the lifetime of the company according to its oil stock and its production at the end of each analyzed year. The group of companies had similar behavior, except for ExxonMobil, due to the increase of reserves in 2010, and BP, due to loss of production in the same year. Petrobras presented a small variation in the period and behavior similar to that of the group analyzed.

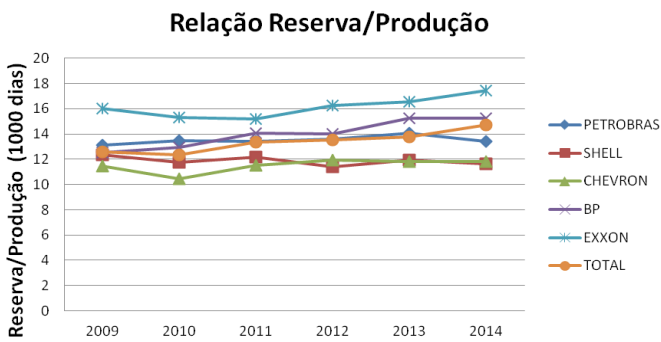


Figure 3. Reserve/Production ratio
Source: SEC reports.

Liquidity indicators

These indicators demonstrate the companies' ability to pay their debts or obligations in the short term without undue stress (Ross et al., 2008). The higher the value of this, the better the company's ability to honor its commitments (Matarazzo, 2007). According to Abunahman (2003), this evaluation can be carried out in long, medium or short term timeframes. This article analyzed the General and Current Liquidity Ratios.

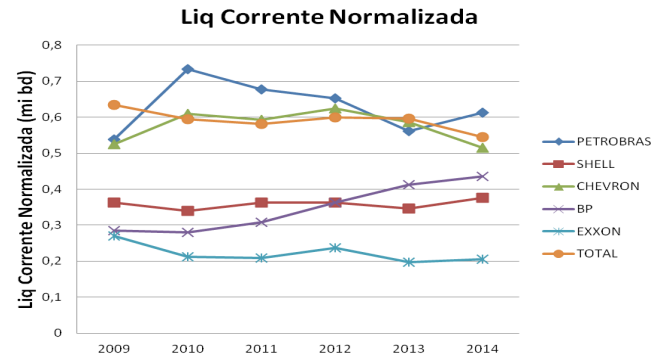


Figure 4. Current Liquidity Index
Source: SEC

The current liquidity index, shown in figure 4 above, indicates the relation between company's ability to pay its short-term obligations with available resources also in the short term, up to 12 months (Ross et al., 2008). From an accounting point of view, it is the ratio of current assets vs current liabilities (Matarazzo, 2007). Petrobras stands out here in the best position of the group. The major change in 2010 was due to the capitalization process, via the offering of shares, in September of that year (Petrobras, 2015). After 2010, Petrobras' performance is decreasing, with a slight recovery in 2014. Another variation worth mentioning is that of BP, which, as of 2010, showed a great and continuous advance in the index. This was the result of the capitalization process, through the sale of assets, in order to cope with the lawsuits and costs of the Mexican Gulf accident (BP, 2015). Lambrecht and Myers (2008) observed that managers use divestment strategies to pay debts and avoid debt and as a source of new investment resources.

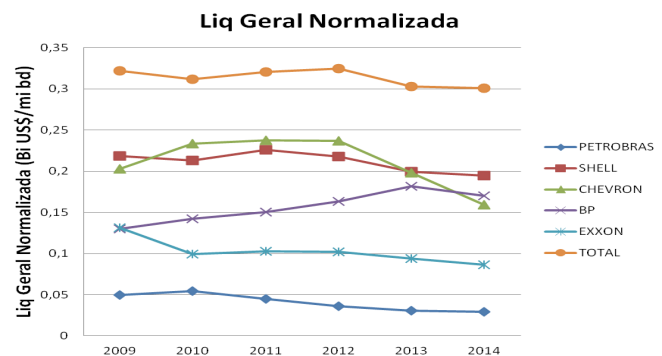


Figure 5. General Liquidity Index
Source: SEC.

The General Liquidity, seen in figure 5, indicates the financial health of the company with a view to meeting all its commitments, since it combines the short-term assets and liabilities with the assets and liabilities in the long term (Ross et al. Al., 2008). The indicator relates Long-Term and Current Assets with Current and Long-Term Liabilities (Matarazzo,



2007). As in current liquidity, Petrobras and BP are the companies that show the greatest variation in these indicators, for reasons already presented.

Capital structure indicators

These indicators mainly demonstrate the companies' decisions regarding the use of equity and third-party capital. The higher the cost for gathering third-party capital, the less the company should be dependent on that source (Brealey et Myers, 1992). This article presents the following Capital Structure indicators: Composition of Indebtedness, Indebtedness Level, Financial Leverage and Fixed Assets of Shareholders' Equity.

The Composition of Indebtedness ratio, the ratio of Current Liabilities under Third Party Capital, is influenced by the participation of third party capital, the ability to generate funds for debt repayment, and by short-term debt negotiation conditions (Silva, 2006).

The index obtained, presented in figure 6 below, indicates the relationship between short-term and long-term obligations (Abunahman, 2003; Ludcibus, 2009). We observed in figure that the behavior of Petrobras stands out from the group, whether due to its capitalization event in 2010 or due to growing long-term indebtedness. Between 2009 and 2014, Petrobras' long-term debt grew by 117% (Petrobras, 2015). It is also noteworthy the increase in third-party capital at Exxon in 2014 to meet its investment plan, which reflected in the index. However, despite these new indebtedness, ExxonMobil's financial leverage is 13.9%, the second lowest in the group analyzed.

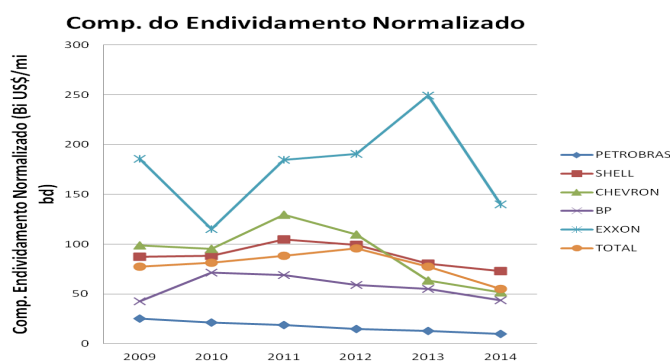


Figure 6. Composition of indebtedness
 Source: SEC

The Level of Indebtedness indicates the relation between the main sources of resources of the company, that is, company equity and the capital from third parties. This is the ratio between Third Party Capital and Shareholders' Equity. From a financial point of view, the greater the presence of

third-party capital in relation to the company's net worth, the lower the company's freedom to make financial decisions (Brealey et Myers, 1992). In this sense, the lower the index, the better for the company. External commitment, due to its characteristic contractual obligations, has priority in the use of the organization's cash register (Matarazzo, 2007).

In the following Figure, we observed a prominence regarding Petrobras to the others both in its variation and its detachment of the group in relation to the level of third-party capital. In order to finance its business plan, Petrobras launched a large capitalization in 2010 through a public offering of shares, coupled with a growing fundraising, in this case via loans in the financial market.

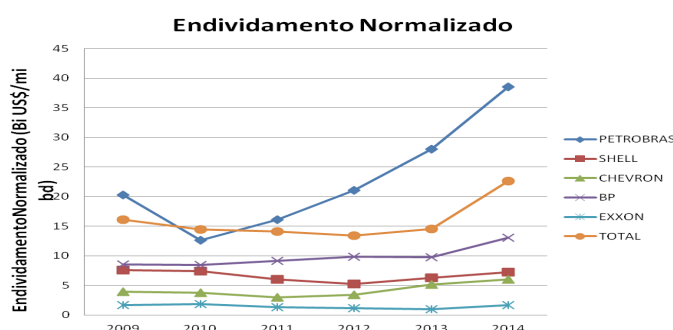


Figure 7. Indebtedness Level
 Source: SEC

The Financial Leverage indicator measures the relationship between Net Indebtedness and Net Capitalization. Net Indebtedness is calculated based on the sum of short and long-term indebtedness, netted from cash, cash equivalents and federal public securities maturing in excess of 90 days (Petrobras, 2015). The risk assessment agencies, when defining what is called the Investment Grade, set a 35% maximum for this indicator.

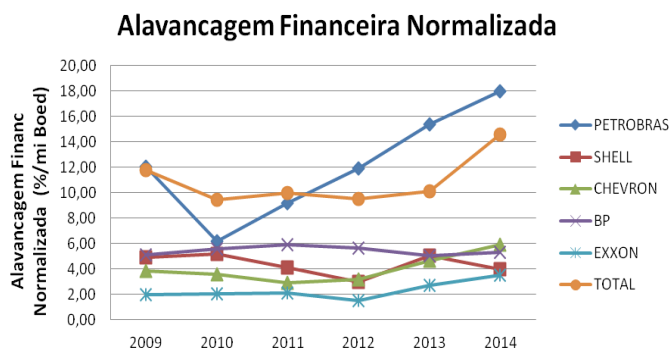


Figure 8. Financial Leverage
 Source: SEC.

Figure 8 above, once again, highlights the detachment of Petrobras from the evaluated group, for reasons already



presented. Between 2010 and 2014, Petrobras' financial leverage increased from 16% to 48% (Petrobras, 2015). We observed, however, that Petrobras had already maintained this index at levels above the group analyzed even before its capitalization. In 2014, the index of other analyzed companies was 12.2% for Shell; 15.2% for Chevron; 16.7% for BP; 13.9% for ExxonMobil; and 31.3% for Total. Myers et Turnbull (1977) state that profitable firms operate with a low level of indebtedness.

The immobilization of Shareholders' Equity, in the following figure 9, measures the relationship between Company Permanent Assets and its Shareholders' Equity (Matarazzo, 2007). The financing of new investments should be long term, due to the nature and uncertainty of the operations of this industry, which has long periods of maturity and amortization of assets (Abunahman, 2003).

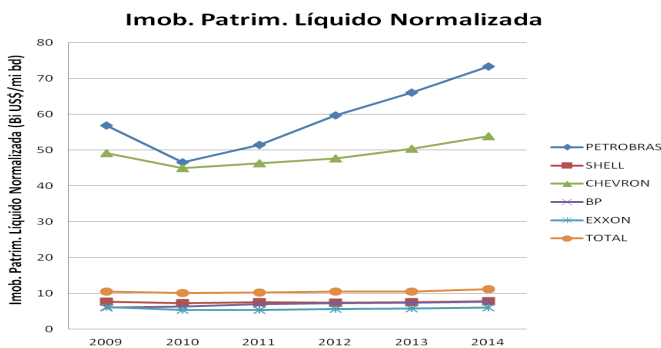


Figure 9. Immobilization of Shareholders' Equity

Source: SEC.

As observed, Petrobras has always been above the group's indicators in the analyzed period. Between 2009 and 2014, Petrobras' Permanent Assets grew by 66.8%, and its Shareholders' Equity increased by 22.36%.

Profitability indicators

These indicators analyze the companies from a profitability perspective, namely: Assets Turnover, Net Margin, Return on Assets and Return on Shareholders' Equity. These indicators demonstrate the income of capital invested in the company, as own or third-party investments, and measure the company's level of success in producing profitability (Matarazzo, 2007).

The Assets Turnover indicator reveals how much the company sold for each currency unit invested (Abunahman, 2003). It is the result of the division of net sales by asset and reveals the efficiency of the investment in relation to the sales (Silva, 2006).

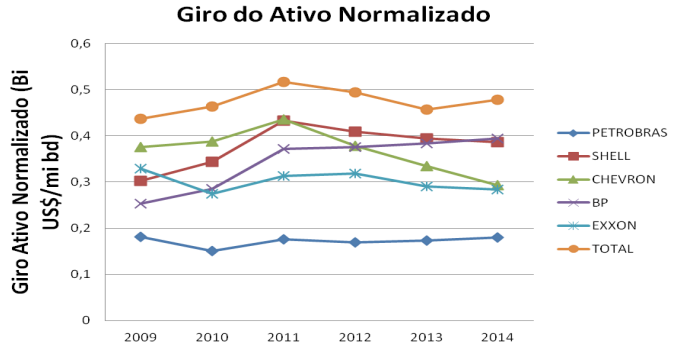


Figure 10. Asset Turnover

Source: SEC

Figure 10 demonstrates that Petrobras, despite showing a similar behavior to the other companies, presented the worst performance in the analyzed group. Perhaps the best explanation for this is the fuel prices maintained by the company at levels below the prices practiced in international markets. This was a decision from the head management of Petrobras, led by the representatives of the controlling shareholder, the Union, represented by the Brazilian Government of the time. Unit prices of gasoline, diesel and liquefied petroleum gas suffered this, which led to a loss of sales value.

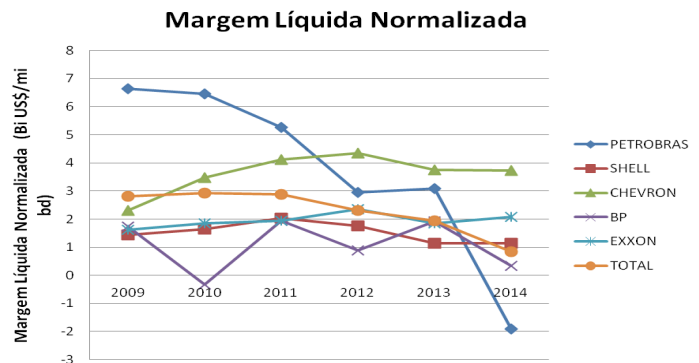


Figure 11. Net margin

Source: SEC.

The Net Margin demonstrates the profit/sales ratio. It is the result of the division of Net Income by Net Sales (Matarazzo, 2007). The indicator identifies the portion of Net Operating Revenue that resulted in the form of profit to the company. The other portion of the Revenue is used to cover costs and expenses incurred in the company's activity (Abunahman, 2003). Figure 11 above shows that, between 2009 and 2011, Petrobras, despite the constant drop caused by the unrealistic retention of sales prices, still maintained a net margin above that of the group analyzed. In the years of 2012 and 2013, Petrobras presented results within the group analyzed, and in 2014, given the damage done, it stood out negatively in relation to the group. It is noteworthy that in the international scenario, between 2009 and 2013, refining



margins varied widely and remained below US\$5.00 a barrel in Europe and Singapore's export market. These were years of prices of raw material prices, rising oil far above historical values and of depressed refining margins (BP, 2015).

In the studied period, Petrobras' net income fell by 148.1%, while net sales increased by 57.6%, which resulted in the company's net margin decline. The results of the refining area of Petrobras remained in decline or even negative in the period from 2009 to 2014.

The Operating Margin, which is the result of the division of Net Operating Income by Net Sales (Matarazzo, 2007), demonstrates the profitability obtained through the company's operational activities. That is, in this indicator, Profit is used before the financial results, the distribution of profit sharing and taxes.

Figure 12 as follows shows the status of the companies analyzed in the period, a result similar to that of the Net Margin, for the reasons explained above. In the specific case of Petrobras, in the mentioned period, the operating profit fell 130.38%, and net sales increased 57.6%. In other words, the growth of sales at unrealistic prices boosted the company's financial imbalance.

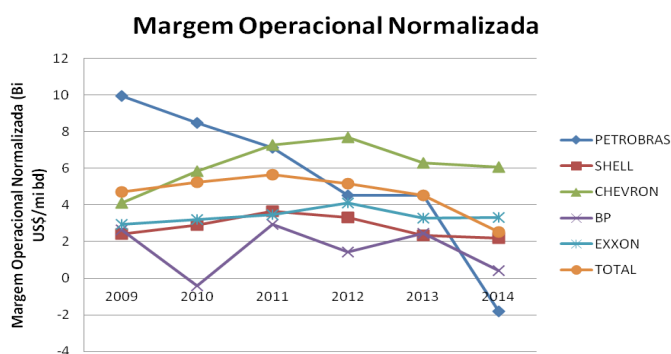


Figure 12. Operating Margin
Source: SEC

The Return of Shareholders' Equity indicator shows the rate of return on equity invested in the company, thus, how much the shareholder had a profit in relation to its invested capital (Matarazzo, 2007). It is the result of the division of net income by shareholders' equity.

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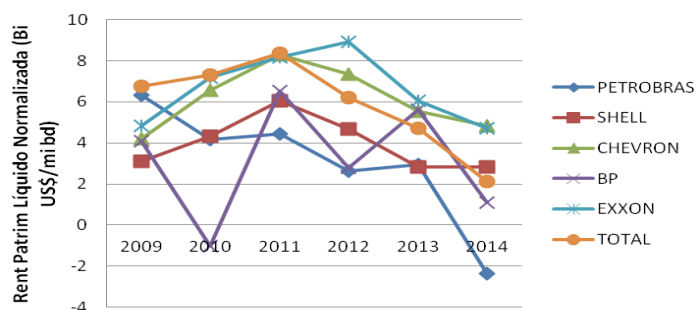


Figure 13. Return on Shareholders' Equity
Source: SEC

Figure 13 above shows a continued drop in Petrobras about this indicator. The company's net income grew 31.4% between 2009 and 2011 and decreased by 148.1% between 2009 and 2014, the considered time base. On the other hand, Shareholders' Equity grew 94.5% between 2009 and 2010, the year of the company's capitalization, and grew 22.3% between 2009 and 2014.

When analyzing the performance of the other companies in the group, it worthy to mention BP's erratic behavior, with a sharp fall in 2010, due to the accident in the Gulf of Mexico. The other companies have similar status between them, with the indicator's ascendancy between the years 2009 and 2011, then having a fall in 2012 and 2014.

It should be noted that, from 2009 to mid-2014, international oil prices remained at levels above US\$100.00 per barrel, considering the Dubai, Brent and Nigerian reference oils. The WTI oil, a reference for the American market, remained above US\$95.00 a barrel. This was the highest price level for the product since 1977, when prices ranged around US\$14.00 a barrel. The historical series of price developments in this industry indicate that they have never been so high and for so long (BP, 2015). This issue depressed the profitability of the refining area of the companies, as already mentioned. As of mid-2014, oil prices have fallen, approaching common historical levels, which has forced structural changes in industry since (BP, 2015).

4. RESULTS ANALYSIS

Analyzing the behavior of Petrobras in relation to the other companies, using the four groups of indicators, we observed the following.



Operating Performance Index: reserves and production

The great discoveries of accumulations in the Pre-Salt by Petrobras have been a positive element of its financial performance. As quoted by the International Energy Agency (IEA, 2013), the location of the pre-salt reservoirs, in deep waters and far from the coast, generates operational, technical and financial high-level challenges for the development of production. Petrobras has been successful in its exploratory operations, in the evaluation of these reservoirs and in the production operation of these.

In its 2014 balance sheet, Petrobras reported a 23% increase in its proved reserves in the pre-salt area. This new geological boundary accounts for more than 30% of its proved reserves in Brazil. It is worth noting that approximately 90% of the company's reserves are in deep or ultra-deep waters, which makes Petrobras the world leader in operations in areas with these characteristics. Analyzing the increase in total proved reserves in Brazil between 2013 and 2014, we could observe an increase of only 1.3%. In total proved reserves of Brazil and other areas, the company maintained its reserves in 16.6 billion between the years of 2013 and 2014. This clouding effect of the new reserves in the pre-salt area was mainly due to the loss of reserves by production in mature fields (Petrobras, 2015).

In terms of production, the pre-salt fields contributed an average of 491,400 barrels of oil per day in 2014, a production increase of 63% compared to 2013 results in these areas (Petrobras, 2015). We observed an increase of 5.1% in the evolution of oil and gas production between 2013 and 2014. Thus, the increase in production in the pre-salt fields has been clouded by the loss of production in mature fields (Petrobras, 2015)

Another revenue issue is the fall in the price of oil by approximately 50% beginning from June 2014.

Liquidity ratio

Analyzing Petrobras' capability to pay its debts in relation to the group of comparable companies, we noted that Petrobras has been steadily declining since 2010, the year of its capitalization.

One explanation for this may be the company's ambitious investment plan. Studying the size of the plan announced at the end of June 2015, we observed that the new amount of investment planned for the next five years has dropped from US\$220 billion to US\$130 billion. This represents a drop in the average annual investment target of US\$44 billion to US\$26 billion.

In this item, we noted the following company data: ExxonMobil - US\$38 billion; Shell - \$24bn; BP-US \$24 billion; Chevron - \$35 bi; And Total - US\$29 billion. The average investment in 2014 of these five companies was US\$30 billion. In that year, Petrobras invested US\$37 billion, an increase of 23.3% on the considered average. In 2014, Petrobras registered approximately US\$143 billion of raw revenue, while these were the revenues of the other companies, as follows: ExxonMobil, US\$412 billion; Shell, US\$421 billion; BP, US\$353 billion; Chevron, US\$200 billion; And Total, US\$236 billion. The average revenue for these five companies was US\$324 billion.

About liquidity ratios, Petrobras will face in the coming years the challenge of adjusting its indices to industry and market standards.

Capital structure index

As for its capital structure indicators, in addition to performing below the other companies, Petrobras shows an acute trend of deterioration of its indices. In spite of Myers' report (2015), who indicates that the natural aversion to the financial risk by its presidents and shareholders can itself be an element of protection of the organization in relation to the decisions of capital structure and indebtedness, this was not we could observe in Petrobras. That author also pointed out that bankruptcy risk, asset settlement costs, and forced reorganizations for debt settlement are grounds for discouraging managers' indebt decision even under ideal loan conditions and into efficient and complete financial markets. However, managers tend to decide for the interests of shareholders, and this seems to be the extreme case of Petrobras (Myers, 1977).

Petrobras launched the largest capitalization plan in its history, which was announced by the company as the largest in the world to finance its business plan in 2010 (Petrobras, 2015). It should be noted, however, that such a plan had characteristics peculiar as opposed to traditional capitalization movements through the launch of shares, in which companies seek new resources to finance their investment plans. The possible explanation for the high indebtedness can be found in the company's ambitious Business Plan. Lambrecht and Myers (2012) reinforced the aversion of corporate management to risk and profit fluctuation, which, as a rule, results in possible underinvestment. A head member in the technical staff could have been the point of balance in the decision of overinvestment.

Most of the funds in Petrobras' capitalization process came from the State, which, in exchange for shares, gave Petrobras the right to explore and produce 5 billion BOE in the contracted period. This meant that, in fact, only about



US\$25 billion was raised of the approximate US\$70 billion achieved as new resources (Lima, 2011). Petrobras not only failed to receive the necessary amounts for the development of its gigantic Business Plan, but also assumed new contractual obligations to the State.

With its capital structure reformed, at least from an accounting point of view, but with insufficient new cash resources, or in other words, not financially reformed, the company started off an ambitious indebted plan, with the goal of conducting its Business Plan, at the time already budgeted at US\$224 billion (Lima, 2011). Between 2010 and 2014, the net debt ratio and the Ebitda (Earnings Before Interests, Taxes, Depreciation and Amortization) jumped from 1.09 to 4.77 times, and financial leverage grew from 16% to 48%. In order to maintain its financial health and Investment Grade classification, the company planned the 2.5 times and 35% limits for these indicators, respectively.

Between 2010 and 2014, Petrobras' short-term and long-term debt increased 217%. The new business plan, launched in 2015, points to 2020 2.03 and 32.3% debt ratios, aiming to correct this situation (Petrobras, 2015). Myers (1977) advises that companies do not necessarily decide for indebtedness based on opportunity for growth or present value of new projects, however appealing they may seem. These decisions are based largely on the risk of exposure to debt and cash protection, which was not the case for Petrobras.

Profitability indices

Analyzing Petrobras' indices of the return, net margin, operating margin and return of shareholders' equity, we could observe that these indicators have dropped systematically, unlike the other companies in the group.

The simultaneous increase in the company's own and third parties capital, together with the fall in profitability due to the price control determined by Petrobras' Board of Shareholders in the gasoline, CNG and diesel derivatives and by the type and quality of Investments made can explain this. In the years 2011, 2012, 2013 and 2014, the refining area presented losses of R\$9.9 billion, R\$22.3 billion, R\$17.7 billion and R\$38.9 billion, respectively (Petrobras, 2015).

In 2010, Petrobras presented in its 2010-2014 Business Plan the intention to make a total investment of US\$224 billion, of which US\$73.6 billion in the refining area and another US\$17.8 billion in gas and energy production, respectively 33% and 8% of the plan. These investments proved to be of low profitability and, as an example, we could highlight that of the total of 1,460,000 barrels announced for the new refineries in 2010, the actual increase in refining capacity was 115,000 barrels in 2015.

As a result, many projects were abandoned, partially or completely suspended, or delayed even after they had been started. These are the investments in the Premium I and Premium II (abandoned), Renest (partially delivered) and Comperj (halted) refineries, according to the 2015-2019 Business Plan (Petrobras, 2015). These events have harmed, and will still substantially undermine, the company's profitability.

Finally, we must highlight that Petrobras experienced problems that hampered the publication of its 2014 balance sheet, which only occurred with delay and reservations. Quarterly and annual financial reports and investment ad cycles are time markers that influence corporate performance standards (Ancona et Chong, 1996; Gersick, 1994). What happened with Petrobras generated natural criticism from shareholders, suppliers and control agencies, negatively affecting the company. Authors such as Eisenhardt (1989) warn that delays in decision-making and manifestations of results and strategies are factors that result in a drop-in stakeholder trust, and consequently in loss of opportunities.

As Epstein et Roy (2003) and Siegel (2009) state, the company's economic and financial transparency increases the confidence of current and future investors and their long-term sustainability perspective. Companies that have economic and financial sustainability are also able to access capital, be it financial markets or investors, at a cost compatible with the nature and risk of their business.

5. CONCLUSION

The indicators of Operation Performance, reserves and production, showed that Petrobras presented similar behavior to the group analyzed. Regarding the Liquidity Indicators, when analyzing the Petrobras' capacity to pay obligations in relation to the group of comparable companies, we verified that the company has been falling steadily since the year of its last capitalization. The analysis of the Capital Structure indicators shows that Petrobras' behavior is below that of the companies surveyed, showing a downward trend and deterioration. Finally, about profitability, analyzing its indicators, we could observe that Petrobras' performance, unlike most of the group, has fallen systematically throughout the historical series observed.

As a contradiction, despite its low performance in liquidity, capital structure and profitability indicators, Petrobras has a robust, vertical and integrated business structure, composed of large discoveries, with significant development and production capacity for oil and gas, based on the high technological knowledge and superior engineering involved in its deep-water operations. It still operates a significant refining plant, accounting for 99% of the world's fifth largest liquid fuels market (ANP, 2015) by 2014, according to the BP



Statistical Review 2015 Report, provided biofuels are included.

Petrobras head management deliberated and made mistaken management decisions, mainly related to the business plan, as size and portfolio of projects, capitalization form, levels of indebtedness and control of prices practiced, which hindered its performance in relation to the companies analyzed regarding its Liquidity, capital structure and profitability. Petrobras' low performance in these indicators jeopardizes its financial sustainability and, consequently, its survival as a company.

As mentioned by Acharya et al. (2011), in their article about internal governance, companies with strong organizational structure have natural elements of protection against external interference, actions of the CEO and Board of Shareholders, contrary to the interests of the organization. Top management may experience resistance offered by the management staff. In this sense, Petrobras has established a new Compliance directorate to reinforce the elements of decision making from its managerial technician staff.

The legal obligation of Petrobras to participate as an operator and to be present in all consortia in special areas, with a minimum participation of 30% - a measure under study by the national congress, due to the difficulty it faces in indebtedness - coupled with company's heavy economic and financial issues, impairs the development of new oil areas, areas of high potential and low geological risk, and, consequently, the sustainability of the industry and the full economic, financial and social evolution of the country.

Due to this situation, the National Congress opened a debate to review the laws that created such obligations and consequent restrictions. Based on the facts reported and the results found, we point out the need to open the discussion of the regulatory issue, mainly because we fail to find reason for the subordination of the exploitation and development of the nation's oil wealth to be restricted to a single company, Petrobras, even if it has the Union as its main and controlling shareholder.

All the other companies analyzed here, as demonstrated in the article, present ample operational, economic and financial capacities to contribute to the development of the oil industry and the Brazilian Nation and they can have a more significant participation in the businesses of this segment.

The reality of falling oil prices in international markets from mid-2014 (BP, 2015) is also noteworthy. If the current level of US\$30.00 per barrel remaining, the projects for the development of the new exploration and production from pre-salt areas may prove to be less profitable, given their

innovative characteristics and consequent development costs (EIA, 2013). We also must remark that the prices of derivatives practiced by Petrobras in the domestic market do not follow the international market and are based on values higher than those currently practiced.

Further research can be carried out considering other important sustainability indicators, such as social and environmental issues.

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