

MSc. Accounting, Strategy and Control

Master Thesis, 29/05/2013

Valuation of YPF S.A.

Supervisor: Prof. Ole Vagn Sørensen

Pages:114

Characters: 208.270

Filiberto Capone

Copenhagen Business School, 2013

ABSTRACT

Yacimientos Petroliferos Fiscales S.A. is an Argentinian Oil&Gas company which in 2012 has experienced a compulsory expropriation by its Federal Government. Many scholars and institutions remained shocked by the ease Argentina took this decision as well as by the impotence of international powers, not able in any way to stop this event. At today Repsol S.A., YPF last parent company, still blames the Federal Government to have undervalued its stocks at the moment of the expropriation and to have acted without a leg to stand on. At the contrary, Argentina declares to have behaved for the good of the company. The aim of this paper is to discover which are the reasons behind this dispute utilizing strategic and financial models in order to contemplate all the different scenarios.

The various models utilized will show that the company is undervalued by both the Federal Government and the markets. The reasons behind this wrong perception are mostly due to a too high risk estimation that value negatively the Government's action but seem not to consider the previous management behavior.

Table of Contents

1.	INTRODUCTION	6
1.1	Industry Overview	6
1.2	Investment Case	7
1.3	Problem Statement	9
1.4	Methods and Models	10
1.4.1	PESTEL	10
1.4.2	Porter five forces	11
1.4.3	Value Chain	11
1.4.4	Resource Based View	11
1.4.5	SWOT Analysis	11
1.4.6	Profitability Analysis	12
1.4.7	Growth Analysis	12
1.4.8	Discounted Cash Flow Model	12
1.4.9	Multiples	13
1.4.10	Data	13
1.5	Thesis Structure	13
1.6	Limitations	15
2.	COMPANY DESCRIPTION	16
2.1	History	16
2.2	Ownership	18
2.3	Management	19
2.4	Strategy	22
2.5	Geographic areas	22
2.5.1	Argentina	22
2.5.2	United States	24
2.5.3	Guyana	24
2.5.4	Peru	24
2.5.5	Colombia	24
2.5.6	Paraguay	24
2.5.7	Chile Onshore	25
2.5.8	Uruguay	25
2.6	Operations and Products	25
2.6.1	Exploration and Production	25
2.6.2	Refining and Marketing	26
2.6.3	Chemicals	28
2.6.4	Corporate and Other	29
2.7	Financial Performance	29

2.7.1	Net Sales	29
2.7.2	Operating Margin	30
2.7.3	Net Income	30
3.	STRATEGIC ANALYSIS	31
3.1	PESTEL Analysis	31
3.1.1	Political Factors	32
3.1.2	Economic Factors	34
3.1.3	Social Factors	37
3.1.4	Technological factors	38
3.1.5	Environmental factors	40
3.1.6	Legal factors	40
3.2	Porter Five Forces	41
3.2.1	Threat of new entrants	41
3.2.2	Business Rivalry	42
3.2.3	Supplier Power	43
3.2.4	Buyer Power	43
3.2.5	Threat of Substitutes	44
3.2.6	Attractiveness of the Industry	45
3.3	Value Chain	45
3.3.1	Primary activities	46
3.3.2	Secondary activities	48
3.4	Resource Based View	51
3.4.1	Vaca Muerta	52
3.5	SWOT Analysis	53
3.5.1	Strengths	53
3.5.2	Weaknesses	53
3.5.3	Opportunities	54
3.5.4	Threats	54
3.6	Partial Conclusion	55
4.	FINANCIAL ANALYSIS	55
4.1	Analytical Income Statement	56
4.2	Analytical Balance Sheet	56
4.3	Cash Flow Analysis	59
4.3.1	Change in Net Working Capital	59
4.3.2	Change in Net Investments	59
4.3.3	New Net Financial Liabilities	59
4.3.4	Dividends	59
4.3.5	FCFF and FCFE	60

4.4 Profitability Analysis.....	61
4.4.1 Profit Margin	61
4.4.2 Asset Turnover	62
4.4.3 Return on Invested Capital.....	62
4.4.4 Return On Equity.....	63
4.4.5 Net Borrowing Cost.....	63
4.4.6 Financial Leverage.....	63
4.5 Growth Analysis.....	64
4.5.1 Sustainable growth rate.....	64
5. FORECASTING	65
5.1 WACC Calculation	66
5.1.1 Capital Structure	66
5.1.2 Cost of Debt	66
5.1.3 Corporate tax	68
5.1.4 Cost of Equity.....	68
5.1.5 Sistematic risk (β).....	69
5.1.6 Equity and Country risk premiums.....	70
5.1.7 WACC	71
5.2 Vaca Muerta shale Revenue	71
5.2.1 Ownership.....	71
5.2.2 Shale capacity.....	72
5.2.3 Price per barrel.....	72
5.2.4 Inflation rate	72
5.2.5 Exchange rate.....	73
5.2.6 Investment	73
5.2.7 Revenue	73
5.3 Forecast assumptions	73
5.3.1 Revenue growth.....	73
5.3.2 Terminal period growth	74
5.3.3 Payout ratio.....	74
5.3.4 Value drivers	74
5.3.5 Net Financial Expenses.....	75
5.3.6 Gross profit	75
5.3.7 Net Working Capital	76
5.3.8 Capital Structure	76
6. VALUATION.....	76
6.1 DCF Model	76
6.2 Scenarios.....	77

- 6.2.1 Pessimistic scenario77
- 6.2.2 Optimistic scenario79
- 6.3 Sensitivity Analysis.....80
- 6.4 Multiples81
- 7. CONCLUSIONS82
 - 7.1 Why expropriating could be wrong82
 - 7.2 Why expropriating could be right83
 - 7.3 Final Statement.....83
- References.....84
- Appendix.....91

1. INTRODUCTION

1.1) Industry Overview

The petroleum industry includes the global processes of exploration, extraction, refining, transporting, and marketing petroleum products. The largest volume products of the industry are fuel oil and gasoline.

Pharmaceuticals, solvents, fertilizers, pesticides, plastics and many other chemical products use petroleum (oil) as their raw material.

The industry is usually divided into three major components: upstream, midstream and downstream. The upstream sector includes mostly the operations involved in finding new sources, also called exploration and production sector. The downstream sector, instead, is focused on refining the raw materials and processing them in order to be sold. The midstream operations are usually included in the downstream category and include the transportation, storage and marketing of the products produced.

Petroleum and Gas are commodities of vital importance, needed for the majority of industries but also for primary needs as transportation and heat. Indeed, oil accounts for a large percentage of the world's energy consumption, starting from a 32% for Europe and Asia, up to a 53% for the Middle East.^[1] Oil and gas supply 60 percent of daily energy needs for 6.9 billion people, while the other 40 percent comes from coal, nuclear and hydroelectric power as well as "renewables" sources.^[2]

The American Petroleum Institute divides the petroleum industry into five sectors:^[1]

- Upstream (exploration, development and production of crude oil or natural gas);
- Downstream (oil tankers, refiners, retailers and consumers);
- Pipeline;
- Marine;
- Service and Supply.

¹ "Oil and Gas Industry Overview", <http://www.petroleumonline.com/content/overview.asp?mod=1>

² "Petroleum Industry", https://en.wikipedia.org/wiki/Petroleum_industry

1.2) Investment Case

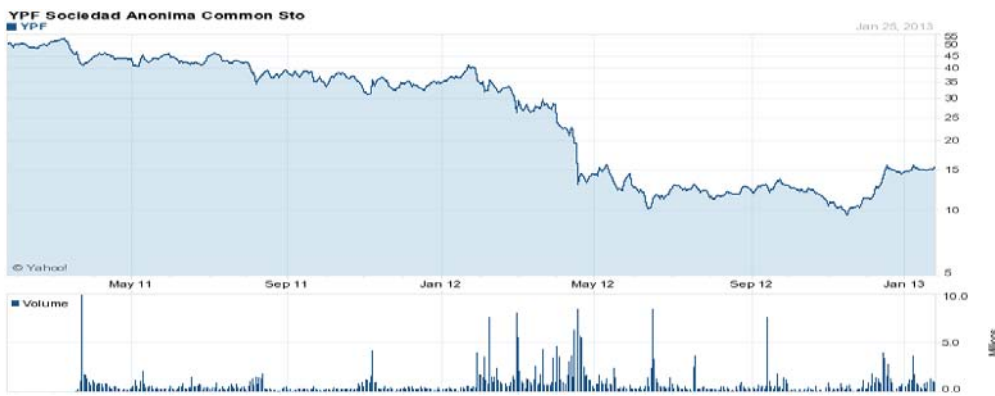
After the Argentinian Government declared the expropriation of Yacimientos Petrolíferos Fiscales S.A., on April 26th 2012, the company price per share dropped of 29% in only one day^[3]. The Government committed to expropriate 51% of YPF stocks from Repsol, which owned the 57.4% of the company at the time of the event.^[4]

The company's price per share started to undertake a downtrend in January, when the first rumors were suggesting a forthcoming expropriation. It was in those days that the company started to consistently lose market value.^[3]

During this period YPF was accused of not making enough investments and efforts, and several provinces decided to cut their concessions of field exploitation to the company. It all seemed a big mise-en-scene which, of course, ended up with YPF's compulsory take over.

From January to April the price dropped from a high of \$41.51 to a low of \$12.48.^[3] A change of almost 70%. This change cannot be tracked to any index because of its disproportion compared to NYSE or MERVAL, which declined only by 4%^[5] and 11%^[6] respectively.

Figure 1: YPF stock trend from January 2011 to January 2013



Source: <http://finance.yahoo.com>

³ YPF S.A. Historical Prices (YPF), <http://finance.yahoo.com/q/hp?s=YPF&a=00&b=1&c=2012&d=03&e=30&f=2012&g=d>,

⁴ YPF S.A. Report 2011, pag.27

⁵ NYSE Euronext, Inc. (NYX) Historical Prices, <http://finance.yahoo.com/q/hp?s=NYX&a=00&b=1&c=2012&d=03&e=30&f=2012&g=m>

⁶ MERVAL BUENOS AIRES (^MERY) Historical Prices, <http://finance.yahoo.com/q/hp?s=^MERY&a=00&b=1&c=2012&d=03&e=30&f=2012&g=d>

“Argentina will manage YPF professionally”, said Argentinian President Cristina Fernández de Kirchner announcing the expropriation, stating also that Argentina is one of the few countries that doesn’t control its own oil. Argentina is expropriating YPF for the “public good,” this is what the Government wanted to communicate.^[7]

On May 2011, Repsol YPF announced one of its largest discoveries of unconventional hydrocarbons at the Vaca Muerta formation located in the Argentinean province of Neuquén. The capacity discovered will be able to produce commercial grade oil and gas amounting 22,807 billion barrels of oil equivalent (Bboe), where 1 boe is equivalent to 5,015 million cubic feet of gas. The evaluation was carried out by Ryder Scott, covering a total area of 8,071 km² (1,994,378 acres) where Repsol YPF holds a net interest of 5,016 km² (1,239,407 acres) in the Neuquén area^[8].

This report covers only an acreage of 1.99 million acres , but the Vaca Muerta formation spreads over an area of about 30,000 km² and YPF owns 12,000 of them, resulting to be 40% of the total.^[9]

According to a newspaper *“...That makes Argentina the world's number three in terms of shale gas reserves, hot on the heels of the US, which has reserves of some 24 trillion cubic metres, and China, which has reserves of some 36 trillion cubic metres, according to the American Energy Information Administration.”*^[10]

Certified prospective volumes represent about 30 years of oil supply and 50 years of gas supply at the current consumption rates in the country^[9]. If exploration proves successful in the Vaca Muerta formation and intensive development began in the area, its capacity could soon double Argentina’s existing gas and oil production. This would require a vast investing effort that would reach \$ 250 billion for the drilling of new productive oil wells which would imply additional drilling equipment units besides the existing ones in the country^[8].

A program of such magnitude would require an important capital investment in Argentina from international markets; a powerful domestic industry (equipment, services, etc.), and highly technically

⁷ Orihuela, 16/04/2012

⁸ Repsol Report, http://www.repsol.com/es_en/corporacion/prensa/notas-de-prensa/ultimas-notas/08012012-repsol-eleva-prevision-recursos-vaca-muerta.aspx

⁹ Repsol Report, pag. 5, http://www.repsol.com/imagenes/es_en/Vaca_Muerta_annexes_tcm11-618243.pdf

¹⁰ Hernandez, 08/05/2012

qualified human resources since Argentina competes against other similar developments worldwide (US, China, Australia, Eastern Europe, etc.).

1.3) Problem Statement

YPF's share price experienced a serious drop during last year. The main reason can easily be linked to Argentina's Government intentions of expropriation. On April 16 2012, Argentinean President Cristina Fernández, announced: *"...When one makes decisions in the interests of national management [...] one also expects that managers understand the interests of the State. We are the only country in America and one of the few in the world that doesn't manage its own natural resources, but there were stronger arguments in favor of us taking this decision."*^[11] Markets strongly reacted to this statement selling YPF shares in crowd. Since then, Repsol and Argentina went through months of useless price negotiations, but no agreement was reached. Repsol demanded at least \$10bn (£6.24bn) in compensation for its YPF stake, a sum that was rejected out of hand by Argentina's Deputy Economy Minister, Axel Kicillof.^[12] For months, YPF has seen cancellations of concessions for oil fields in several provinces, where the governors accused YPF of not making investments to raise production.^[11]

The purpose of this thesis is to assess the fair price per share which should be paid by the Argentinian Government to Repsol in order to acquire the company. Hence, the thesis problem statement is:

"What is the fair value of YPF?"

Anyway, the case's circumstances suggest a deeper analysis. Since the company is hanging in the balance of two parties, a private company and a public institution, it would be interesting to analyze:

"Which between Argentinian Government and Repsol assures YPF the most profitable scenario?"

In this case a scenario simulation will help understand the differences between the two managements.

"Is Argentinian Government decision healthy for the country's future?"

The word "healthy" here refers to profitability but it also relies on some company's organizational peculiarities such as culture, strategy and development.

¹¹ Peregil, 17/04/2012

¹² Fiona Govan & Emily Gosden, 20/04/2012

“How are world’s institutions reacting to Argentina’s abuse? Could they do something?”

This question regards the consequences experienced by Argentina’s Government after the take-over.

“Which of the two parties has more negotiation power?”

Since the case is focused on the fair Repsol payment price, one important factor is which of the two parties has more influence in pushing the price at its advantage.

“Why markets reacted with a sale in crowd of YPF stocks after the announcement?”

One important point will be to understand why market had a certain kind of reaction and what this meant in strategic and financial terms.

“What would be the best conclusion of the dispute?”

This question wants to assess how YPF could come out stronger from this situation.

These questions will be answered through the utilization of an overall Strategic, Financial Statement Analysis and Valuation. Some further sub-analysis will be added in order to make the entire valuation more objective and unbiased.

1.4) Methods and Models

To provide inputs to forecast the right price per share , a thorough Strategic analysis will be carried out. The Strategic Analysis provides guidance on the structure and types of analyses that a scholar can follow in a Valuation. Together with the Strategic Analysis, in order to answer the problem statement questions, a Financial Statement Analysis and a Valuation will be also conducted. The models used will be:

1.4.1) PESTEL

The first step when conducting a Strategic Analysis is to assess YPF's macro environment. To accomplish this aim will be conducted a PESTEL Analysis. PESTEL is a part of the external analysis when doing market research, and gives an overview of the different macro-environmental factors that the company has to take into consideration. It is used mostly in Strategic Analysis for understanding market growth, the company’s business position, its potential and direction for operations.^[13]

¹³ PEST Analysis, http://en.wikipedia.org/wiki/PEST_analysis

1.4.2) Porter Five Forces

To evaluate YPF's business environment in order to understand the complexities and dynamics of the Oil&Gas industry a Porters Five Forces Analysis will be conducted. Through the use of a Porters Five Forces Analysis it will be possible to gain important information about the Oil&Gas market and its competitiveness, as well as the overall industry profitability. Porter Analysis refers to these forces as the micro environment, to contrast it with the more general term macro environment, commonly related to PESTEL.^[14]

1.4.3) Value Chain

The aim of the value chain is to describe the activities that YPF performs and connect them to an assessment of the competitive strength of the company. This model provides a detailed analysis of the primary activities as well as the supporting activities of YPF. The analysis of the primary activities gives a clear insight of what and where are the core competences of the company, thereby determining the competitive advantage which aids in gaining market share and margins. The second part of the analysis involves assessing the support activities of YPF. The value chain analysis provides a process view of a company, showing how the activities are carried out within a company determining the costs and profits.^[15]

1.4.4) Resource Based View

The RBV is a management device used to assess the available amount of business' strategic assets. In essence, the resource-based view is based on the idea that if the company uses efficiently and effectively its unique resources it will gain a competitive advantage.^[16] The view conceptualizes the firm as a bundle of resources and it is these resources and the way they are combined that make a firm different and in turn allow it to deliver products and services to the market.

1.4.5) SWOT Analysis

In order to summarize all the important findings from the Strategic Analysis as well as the capabilities of the

¹⁴ Porter five forces, http://en.wikipedia.org/wiki/Porter_five_forces_analysis

¹⁵ Value Chain, http://en.wikipedia.org/wiki/Value_chain

¹⁶ Resource Based View definition, <http://www.businessdictionary.com/definition/resource-based-view.html>

organization, a SWOT Analysis will be conducted. This analysis is based on the findings of the preceding analysis and it summarizes all the important internal and external factors that help encompass the future expectations of the company. Nevertheless, the SWOT Analysis will help to find a clear and overall picture of the company's strategic position within the Oil&Gas sector.

1.4.6) Profitability Analysis

One of the most important aspects when conducting a Financial Analysis of a company lies within its Profitability Analysis, which is important for a company's future prospects and for maintaining and developing positive relationships with customers, suppliers and shareholders. The Profitability Analysis is based on the Du Pont model, which describes the inter-relations between profitability ratios.^[17]

1.4.7) Growth Analysis

This part will be focused mostly on the Historical Growth Analysis. This analysis provides valuable insights about future growth, but never stands alone. Indeed it should be combined with an in-depth knowledge of the market, the industry and the firm, being analyzed in order to determine the right future growth potential.^[18]

1.4.8) Discounted Cash Flow Model

The Discounted Cash Flow Model gives the value of the company through the present value of all future cash flows. In the Discounted Cash Flow model the enterprise value is mostly affected by the growth rate and the WACC variables. In this model FCFE are generally recognized as more accurate than FCFE because they do not include financial based items, which can easily mislead the real firm's overall profitability.

Talking about Valuation approaches, analysts are usually faced by a choice, using the DCF Model or the EVA (Economic Value Added) Model. Even though there have been long theoretical discussions about which of the two models gives the best estimation, nobody was ever able to demonstrate the superiority of one on the other. Today scholars consider them like a religion, so that everyone chooses what he believes is the best.

¹⁷ Petersen & Plenborg, pag.93

¹⁸ Petersen & Plenborg, pag.12

1.4.9) Multiples

Another valuation approach consists of a variety of multiples, which present a comparison of YPF against its peers. In this paper the multiple utilized will be P/E, EV/EBITDA and EV/Revenue ratios. The price-to-earnings ratio is an equity valuation measure while the other two are enterprise-value-based measures.

1.4.10) Data

The data used in this thesis will mostly consist of accounting data collected from YPF's annual reports. Since YPF is quoted on NYSE, accounting data have been verified by authorized auditors so that they can be considered reliable. For what regards data used to analyze different strategic levels and scenarios, any data provided by only one of the two parties will be weighted properly and verified empirically, since both Argentinian Government and Repsol could have incentives to manipulate them for their own benefits. In general, the information used will mostly be public, because it is likely to be already confirmed or contested by third parties.

1.5) Thesis Structure

The paper will start with an overall company description and then will be divided in three parts: a Strategic Analysis part, a Financial Analysis part and a Forecast and Valuation part. In order to assess the variables for the Forecast and Valuation part, the information from the two previous analysis is needed. The Strategic Analysis will be run developing a "top-down" approach, starting by looking at which macro effects will affect YPF in the future to which micro effects condition the company.

The Strategic Analysis will be itself divided in:

- a PESTEL Analysis to define the macro-environment;
- a Porter Five Forces Analysis to analyze the industry variables;
- a Value Chain and a Resource Based View to find the strengths of the company and its competitive advantages;
- a SWOT Analysis to summarize all the previous results.

The Financial Analysis will be divided in:

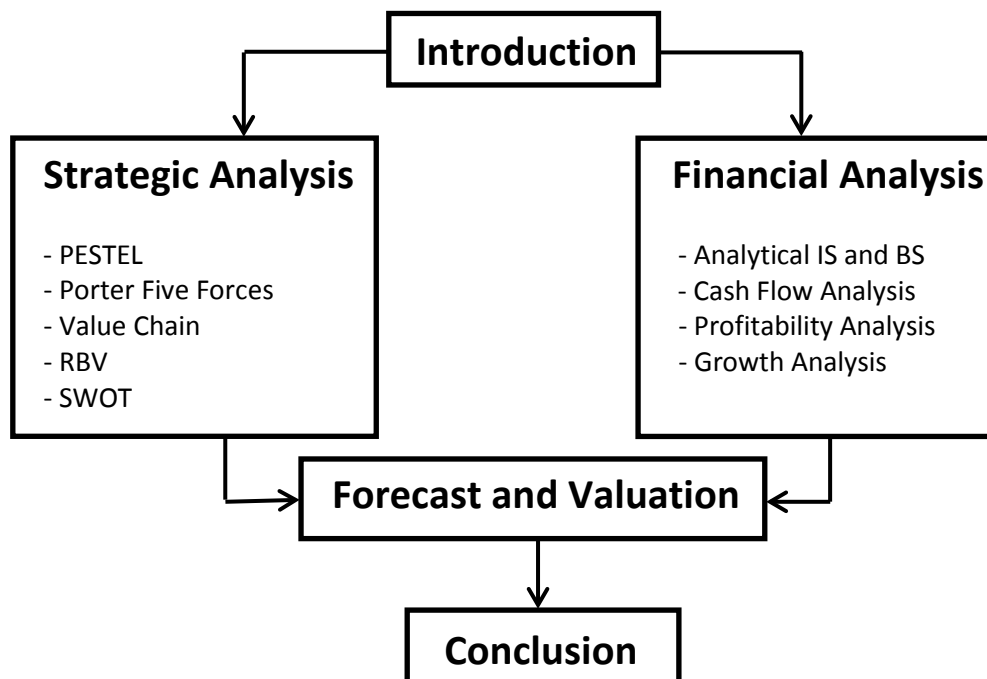
- an Analytical Income Statement and Balance Sheet in order to separate “operations” from “financing” activities;
- a Cash Flow Analysis to look at the quality of YPF’s cash flows;
- a Profitability Analysis to evaluate YPF’s main ratios;
- a Growth Analysis to help estimate YPF’s growth rate.

The Forecast and Valuation part will include:

- a WACC calculation to assess the cost of capital;
- a DCF Model to estimate YPF’s price per share (PPS);
- a Scenario simulation to value different possible outcomes;
- a Sensitivity Analysis to value different scenarios with different variables;
- a Multiples Analysis to benchmark YPF with other similar companies.

Finally the paper will provide its Conclusions and Final Statement. The layout of the entire paper’s structure is showed below.

Figure 2: Thesis Structure



1.6) Limitations

The Valuation will be based from 2007 to 2011 reports.

Official reports published after 31th December 2011 will not be considered even if they are assessed to have a significant impact on the valuation.

YPF utilizes a report based on Argentina GAAP, which follow in all material respects the international standards, but shows some differences.^[19]

- restatement for inflation; IAS require the restatement only in the case of hyperinflation, in Argentina this restatement is not required in the case of stability;
- deduction of selling expenses from realization values: IAS do not require their deduction, in Argentina this is required;
- accounting for loss contingencies: IAS require that the event's occurrence be more probable than not, in Argentina it is required that the probability be significantly greater than 50 %;
- deferred assets and liabilities: in Argentina these should be discounted; IAS do not require this discount;
- intangible assets: in Argentina organization and pre-operating expenses are admitted; IAS do not consider them intangibles.

Any measure assessed for Valuation purposes is relative to the author's idea about the firm's future perspective. Hence, measures such as WACC and growth rate should be recognized as subjective.

¹⁹ Deloitte Report, pag.4, http://www.deloitte.com/assets/Dcom-Argentina/Local%20Assets/Documents/argentine_us_gaap.pdf

2. COMPANY DESCRIPTION

2.1) History

The company, specialized in the exploration, production, refining and commercialization of petroleum, was founded in 1907, after oil was discovered near Comodoro Rivadavia, a city in Chubut.

The company was created by Argentinian President Hipólito Yrigoyen and General Enrique Mosconi on 3 June 1922. It was the first entirely state-run oil company in the world.

The firm produced 2.2 million barrels in its first year of operation (1922) which represented over three quarters of domestic production and nearly a fourth of Argentina's oil consumption that year. In 1923 YPF started a partnership with Bethlehem Steel in order to begin the production of gasoline and kerosene.

After Yrigoyen's victory, in 1928, YPF decided to reduce oil prices, supplying the cheapest petroleum in the world. This change highly increased YPF's sales compared to its rival private companies, driving the industry toward a price war and YPF to produce 5.5 million barrels by 1929, covering a third of the nation's oil market. Oil production by YPF continued to grow, from just 5 million to 15 million barrels in 1945.

However, while consumption nearly doubled, in 1945 40% of the nation's oil was imported and by 1953 importations reached 60%.

Thanks to the growth of private production in Argentina between the 50s and 60s YPF benefited by way of a royalty bonanza, which financed record investments. These led to a doubling in YPF production to 65 million barrels. At this time (1962), including the private sector, Argentina's oil production nearly tripled to 98 million barrels, and despite higher consumption, imports fell to merely one sixth of total demand.

The firm operated 7 refineries and 3,000 service stations by 1977, while production reached 118 million barrels. With the 1973 oil shock, however, and the \$470 million in added oil import costs combined with larger payrolls to erase profits in 1974, production declined slightly.

The biggest crisis in YPF's history started with the death in a helicopter crash of the firm's director, Raúl Ondarts, and the appointment of General Guillermo Suárez Mason in 1981.

One of the reasons for YPF's crisis was that Suárez Mason installed many of his hard-line Army Intelligence

colleagues in main managerial positions. They in turn diverted large quantities of fuel into the director's newly established company Sol Petróleo, a dummy corporation used by Suárez Mason and his appointees for frauds as well as to divert funds to illegal organizations.

YPF debts rose 142-fold during Suárez Mason's management, at the end of which in 1983 the company recorded the world's largest loss at that time: \$6 billion.

In 1991, Argentina, with its new President Carlos Menem, initiated the privatization of many of the firm's refineries, filling stations, pipelines, and oil fields, netting \$1.5 billion by 1993. These measures were taken in order to fight the country's unemployment and previous annual deficits. Indeed, employment was slashed to under 13,000 (65%), while losses in the order of \$200 million yearly were reversed, reaching \$3.9 billion Revenue in 1992.

In 1999 a big revolution overwhelmed YPF. The company was acquired by the Spanish multinational Repsol, which purchased 98% of its shares. The union of the two companies took the name of Repsol YPF, in which YPF represented 40% of the new firm's reserves and over 50% of its production.

In 2008 The Petersen Group entered into a partnership with Repsol by acquiring a 15% stake in YPF with the option to buy another 10% within four years. The option was executed on May 2011, guaranteeing a 25% ownership to the Petersen Group. A majority of the firm's shares (58%) remained under the control of Repsol, while 16% was sold to private portfolios.

President Cristina Fernández de Kirchner raised YPF frequently in speeches during March 2012, claiming that underinvestment in the firm had caused declines in output. Governors in six producing provinces subsequently revoked YPF leases, decreasing of a fifth its oil production.

The president ultimately announced, on 16 April 2012, the intention to renationalize the company taking over 51% of its stake.^[1]

¹ YPF History, <http://en.wikipedia.org/wiki/YPF>

2.2) Ownership

YPF capital stock consists in 3,933,127,930 shares , divided into 3,764 Class A shares, 7,624 Class B shares, 40,422 Class C shares and 393,260,983 Class D shares; each fully subscribed and paid, with a par value of ten pesos each and the right to one vote per share.

Sole holder of Class A shares is entitled to elect one director and one alternate of the Board of Directors and Supervisory Committee.

The holders of Class B, C and D shares can elect up to four members and four alternates of the Committee.

Class D shares are listed on the NYSE under the trading symbol “YPF”. The shares began trading on the NYSE on June 28, 1993.

After the acquisition, Repsol owned 330,551,981 Class D shares and therefore controlled YPF through a 99.04% ownership interest until 2008. On February 2008, Petersen Energía purchased 58,603,606 of YPF Class D shares, representing 14.9% of total capital stock from Repsol for \$2,235 million. In addition, Repsol YPF granted Petersen Energía options to purchase up to an additional 10.1% of outstanding shares within four years. On May 2011, Petersen Energía executed this option. Following the exercise the Petersen Group owned shares representing 25.46% of YPF’s capital stock.

Law No. 26741, which passed by the Argentinian Congress on May 3, 2012 (The “Expropriation Law”), provided for the expropriation of 51% of the share capital of YPF represented by an identical stake of Class D shares owned, directly or indirectly, by Repsol YPF and its controlled or controlling entities.

The Expropriation Law has significantly changed YPF’s shareholding structure. 51% of the Class D shares owned by Repsol YPF have been declared of public interest, and were assigned: 51% to the Federal Government and 49% to the Government of the Provinces that compose the National Organization of Hydrocarbon Producing States. ^[2]

As of the date of this paper, YPF’s ownership is divided in:

- Argentina Government (51%)

² YPF 2011 Report, pag.27

- Petersen Energía (25.46%)
- Repsol YPF (6.43%)
- Others (17.11%)

2.3) Management

After Argentina's Government concluded its takeover of the country's biggest energy company, new directors were named. During the first shareholders' meeting 16 of the company's 17 directors were appointed by the State, while Repsol managed to nominate the remaining directorship.

The government-appointed directors include Deputy Economy Axel Kicillof, a young, leftist economist seen as the brainchild of the takeover, and YPF's new general manager Miguel Galuccio.

The appointment of Galuccio was read as a sign that President Fernández wanted a professional at the leadership of the new state-controlled YPF.

Argentina's main energy-producing provinces - Neuquén, Santa Cruz, Chubut and Mendoza - got one seat in the board each. ^[3]

On May 7, 2012, through Decree No.676/2012 of the National Executive Power, Mr. Miguel Matias Galuccio was appointed General Manager of the Company. The Management team he is today in charge of is composed by ^[4]:

- Nicolas Arceo (Director of Administration and Finance). Mr. Arceo is Undersecretary of Economy Planning of the Ministry of Economy of the Republic of Argentina and has been appointed delegate for the Administrative and Tax Division and the Finance Division of YPF;
- Daniel Gonzalez (CFO). Mr. Gonzalez had 15 years of experience in Merrill Lynch, where he was President in charge of the Cono Sur area. He was investigated by Comisión Nacional de Valores (CNV) under the suspect of "inside information" management;
- Fernando Giliberti (Director of Strategic Planning and Business Development, Director of the Board). Mr. Giliberti is an ex public accountant, graduated at UCA;

³ Reuters, 04/06/2012

⁴ Infobae, 04/06/2012

- Rodrigo Cuesta (General Counsel, Director of the Board). Mr. Cuesta has a Master in Administrative Law and is a lawyer. He is a trustee in Deputy's General Office and worked in the legal area of Aereolineas Argentinas;
- Fernando Dasso (Director of Human Resources, Director of the Board). Mr. Dasso has a degree in Labor Relations;
- Gabriel Abalos (Investor Relations Manager, Market Relations Officer). Mr. Abalos has experience in Financing Strategy and Bank Relationship;
- Carlos Alfonsi (Downstream Director, Director of the Board). Mr Alfonsi is a professional engineer;
- Oscar Alfredo Cretini (Director of the Board). Mr Cretini is graduated in Geology and a MBA, Business and Environment guidance. He is president and controller of Petrominera Chubut and holder of Petro Chubut;
- Roberto Ariel Iovovich (Director of the Board). Mr. Iovovich is a public accountant, he is currently Minister of Economy and Public Works of the Province of Santa Cruz. He is also principal representative for the province of Santa Cruz to the Fiscal Responsibility Commission's Office;
- Axel Kicillof (Director of the Board). Mr Kicillof has a degree and PhD in Economics. He is currently Secretary of Economic Policy and Development Planning of the Ministry of Economy and Public Finance. He is licensed as a senior researcher at CONICET and as a regular professor at the Faculty of Economic Sciences of the UBA. It has dozens of publications and teaching jobs in public universities as UBA, Quilmes University and the University of General San Martin;
- Gustavo Alejandro Nagel (Director of the Board). Mr. Nagel is an engineer and MBA. He is Director of Exploration and Production of Oil&Gas of Neuquén, and chief representative for the province of Neuquén of Piedra del Aguila;
- Walter Fernando Vazquez (Director of the Board). Mr. Vazquez is a lawyer. Undersecretary of Hydrocarbons and Mining of the province, full member of the OFEPHI and full member of the

Federal Mining Council;

- Eduardo Basualdo (Independent Director of the Board). Mr. Basualdo has a degree in Economics and a PhD in History. He is a CONICET researcher at FLACSO. Also Member of the Board of CELS.
- Jose Ivan Brizuela (Independent Director of the Board). Mr. Brizuela has a BA in Sociology and Administration. He is also Director of Brisa de Argentina S.A., a company dedicated to technological enterprises;
- Luis Garcia Del Rio (Independent Director of the Board). Mr. Del Rio was responsible for the area of contentious Repsol Butano and in 2004 became director of legal services in the area of global LPG business of Repsol. In 2005 he was appointed director of legal services for upstream operations;
- Sebastian Uchitel (Independent Director of the Board). Mr. Uchitel has a PhD in Computer Science and a degree in Communication Sciences. Is an independent researcher at CONICET;
- Hector Walter Valle (Independent Director of the Board). Mr. Valle is president of the Foundation for Development Research (FIDE) and until 1 June was president of the National Endowment for the Arts;
- Sergio Affronti (Director of Shared Services);
- Doris Capurro (Director of Communications and Institutional Relations);
- Carlos Colo (Director of Exploration);
- Gerardo Doria (Director of Upstream Services);
- Javier Horacio Fevre (Director of Internal Audit);
- Juan Martin Gandolfo (Director of Exploitation);
- Jesus Grande (Executive Director of Upstream);
- Javier Gustavo Sanagua (Director of Reserves Control);
- Manuel Arevalo (Director);
- Ricardo Luis Saporiti (Director);
- Maria de las Mercedes Archimbal (Member of the Supervisory Committee);

- Enrique Alfredo Fila (Member of the Supervisory Committee);
- Gustavo Adolfo Mazzoni (Member of the Supervisory Committee).

2.4) Strategy

YPF strategy is based on human resources decentralized decision power. Indeed the leaders of different regions have the autonomy of managing the resources at their disposal using education and constant growth as key factors to develop their businesses.

Politics of Quality, Environment, Safety and Health, transversally cross the entire organization, promoting the implementation of best practices and technological innovation in order to minimize the effects on the environment and ensuring sustainable development. Each employee of YPF is committed to minimizing any impact that may occur to the environment in the process of exploration, development and production.

In YPF, research and technological development are key pillars of growth as they articulate efficiently and deepen interaction with the scientific national and management expertise.

Indeed YPF created YPF S.A. Technology, a new technology development company in partnership with the CONICET (National Scientific and Technical Research Council), to encourage innovation from specialized research and sustained growth of the energy industry.

With high academic professionals, the company is moving towards a process of positive changes with the goal of becoming an international leader in technologies for the production of oil and unconventional gas.^[5]

2.5) Geographic areas ^[6]

2.5.1) Argentina

YPF production is concentrated in Argentina and its domestic operations are subject to numerous risks.

Certain provinces in Argentina have recently requested YPF to submit statements of discharge in relation to the company's alleged breach of its investment concessions. As of the date of 2011 annual report, certain of these concessions have been revoked by the relevant authorities while the revocation of other

⁵ YPF website

⁶ YPF 2011 Report, pag. 31-35

concessions is currently being evaluated. Assets related to the concessions revoked in 2012 totaled approximately AR \$283 million (0.51% of YPF Total Assets).

Argentina is the second largest gas and fourth largest oil producing nation in Central and South America according to the 2010 edition of the BP Statistical Review of World Energy. Oil has historically accounted for the majority of the country's hydrocarbon production and consumption, although the relative share of natural gas has increased rapidly in recent years. In 2011, a total of 24 sedimentary basins have been identified in the country, according to the "Plan Exploratorio Argentino" (Argentina Exploratory Plan). During 2011, YPF participated in 44 exploration and 27 production joint ventures and contractual arrangements in Argentina.

YPF's project portfolio includes more than 1,400 projects to develop proved, probable and possible reserves, in addition to exploration and development resources, all focused mainly on crude oil and the evaluation and development of unconventional resources in the Neuquina basin.

With respect to crude oil, YPF sells substantially all of its Argentine production to its Refining and Marketing business segment to satisfy the company's refining requirements. However, since 2004 the Argentine Government has established regulations for both the export and internal natural gas markets which have affected Argentine producers' ability to export natural gas. Consequently, since 2004 YPF has been forced in many instances to partially or fully suspend natural gas export deliveries that are contemplated by contracts with export customers.

YPF has not entered into any contractual commitment to supply natural gas to the domestic market. YPF estimates that natural gas consumption in Argentina totaled approximately 1,629 Bcf (billion cubic feet) in 2011. The number of users connected to distribution systems throughout Argentina amounted to approximately 7.8 million in the same year.

During 2011, approximately 80% of YPF's natural gas sales were produced in the Neuquina basin.

The Argentine Government has taken a number of steps aimed at satisfying domestic natural gas demand, including pricing regulations, export controls and higher export taxes and domestic market injection

requirements. These regulations were applied to all Argentine exporting producers, affecting natural gas exports from every producing basin.

2.5.2) United States

YPF has mineral rights in 54 blocks in the United States, comprised of 49 exploratory blocks, with a net surface area of 647 square kilometers and five development blocks, with a net surface area of 17 square kilometers. In addition, YPF Holdings has entered into various operating agreements and capital commitments associated with the exploration and development of its oil and gas properties.

2.5.3) Guyana

YPF holds, through YPF Guyana Ltd., a wholly-owned subsidiary of YPF International S.A., a 30% working interest in a petroleum prospecting license (the "Petroleum Prospecting License") as part of a petroleum agreement (the "Petroleum Agreement") in connection with the Georgetown block, offshore Guyana. The surface exploratory area attributable to YPF Guyana Ltd.'s working interest is 2,520 square kilometers, which represents approximately 622.7 thousand undeveloped acres.

2.5.4) Peru

YPF holds a 25% share in the Consortium in Peru formed with Repsol YPF and Ecopetrol. The activity performed in this country consists in the re-processing of existing seismic data and the recording of 1,150 km of 2D seismic data.

2.5.5) Colombia

YPF participation in five blocks was negotiated in Colombia during 2011: Catguas A and B, Carboneras, COR12, COR14 and COR33.

2.5.6) Paraguay

The Manduvira Prospecting Permit was awarded 100% to YPF in September 2011. It covers a total surface of 15,475 km² and is located in the Eastern area of Paraguay, within the scope of the Chacoparaná basin. YPF's goal in this area is to explore unconventional resources and the scheduled activity includes the acquisition of 100 km of 2D seismic data towards the end of 2012 and the drilling of an appraisal well in

2013.

2.5.7) Chile Onshore

In 2011, YPF submitted proposals to participate in the farm out arrangement offered by ENAP in connection with Chile's Magallanes basin.

2.5.8) Uruguay

YPF acts in Uruguay as operator, in partnership with Petrobras Uruguay and Galp.

2.6) Operations and Products ^[7]

YPF currently conducts its business according to the following organization:

- Upstream operations, which consists of YPF's "Exploration and Production" segment;
- Downstream operations, which consists of YPF's "Refining and Marketing" and "Chemical" segment;
- Corporate and Other, which consists of YPF's "Corporate and Other" segment.

The following table sets forth net sales for each of the lines of business ended December 31th 2011, 2010 and 2009:

Table 1: Net Sales for business line (AR \$ millions)

	2011	2010	2009
Exploration and Production	25109	23020	19981
Refining and Marketing	49544	36794	27562
Chemicals	4820	4316	3037
Corporate and Other	1958	1357	870

2.6.1) Exploration and Production

The Exploration and Production segment include sales of natural gas and services fees (primarily for the transportation, storage and treatment of hydrocarbons and products). In addition, crude oil produced by YPF or received from third parties is transferred from Exploration and Production to Refining and Marketing at transfer prices established by YPF, which generally seek to approximate Argentina's market prices.

⁷ YPF 2011 Report, pag. 29-119

As of December 31th 2011, YPF held 141 exploration permits and production concessions in Argentina. YPF directly operates 103 of them, including 43 exploration permits and 60 production concessions. The company had a production of approximately 13.5 mmboe (million barrels of oil equivalent) in 2011 and had proven reserves totaling approximately 88.3 mmboe.

2.6.2) Refining and Marketing

During 2011, YPF's Refining and Marketing activities included crude oil refining and transportation, and the marketing and transportation of refined fuels, lubricants, LPG (Liquefied Petroleum Gas), compressed natural gas and other refined petroleum products in the domestic wholesale and retail markets and certain export markets.

The Refining and Marketing segment is organized into the following divisions:

- Refining and Logistic Division;
- Refining Division;
- Logistic Division;
- Trading Division;
- Marketing Division.

YPF markets a wide range of refined petroleum products throughout Argentina through an extensive network of sales personnel. YPF also has independent distributors, owns a broad retail distribution system, and exports refined products. The refined petroleum products marketed by YPF include gasoline, diesel, jet fuel, kerosene, heavy fuel oil and other crude oil products, such as motor oils, industrial lubricants, LPG and asphalts.

- Refining division

YPF wholly owns and operate three refineries in Argentina:

- La Plata refinery, located in the province of Buenos Aires;
- Luján de Cuyo refinery, located in the province of Mendoza;
- and Plaza Huincul refinery, located in the province of Neuquén.

YPF's three wholly-owned refineries have an aggregate refining capacity of approximately 319,500 barrels per calendar day. The refineries are strategically located along the company's crude oil pipeline and product pipeline distribution systems. Substantially all firm's crude oil production is destined to its refineries, representing approximately 77% of the total crude oil processed.

During 2011, overall volumes of crude oil/feedstock processed decreased by 4.2% compared with 2010 due mainly to overhauls, as well as the lower availability in the market of some specific crude oil.

The La Plata refinery is the largest refinery in Argentina, with a nominal capacity of 189,000 barrels of crude oil per day. The refinery includes three distillation units, two vacuum distillation units, two catalytic cracking units, two coking units, a coker naphtha hydrotreater unit, a platforming unit, a gasoline hydrotreater, a diesel fuel hydrofinishing unit, an isomerization unit, an FCC (fluid cracking catalysts) naphtha splitter and desulfuration unit, and a lubricants complex.

- Logistic division

YPF has available for use a network of five major pipelines, two of which are wholly-owned. The crude oil transportation network includes nearly 2,700 kilometers of crude oil pipelines with approximately 640,000 barrels of aggregate daily transportation capacity of refined products.

In Argentina, YPF also operates a network of multiple pipelines for the transportation of refined products with a total length of 1,801 kilometers. The company also owns 16 plants for the storage and distribution of refined products and seven LPG plants with an approximate aggregate capacity of 1,641,415 cubic meters.

- Trading division

The Trading Division sells refined products and crude oil to international customers and oil to domestic oil companies. Exports include crude oil, unleaded gasoline, diesel fuel, fuel oil, LPG, light naphtha and virgin naphtha. This Division's export sales are made principally to Brazil and the rest of South America.

- Marketing division

YPF supplies all of the fuel market segments: retail, agriculture and industry. During 2011, the company achieved a leading position in the sale of the highest quality naphtha "N-Premium," reaching a market

share of 63.7%.

The Retail Division's sales network in Argentina includes 1,557 retail service stations , of which 95 are directly owned, and the remaining 1,462 are affiliated service stations.

With the aim of unifying and strengthening the network's brand image based on the concepts of modernity and rationality, YPF's improved its brand image strategy through enhancements in 87 service stations. YPF is the main retailer in Argentina, with 30.1% of the country's gasoline service stations, followed by Shell, Petrobras and ESSO with shares of 15.3%, 12.8% and 10.7% respectively.

The company's market share in diesel fuel and gasoline, marketed in all segments, increased slightly from 57.3% in 2010, to 57.6% in 2011.

YPF's service stations network has sustained ongoing improvements during 2011 in terms of operational procedures. Modifying the operational procedures followed by service stations, they were able to be used by authorized retailers starting in 2012. This step sought to establish unified standards while allowing certain flexibility in the network.

During 2011, lubricants and specialties sales to domestic markets decreased by approximately 0.8% . Lubricants sales to export markets, instead, increased by approximately 28.7%.

The volume of lubricants sol increased by approximately 6.6% and total asphalt sales increased by approximately 2.6%. Lubricants and specialties units followed a strategy of differentiation, allowing them to achieve and maintain a leading position in the Argentinean market. YPF's market share in 2011 was approximately 40.1%, compared to approximately 38% of 2010.

The company is also the largest LPG producer in Argentina with sales in 2011 reaching approximately 637 mtn (million tons), compared with 635 mtn in 2010, of which approximately 476 mtn (473 mtn in 2010) were sold in the domestic market.

2.6.3) Chemicals

Petrochemicals are produced at petrochemical complexes in Ensenada and Plaza Huincul, as well as in Bahía Blanca, where another petrochemical complex is located.

The firm's petrochemical production operations in Ensenada are closely integrated with its refining activities (La Plata refinery). This close integration allows for a flexible supply of feedstock, the efficient use of byproducts (such as hydrogen) and the supply of aromatics to increase gasoline octane levels. In 2011 and 2010, 85.1% and 85.5% of petrochemicals sales were made in the domestic market. Petrochemicals exports are destined to Mercosur countries, the rest of Latin America, Europe and the United States.

2.6.4) Corporate and Other

This operations include R&D and all the remaining technical and functional activities of the firm.

2.7) Financial Performance

To summarize YPF's financial performance, since it will thoroughly be explained in detail during the rest of the paper, it will be used an overall description of three of its main figures: Net Sales (Revenue), Operating Margin and Net Income.

2.7.1) Net Sales

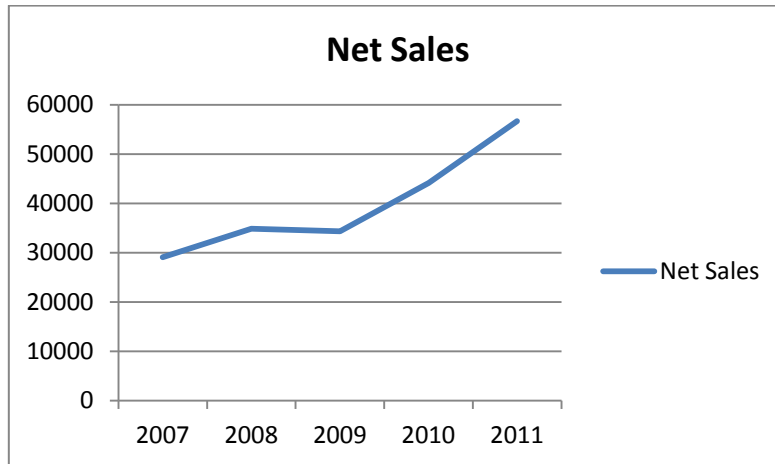
Sales grew at an average of 18,8% throughout the period 2007-2011. From AR \$29,104 in 2007 they reached AR \$56,697 in 2011. The only interruption was in 2009, where Revenue decreased by 1,6%. This stop was due to the financial crisis that hit markets, since in 2009 YPF was a multinational company already quoted on the NYSE.

The company, however, bounced back to growth immediately, with a 28.7% and a 28.4% sales growth in 2010 and 2011 respectively.^[8]

Within the overall period it is possible to state that the Net Sales performance was positive, given the good reaction the company had in 2010 after the crisis. In Figure 3 is shown YPF's Net Sales trend in the period 2007-2011.

⁸ YPF Performance, <http://www.vuru.co/analysis/YPF/economicMoat>

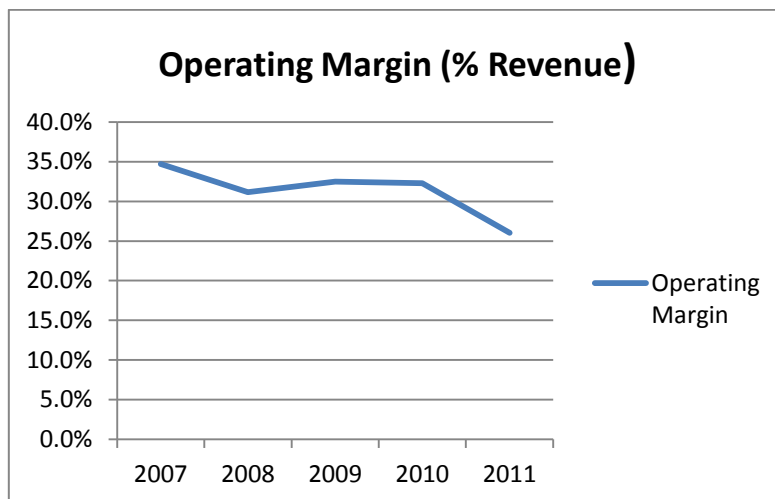
Figure 3: YPF's Net Sales trend (2007-2011)



2.7.2) Operating Margin

The Operating margin of YPF shows a complete different picture from the company's Net Sales development. Indeed, even if during the period 2007-2011 it grew from AR \$10,104 to AR \$14,765, it dropped from 34.7% to 26% as a percentage of Revenue. The reasons behind this fall will be analyzed throughout the paper. Figure 4 shows the Operating Margin's trend as a percentage of Revenue.^[8]

Figure 4: Operating Margin trend as a percentage of Revenue (2007-2011)



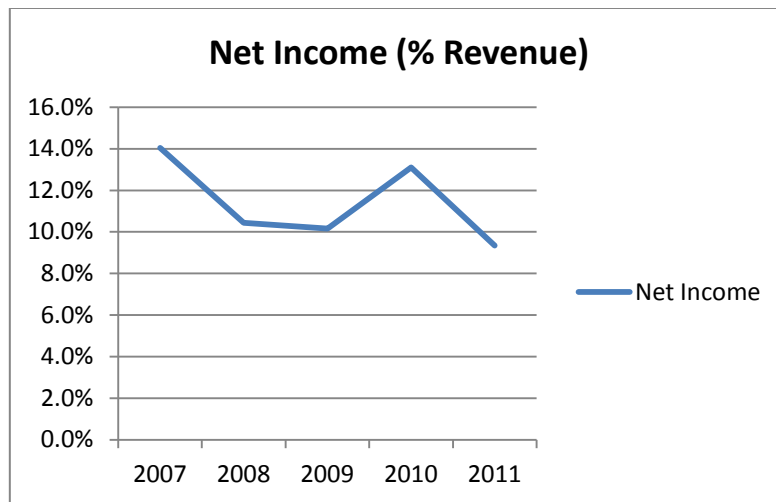
2.7.3) Net Income

Net Income fluctuated throughout the analyzed period. Profits show a decrease in four years over five, with

⁸ YPF Performance, <http://www.vuru.co/analysis/YPF/economicMoat>

a big increase in 2009. Income grew 66.1% in 2009, even though the Operating margin kept being stable. The reasons behind this peak will be explained later in the paper. However, if 2009 is considered an exception, Net Income would show a decreasing trend averaging around 7.9%. This tendency is more clearly visible from Figure 5.^[8]

Figure 5: Net Income Margin trend as a percentage of Revenue (2007-2011)



3. STRATEGIC ANALYSIS

The purpose of this chapter is to analyze YPF's strategic issues through a top-down approach, which means the analysis will be structured through different levels: industry, business and company level. This analysis is necessary in order to understand the firm's environment and perspectives, and also to help justify some of the variables that will be utilized in YPF's Valuation.

3.1) PESTEL Analysis

PESTEL Analysis (Political, Economic, Social, Technological, Environmental and Legal Analysis) describes a framework of macro-environmental factors used in the environmental scanning component of strategic management. This analysis scans in detail all those factors that could affect the firm's business but that the firm cannot control. It is useful in order to assess the market's developments and to discover threats or

⁸ YPF Performance, <http://www.vuru.co/analysis/YPF/economicMoat>

opportunities the company should take into consideration.^[1]

3.1.1) Political Factors

- Tax policy

Argentina has one of the highest tax rates in the world and one of the most complicated tax systems, with multiple overlapping taxes.^[2]

With respect to the powers of taxation, the National Constitution defines federal and provincial tax powers by stating that indirect taxes, with the exception of import and export fees which are exclusively federal, are shared by both levels of government. The provinces are the ones exclusively in charge of direct taxes, but the Federal Government is not precluded from imposing direct taxes during a limited term and in case that national security and defense require it. In practice, the Federal Government collects most taxes while revenues are shared. The provinces can gather four main taxes (the real estate tax, automobile tax, stamp tax, and gross income tax), which allow them to cover approximately 40 percent of their expenses and finance the rest through debt or transfers from the Central Government.^[3]

In Argentina, the tax revenue collected by sub-national governments has not grown in proportion to their expenditures. This has consequently resulted in a growing gap between spending and revenues at a sub-national level, which has increased the tension between the Central Government and the provinces.

Income and capital gains earned by companies are subject to corporate income tax at a flat rate of 35%.

Companies are also subject to a minimum deemed income tax on their properties at a flat rate of 1%, while exports are not taxable.^[3]

- Employment law

As from January 1st, 2011 the minimum wage results to be of AR \$1,840 for workers earning a monthly salary for a full time legal day's work and AR \$9.20 pesos per hour for daily workers.^[4]

¹ PEST Analysis, http://en.wikipedia.org/wiki/PEST_analysis

² "The Tax System in Argentina", <http://argentinabusiness.blogspot.dk/2009/06/tax-system-in-argentina.html>

³ Argentina Tax Guide 2012

⁴ Marval O'Farrell & Mairal, 21/10/2011

- Environmental Law

Like Argentina's taxation policy, Argentina's framework for environmental management is also rather confused. This is mostly due to the distribution of institutional liabilities, spread among several agencies at the national, provincial and municipal levels. This leads to an overlapping of jurisdictions, weak controls, and breakdowns in compliance. The lack of environmental authority and compliance is an important problem in Argentina because of the lack of adequate ability building activities for the public sector, frequent changes in bureaucratic structure, overlapping roles at the national, provincial and municipal jurisdictions.^{[5][6]}

- Trade restrictions

Since 2008, Argentina has highly expanded the list of products subject to non-automatic import licensing requirements. Currently, is required an import license for approximately six hundred 8-digit tariff lines in Argentina's non-agricultural goods schedule. Argentina's Government has made clear that has also adopted an informal "trade balancing" policy, where companies seeking to import products must agree to export goods of an equal or greater value or establish production facilities in Argentina. WTO Members lately complained about Argentina's import-export policy and showed concerns.^[7]

- Political stability

Argentina's political history has proven to be affected by many factors. Firsts among all, Argentina has always been known for its high corruption rate and strong military influence within public affairs. These two reasons led to high economic and political instability during the last 30 years, ending with Argentina's default of 2001, the world's biggest sovereign crash.^[8]

At the present moment Argentina has not given indications toward a development of a real democracy, as demonstrated by its deficit in social capital and the Government's general sense of support.

Even if Argentina may not be able to expect a stable, liberal, modern democracy in the near future, a

⁵ "The Environmental Laws in Argentina", <http://www.alfarolaw.com/tapa/The%20Environmental%20Laws%20in%20Argentina.pdf>

⁶ Nonna & Silvia C.

⁷ Council for Trade in Goods, 30/04/2012

⁸ Argentine economic crisis, http://en.wikipedia.org/wiki/Argentine_economic_crisis_%281999%E2%80%932002%29

change in political culture is always possible. Thus, if prolonged institutional efficiency and economic stabilization will be achieved, the Argentine population could potentially overcome the effects of having adopted an institutional democracy too soon, without the establishment of a participant liberal political culture.^{[9][10]}

3.1.2) Economic Factors

- Economic Growth

After a of 8.9% growth rate in 2011 and expansion above 8% in seven of the last nine years, in 2012 Argentina's economy has suddenly stopped its run . Though the Government was widely accused of overstating economic growth in recent years, many analysts also believe the economy has touched bottom. President Cristina Fernández imposed import controls and currency restrictions, including forcing provincial governments to repay dollar debt in pesos in order to ensure that the big soya and cereals exporter do not run out of dollars. Furthermore, the Government used most of its central bank's reserves, now at \$ 45bn, to repay its debt obligations relying on intra-government borrowing, including from the state pensions agency, since international markets refused any lending.

Ms Fernández has pursued economic high growth throughout her mandate, but now this aim became too hard to achieve. Indeed, public finances have fallen into deficit thanks to useless subsidies built mainly to keep utility and low transport tariffs, and as the surplus diminishes, the Government imposes higher taxes on imports and strict capital controls. In this sense, another sign of the public sector desperation could also be YPF's expropriation.^[11]

⁹ Maria Lambert

¹⁰ The Economist, 25/09/2005

¹¹ Jude Webber, 23/11/2012

Figure 6: Argentina GDP growth rate (2001-2012)



Source: World Bank

- Interest rates

Distortions have been building for years under Ms Fernández and her husband and predecessor, Néstor Kirchner. Due to the government policies of limitation in prices growth, investment in energy strongly decreased and led the Treasury to subsidise fuel imports. Instead, public spending highly raised, producing a fiscal deficit today equal to 3% of GDP.

In 2011 high prices from farm products and exports to Brazil pushed economy growth, but last year, with the Brazilian economy stop and the drought, Argentina was forced to show its real financial scenario. In addition, the country was not able to refinance \$18 billion of issued debt and with the need of a less volatile currency the Government imposed limits on imports and foreign-exchange transactions. Finally, the expropriation of YPF scared investors even more.^[12]

On October 26 2012, an appeals court in New York agreed a shocking decision when it supported a ruling that Argentina could not service the bonds issued during its 2005 and 2010 debt restructurings unless it also paid the investors who rejected its offers.^[13]

Thus, less than a year into her presidency, Ms Fernández had to face this scenario: economic growth was slowing, prices for Argentina's agricultural commodities had fallen, and the country needed to refinance \$23 billion of debt.

Recently, the growth in public-works expenditures decreased, while utility tariffs have risen modestly,

¹² The Economist, 29/09/2012

¹³ The Economist, 23/11/2012

allowing the Government to cut its subsidy bills by around 10%. At the same time, the Central Bank raised interest rates and strengthened the peso.

Although each one of these moves should benefit Argentina's growth in the long run, none of them will help the country paying its interest expenditures.^[10] Due to increasing interest expenditures not balanced by appropriate growth, the action of the Government toward YPF could seem more a solution to this issue than a rescue from mismanagement.

Figure 7: Argentina's benchmark interest rate (2001-2012)



- Exchange rate

From 1991 Argentina adopted a currency board regime under which the Argentine peso was weighted one to one to the U.S. dollar, consequently linking the U.S. economy to the Argentinian one. This factor led to the economic crash of 2001, so that in 2002 Argentina abandoned the fixed exchange rate regime for a floating regime.^[14] At today ARS (Argentine peso) is exchanged at \$5.24.

- Inflation rate

For years Argentina linked an overheating economy with expansionary policies. This mix resulted in a growing inflation, forcing the Government to use price controls and an elaborated deception in order to hide this rise.

President Fernández herself represents a picture of Argentina's deteriorating financial situation.

In 2007, when the presidency was held by Néstor Kirchner, Argentina was discovered adjusting its official inflation rate in order to keep it in single digits, while the true rate was rising around 25%. This enabled the

¹⁰ The Economist, 25/09/2005

¹⁴ Mark Spiegel, 15/07/2002

Government to save \$ 500 million in payments on its bonds, but destroyed its credibility.

Inflation has been counted as two to three times higher by private economists and statistical offices of provincial governments than INDEC's numbers (Argentina National Institute of Statistics).

Studies show an inflation running at 25-30%, one of the highest in the entire planet. PriceStats, for example, a specialist provider of inflation rates which produces figures for 19 countries that are published by State Street, a financial services firm, puts the annual rate at 24.4% and cumulative inflation at 137% since the beginning of 2007. INDEC, instead, says that the rate in 2012 was only 9.7% and that prices have gone up just 44% between 2007 and 2012. ^[15]

Figure 8: Gap between Argentina's government inflation rate estimate and real inflation rate ^[17]



3.1.3) Social Factors

In 2001 census, Argentina had a population of 36,260,130 inhabitants, and preliminary results from the 2010 census were of 40,091,359 inhabitants. Estimates for 2012 showed a population of 42,192,494 inhabitants. Argentina ranks third in South America in total population and 33rd globally. Population density is of 15 persons per square kilometer of land area, well below the world average (50 persons). The population growth rate in 2012 was estimated to be 0.997% annually.

The proportion of people under 15 (24.6%), is below the world average (28%), while the old population (65 and over) states at 10.8%, a relatively high number. The percentage of senior citizens in Argentina is

¹⁵ The Economist, 25/02/2012

second only to Uruguay in Latin America and above the world average, which is currently 7%.

Argentina's population growth rate is about 1% per year and its birth rate is one of the lowest in Latin America, but the country also has a low infant mortality rate. The median age is approximately 30 years and life expectancy at birth is 76 years.^[16]

- Age Structure

Table 2: Argentina age structure

Age Structure	Percentage	Male	Female
0-14 years	25,4%	5,429,488	5,181,289
15-64 years	63,6%	13,253,468	13,301,530
65 years and over	11%	1,897,144	2,706,807

A distribution as the one shown in Table 2 is rather convenient and favorable for doing business. The significant majority of the country's population is between 15 and 64 year old and representatives of this age group are normally the biggest spenders, unlike minors who simply are not in possession of a regular income. However, the low population growth rate could carry over to a decrease in the energy consumed on heat, electricity and warm water, together with the oil/gas related products.^[16]

- Urbanization

According to the 2010 World Bank estimates, the urban population of Argentina represents 92% of the total population, with a rate of urbanization of 1.1% per year. Having such a large percentage of the population residing in urban areas increases economic activity in emerging markets since it pushes up demand and prices for key resources such as metals and oil. Urbanization is a key factor driving this rising demand, and as more of the working population in emerging markets move from rural areas to the cities, increasing consumption puts upward pressure on both hard and soft commodities.^[17]

3.1.4) Technological factors

- R&D Activity

In Argentina R&D represents a very small proportion of total innovation outlays implemented by private

¹⁶ Demographics of Argentina, http://en.wikipedia.org/wiki/Demographics_of_Argentina

¹⁷ World Bank Data, <http://data.worldbank.org/country/argentina>

firms. The Argentinean Technological Fund (Fondo Tecnológico Argentino – FONTAR) has been a pillar in Argentina’s innovation policy. Its program includes three main funding mechanisms:

1. Matching grants (since 2000): the target are innovation projects with higher risk and less tangible assets. They are financed up to 50% of eligible expenses, to a maximum of AR \$850,000 (US \$195,000).

This program is utilized mostly for SMEs (Small-Medium Enterprises).

2. Credit: the target are technological modernization projects with relatively lower risk and higher and tangible assets. They finance up to 80% of eligible expenses, to a maximum of AR \$2,000,000 (US \$460,000).

3. Tax credit: the target are both innovation and technological modernization projects. They finance up to 50% of eligible expenses, to a maximum of AR \$3,000,000 (US \$690,000).

4. Recently Cluster and Provider Development mechanisms. The target are both innovation and technological modernization projects. They finance up to 80% (or 50%) of eligible expenses, to a maximum of AR \$16,000,000 (US \$3,700,000).^{[18][19]}

- Technological change

In the Oil&Gas sector, new technologies have changed the way reserves are identified, developed and produced, leading to a massive growth in reserves and supply.

In terms of exploration, technology is today able to provide information of higher quality and increased quantity. This enhanced the likelihood of finding oil and gas and augmented the study areas surveyors, geologists and explorers can develop.

In terms of drilling and production, technology has always improved frequently. The successful application of new technologies has extended the reach of the industry's drills to new fields, allowing drilling and production in difficult environments, like remote and impervious locations.

New technologies have also helped transform unconventional resources into conventional ones.

Technological changes have improved recovery rates and extended the life of existing oil fields. Indeed

¹⁸ Sanguinetti, 12/2005

¹⁹ Castillo et al., 08/2012

with new technology it is now possible to bring back to life drained fields and exploit them better and more efficiently.

The impact of technological change on reserve growth and the world's resource base has been the most impressive. According to OPEC's 2010 World Oil Outlook, Member Countries and their reserves have greatly benefitted from technological innovation over the years. Technology has also helped reducing the drilling and production costs of oil and gas activities, decreasing capital needs and minimizing the risks associated with upstream activities.^[20]

3.1.5) Environmental factors

Even though the first thought about climate change would let a person think it does not affect Oil&Gas firms (since they are considered its main cause), the majority of companies in the business is now moving against this phenomenon. Indeed severe weather events disrupt supplies or interrupt the operations of company's facilities, threatening to destroy their business model, and a lot of companies built protections against climate change. BP, for example, has altered the design of oil-drilling platforms in the North Sea to accommodate projected sea level rise and it has improved coastal defenses at its Northstar field in Alaska, where receding sea ice has left shores more vulnerable to erosion from crashing waves.^[21]

3.1.6) Legal factors

In the case of trade disputes like the one between YPF and the Argentina's Federal Government, the WTO Tribunal offers a well-established platform for settling debates, and WTO members have to respect its rulings. Further, disputes concerning investments in third countries are probably the most important matter within the WTO members as they usually involve big financial interests. However, as clearly demonstrated by YPF's case, the World Bank International Centre for Settlement of Investment Disputes (ICSID) lacked the possibility to impose its rulings.

Indeed after the expropriation, the EU offered Spain its "support" and both the European Parliament and foreign ministers have issued appropriate declarations. In this way EU could revenge by suspending

²⁰ Abdalla Salem El-Badri, 01-02/11/2011

²¹ Ryan Koronowsky, 06/12/2012

imports of beef, soy beans and other agricultural products from Argentina. This would inflict considerable damage on Argentina, and China would be happy to help.^[22]

Anyway, Argentina has already shown indifference toward the international agreements and their rules.

This means YPF will not be released even after the approval of a collective action.

3.2) Porter Five Forces

The Porter Five Forces Analysis is used mostly for business strategy development and Industry Analysis as a framework from which to evaluate the “attractiveness” of a certain market. This analysis has been crafted by Michael E. Porter in 1979 and is drawn based on industrial organization (IO) economics. It derives five forces that put together determine the competitive intensity and therefore the attractiveness of a market. Attractiveness in this context has to be considered as the overall industry profitability. An industry is considered “unattractive” if one of these five forces acts in order to drive down the overall profitability.^[23]

In this model the analysis is focused at the industry level, its weaknesses and strong points. The model is divided into five elements, each of whom will be analyzed in detail: threat of new entrants, threat of substitute products, bargaining power of customers, bargaining power of suppliers and overall competition rivalry within the industry.

3.2.1) Threat of new entrants

It requires a significant amount of capital to establish and maintain a modern Oil&Gas company from scratch. A lot of capital is required to be invested in production facilities and a good distribution system (not to mention marketing), in order to gain a position in the market. In an industry like Oil&Gas there are large economies of scale in most parts of the value chain, e.g. access to commodities, production, distribution and marketing. In addition, fixed cost levels are high for upstream, downstream, and chemical products. Thus, it is very hard for new players to enter in this market.^[24] In Argentina, in particular, after President Cristina Fernández expropriated YPF, new firms will find resistance because of the new policies

²² Eberhard Rhein, 02/05/2012

²³ Porter five forces, http://en.wikipedia.org/wiki/Porter_five_forces_analysis

²⁴ Miller, 11/06/2008

implemented. The nationalization of YPF showed then Argentina will defend its economy against a price rising or low offer, whatever it takes.

3.2.2) Business Rivalry

In Oil&Gas business rivalry is elevated because of the commodity-based nature of the sector. Further, there is competition with other industries that supply chemical, energy, and fuel for both industrial and individual consumers. The U.S. Energy Information Administration stated the world liquid fuels consumption grew by 0.7 million bbl/d (barrels per day) in 2012 to reach 89.0 million bbl/d. EIA also expects growth will be higher in 2013 and 2014 due to a moderate recovery in global economic growth. World consumption will reach 90.0 million bbl/d in 2013 and 91.3 million bbl/d in 2014.^[25] However, these growth rates do not pose a threat neither an opportunity to the industry. Since the Oil&Gas industry is one of the biggest commodity markets, its competitive advantage comes mainly from the ability to produce products at a lower cost through efficient operations.

With respect to gas, there is little competition between the three main gas exporters (Russia, Norway and Algeria), since the market is characterized by uneven distribution, price indexing, negotiation of supplies through take-or-pay contracts, and use of pipelines as the main mean of transportation of imports.^[26] This situation concerns policymakers, who argue how much would it be important to create more competition within the internal energy market in order to guarantee security of supply and lower prices.

2012 economic developments brought clarifications about the direction of oil and gas prices. The undeniable conclusion is that energy companies will have to work harder to earn their profits in the years ahead. Indeed, finding a price of \$130 per barrel oil^[27] or \$10 per thousand cubic feet (mcf) natural gas^[28] is likely to be rare in the actual economic environment.

Thus, executives cannot expect rising prices to offset inefficiencies in the industry's value chain as they have in the past. If they want to expand, Oil&Gas companies will have to do so on their own, by building

²⁵ EIA Report, 07/05/2013

²⁶ Click et al., 13/12/2013

²⁷ Crude Oil Historical Prices, April 2013, <http://www.indexmundi.com/commodities/?commodity=crude-oil-dubai&months=120>

²⁸ Natural Gas Historical Prices, December 2013, <http://www.eia.gov/dnav/ng/hist/n9190us3m.htm>

more efficient business models, or by developing capabilities which allow them to create real value and earn superior returns. As more companies focus on what they do best, specialization across the industry should be likely to become a primary concern.

3.2.3) Supplier Power

The suppliers are the oil mining and extraction firms. Supplier power is high because OPEC (Organization of the Petroleum Exporting Countries) controls 40% of world's supply of oil and thus has a strong influence on it.^[29] OPEC's influence on oil prices threatens Oil&Gas companies because they purchase their resources also in the open market.

In addition, unstable countries that host YPF's oil reserves could seize YPF's assets at any time. However, suppliers' concentration is not high, since most of the Oil&Gas firms own their own mining and extraction equipment, avoiding the need of having to bargain with other companies.

3.2.4) Buyer Power

Since the Oil&Gas market is a market with homogeneous products and low switching costs for the customer, a person could assume that the customer holds a strong bargaining position.

Indeed theory says the customer's power increases if he is indifferent regarding which kind of product to choose.

In the Oil&Gas industry buyers are both industrial consumers and individual consumers. Industrial (i.e., downstream) buyers' power is low because upstream suppliers have an incentive to limit supply in order to keep prices high. However, the high volume of demand does not privilege individual buyers, and since costumers are either industrial or individual, the industry balances demand within this two categories never losing.

This mechanism is possible also thanks to the influence price leverage has on customers. Indeed, in the Oli&Gas sector quality or differentiation indeed are characteristics that do not affect demand as much as price.

²⁹ "How does OPEC influence gas prices?", <http://www.wisegeek.org/how-does-pec-influence-gas-prices.htm#>

3.2.5) Threat of Substitutes

The threat of substitutes is low and comes mostly from other energy sources such as nuclear power, hydroelectric, biomass, geothermal, solar, photovoltaic, and wind. Like nuclear and hydroelectric, that were stopped during the last decade by Government regulations, environmental concerns, and a high barrier to entry; photovoltaic sources are also still limited by technological issues, while geothermal sources are not available everywhere and with the same intensity as they should.

At today, the only real potential threat to the Oil&Gas industry is biomass. However, efficiency levels of biomass have yet to be proven competitive to oil and natural gas, even though its potential is very large and widely distributed throughout the world. The present biomass contribution to total primary energy supply is just under 14% and is essentially based on agro-forestry residues and natural forests. Biomass is the main fuel for 2.4 billion people, but is still used very inefficiently and only for heating and cooking needs.^[30]

In 2001, The White Paper for renewable energy sources and the RES-E Directive from EU set targets for different renewable energies, and biomass electricity production was predicted to reach a tenfold increase between 1995 (23 TWh/yr) and 2010 (230 TWh/yr).^[30] However, barriers to the further development of biomass, such as high capital and fuel costs (compared to fossil fuels), meant technology choices still in favor of implementing large-scale natural gas systems instead of renewables.

New bioenergy conversion technologies may therefore improve potential biomass benefits and plant efficiencies as well as generating lower costs, but it is all about future.

Further, also coal could prove to be a concern to oil consumption as an energy source but only with technological advancements in coal liquefaction techniques in order to provide clean, stable oil molecules from the largely abundant domestic coal reserves.^{[24][31]}

Indeed, the early development and deployment of new technologies helped reduce the Oil&Gas

³⁰ Directive 2001 [77] EC, European Parliament

²⁴ Miller, 11/06/2008

³¹ Hall, 03/10/2012

industry's environmental footprint:

- Cleaner oil and gas storage systems and the use of new transportation materials have reduced environmental risks;
- New technologies helped refineries around the world to produce more environmentally-friendly products;
- Innovation like Carbon Capture and Storage have been proven.^[32]

3.2.6) Attractiveness of the Industry

Looking at the analysis just run, the Oil&Gas industry results to be an attractive industry on the whole.

Indeed, the threat of new entrants is low, the buyer's power is low, the supplier's power is high (this data should not be considered negative since most of the big industry players are vertically integrated), and the threat of substitutes is low. The attractiveness of this industry is reduced only by its high business rivalry.

However, the Porter's Five Forces does not tell the entire story. Lately has been demonstrated how the main reason behind the oil companies' profitability are their high volumes of goods sold, and not their industrial environment. In particular, most companies experience much higher profit margins than Oil&Gas companies, usually characterized by low margins.^[24] This shows how within this industry there is still space to develop efficiency throughout the value chain and that companies should be eager to exploit this opportunity.

The analysis of YPF will illustrate how Oil&Gas companies' dominant position within Porter's Five Forces, high volume of goods sold, and operational efficiencies are what makes an Oil&Gas company profitable.

3.3) Value Chain

After completing the macro and industry analysis, next step deeply involves the company's features.

The Value Chain Analysis was first described and popularized by Porter in 1985, and provides a framework in which activities within YPF add the most value to the final output.^[32] The objective is to analyze the

²⁰ Abdalla Salem El-Badri, 01-02/11/2011

³² Value Chain, http://en.wikipedia.org/wiki/Value_chain

feasibility of the company's operational model and identify its internal strengths and weaknesses.

3.3.1) Primary activities

- Exploration

Exploration in the Oil and Gas industry means the utilization of technology to find new resources. Right now YPF's exploration activity is focused mainly on revision of the exploratory potential of the Argentine wells, the further examination of gas and oil basins, and a prospective map of exploration at the provinces.^[33]

- Inbound Logistics

Inbound Logistics is comprised of receiving and storing activities and its relationship with suppliers. According to YPF's structure, the company has no need to choose suppliers of raw materials, since is highly vertical integrated and owns most of its veins.

Drilling activity in Argentina remains fairly stable, given the fact that the existing price policy does not incentivize cheaper gas, leaving the extraction process focused primarily on oil. Nonetheless after the expropriation, on August 24, YPF announced it had plans to drill 250 wells in the next five years to further advance the country's "hydrocarbons frontier". Half of this drilling activity is already carried out by YPF from its internal resources, but CEO Galuccio showed the necessity to find logistics partners capable of providing the equipment needed.^[33]

- Operations

This item refers to the activity of transforming inputs into outputs. In the case of YPF it is divided into Production and Refining activities. Production is focused on bringing oil and gas to the surface using natural and artificial methods, while refining refers to the activity of converting crude oil into finished products. Production of YPF is spread mostly all over South America and gives Argentina 34% of the country's oil and gas supply.^[33]

³³ YPF 2011 Report, pag.29-119

The strategic plan for 2013-2017 aims to reactivate operations in mature basins and launch new reserves exploitation.^[33]

YPF has three refineries: La Plata (in the province of Buenos Aires), Lujan de Cuyo (in Mendoza) and Plaza Huincul (in Neuquén).

The La Plata refinery has a distillation capacity of 189,000 barrels per day and a conversion capacity of 119,000 barrels per day; Luján de Cuyo has a distillation capacity of 106,000 barrels per day and the same conversion capacity; and Plaza Huincul has a distillation capacity of 25,000 barrels per day.

The La Plata refinery has also a lubricant processing plant with a capacity of 860 m³ per day of finished base stock.

Crude-oil logistics activity is carried out by three companies in which YPF retains a holding (Oldelval, Termap and Oil Tanking Ebytem). The company also uses contracted ships and two owned pipelines (Puesto Hernández–Luján de Cuyo and Puerto Rosales–La Plata).^[33]

- Outbound Logistics

Outbound Logistics refers to the distribution and storage of oil and gas. The products' logistics are mostly carried out through two multi-purpose pipelines owned by the company (Lujan de Cuyo-San Lorenzo-La Matanza and La Plata-La Matanza), three loading ports, 11 tankers, six barges, four tow boats, 16 terminals (9 of which with connected ports), six LPG plants, 54 aeroplants and 1,105 trucks.

Logistics activity increased of 5% since 2010. The highest utilization rates were achieved for road, sea, river transport, pipelines, terminals and ports.^[33]

- Marketing and Sales

Marketing and Sales refers to the activities necessary to promote the product to the market and buyers as well as to convince potential buyers into purchasing products. YPF focus its attention on diesel, lubricants and LPG, three products that the company needs to develop. With respect to diesel fuel, YPF strongly promoted the sale of its premium product with a low sulfur content (D-Euro) which is recommended for all

³³ YPF 2011 Report, pag.29-119

high-end engines. The strategy of promoting D-Euro allowed to allocate a larger portion of Ultradiesel fuel to the industry, transport and agriculture market segments.

YPF marketed lubricants through the three segments of the domestic market: retail, agriculture and industry while the company is engaged in the wholesale of LPG, which encompasses storage, logistics and commercialization to the domestic and foreign markets. For enhancing international growth, in 2011 YPF began selling lubricants and fuel for the aviation market in Chile and in October 2011, the “Nordelta” station was inaugurated. This station is considered important thanks to its ability to respect the environmental surroundings and to incorporate new technologies (i.e. digital signage, corporate TV, broadcasting of digital content on individual gas pumps and CCTV monitoring).

In October 1997, YPF wrote the “Red XXI” program, which significantly improved operational efficiency in service stations. This program provides the company performance data for each station online and connects most of the service stations’ network.^[33]

- Service

Service refers to the maintenance of a product after it has been sold and delivered. YPF does not provide maintenance of its products since the company sells commodities, but offers some kind of loyalty program. The most successful one is called Serviclub, which gives privileges to loyal customers that are also card members.^[33]

3.3.2) *Secondary activities*

- Procurement

Procurement refers to the buying of inputs for the firm. The company does not use suppliers to produce its raw materials, that are converted through refineries or treated, and finally transported and sold. Global prices for liquefied natural gas rose toward record highs during 2011 as increasing demand ran up against discontinuous supply, threatening to push up fuel costs.

After the discovery of Vaca Muerta’s shale, YPF could leverage its offer and lower its prices, thanks to the

³³ YPF 2011 Report, pag.29-119

exploitation of new economies of scale.

- Human Resources

Human Resources refers to the employment of new personnel, developing their competences and if necessary their subsequent dismissal. 46,000 people work for YPF through direct and indirect channels.

With respect to training, YPF's challenge is to reach its entire value chain (in the retail, agriculture and industry divisions and LPG business), which encompasses employees and external distribution channels.^[33]

The Government guaranteed employees that their job will not be threatened by the expropriation process, but even though workers have been reassured, the company is today experiencing a talent escaping.^[34]

- Technological development

This activity refers to the technology that the company has and how this technology is being utilized.

YPF, in society with CONICET (Consejo Nacional de Investigacion Cientifica y Tecnica), created a new company with the aim of developing projects in order to contribute to the national energy industry sustainable growth.

This firm is called YPF Tecnologia S.A. and will be dedicated to the research,

development, production and marketing of technologies within the exploration, processing, transportation of hydrocarbons and their derivatives.^[35]

CONICET is a minority shareholder with 49 percent of the Class B shares and provides working capital, equipment and research teams made up of researchers from the race of Scientific and Technological Advice and support staff. Consequently, YPF is the majority shareholder, committed in providing equipment, working capital and research teams of technical line technologies related to the energy industry.^[33]

- Infrastructure

The firm's infrastructure refers mainly to organizational structure, control systems and company culture.

³³ YPF 2011 Report, pag.29-119

³⁴ Novoa, 18/04/2012

³⁵ YPF website

As written in Chapter 2.3 most of the main managers are related to public affairs and their action will probably be led by some Government force. During last years, however, YPF, in line with good corporate governance practice, has adopted and implemented a rule of ethics and conduct applicable to its board and all employees, which govern the conduct of the company with respect to commercial and professional relations.

As part of its internal policies, YPF also approved and implemented a code of conduct in the context of securities market, defining its principles and framework for action to promote transparency and protect the interests of its investors.

Since 2007, YPF has also been implementing a plan to recognize its corporate and social responsibilities.

The company believes that *“responsible behavior not only contributes to a better community but also creates corporate value – by reducing risk, strengthening its intangible assets, helping to identify new opportunities, and increasing investor confidence.”* ^[36]

This plan consists of 61 actions across nine programs, in order to ensure the company respects good ethics while conducting its business with special regards for human rights and within a diminishing environmental footprint.

The mentioned actions are related mostly to *“ethical behavior and the fight against corruption; promoting human rights; commitment to the people; increased security; community integration; sustainable energy and climate change matters, control and minimization of environmental impact; influence regarding all these matters to suppliers, contractors, subcontractors, partners and customers, incorporating them in the sustainable value chain and social and environmental performance.”* ^[36]

The Board of Directors verifies the implementation of the company’s strategies and policies to check the congruency with the annual budget and operating plan, observing and controlling the management performance.

The board has also policies on management and risk control, which are regularly updated with market’s

³⁶ World Finance, <http://www.worldfinance.com/markets/energy/ypf-argentinas-leading-energy-company>

best practices through its audit committee and internal audit department.

In order to carry out its mission effectively and efficiently, the board has two committees: an audit committee and a disclosure committee.

The audit committee's primary function is to support the board in its supervisory duties, through *"regular reviews of the process of economic and financial disclosure, its internal controls, and external auditors' independence."*^[36] Its members can be proposed by any director of the board and currently all regular members are independent directors.

The disclosure committee's purpose is to *"promote and reinforce the company's policy in relation to the information disclosed by the company to its shareholders, to the markets where its securities are listed, and to the regulatory entities of these markets. The information should be accurate and complete, should properly represent the company's financial situation and results of its operations, and should be communicated in compliance with the requirements of the rules and general principles regarding market operation and good governance practices."*^[36] The committee is made up of executive directors, some of whom are also members of the board.

All the organizational infrastructure abovementioned and the management effort to implement a new, more efficient system, are today threatened by the entrance of new managers affected by central-based national powers.

3.4) Resource Based View

The resource-based view (RBV) is an analysis based on finding the company's primary competitive advantages and is usually interchangeable with the Value Chain analysis. The competitive advantage is a factor which allows a given firm to be more profitable than its competitors. This kind of advantage can be reached in many ways, including cost structure, product offerings, distribution network and customer support.

RBV is structured through the analysis of each company's key resource with the application of four

³⁶ World Finance, <http://www.worldfinance.com/markets/energy/ypf-argentinas-leading-energy-company>

criteria:

- Valuable – A resource is valuable when enables the firm to employ a value-creating strategy, by outperforming its competitors or reducing the company’s weaknesses;
- Rare – A resource is rare by definition, in the sense that is not available for everybody;
- In-imitable – A resource is in-imitable when is not possible to be replicated perfectly by the company’s competitors;
- Non-substitutable – Even when a resource is rare, potentially value-creating and imperfectly imitable, it is important that any other available resource is not able to substitute it. ^[37]

Once a resource fulfills each of these criteria it can be considered a key resource. The firm is required to care and protect key resources since they are the basis to improve its performances.

3.4.1) *Vaca Muerta*

Vaca Muerta’s shale is the only resource with all the potentials to become a key tangible advantage in YPF:

- Valuable – Since the vein has been assessed to be the third largest on planet, it will definitely allow YPF to elaborate a new, profitable strategic plan;
- Rare – Vaca Muerta is an oil and gas shale, rare by definition;
- In-imitable – Vaca Muerta is controlled and directly owned by YPF. This makes this resource in practice inimitable for any other Argentine company since YPF is the only Oil&Gas firm in the country able to manage the size of this shale. For other multinational competitors, instead, this advantage is duplicable only if they find a resource of such great magnitude. However, this is highly improbable;
- Non-substitutable – The massive dimensions of this resource make the shale one of its kind. The possibility to improve firm’s performance and develop new strategies exist only thanks to the greatness of Vaca Muerta.

³⁷ Resource Based View, http://en.wikipedia.org/wiki/Resource-based_view

3.5) SWOT Analysis

The SWOT Analysis is a framework used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project or a business. This analysis is usually carried out for a product, place, industry or person involving the identification of the internal and external factors that are favorable and unfavorable in order to achieve a determinate business goal or objective.

The SWOT Analysis combines the most important topics from the Strategic Analysis. This model is necessary in order to determine the company's ability to compete and whether its strategy is aligned to meet both the changes and challenges that will face in the future.^[38]

3.5.1) Strengths

- Vaca Muerta's shale. The resources kept in Vaca Muerta's new discovery are meant to be profitable for YPF, disregarding the company's leadership;
- Political support. The fact that the company is publicly run should give YPF serious advantages in Argentina and enhance its network of useful contacts. The Government, indeed, could help YPF in many different ways whether the company should run into difficulties. The Government has powerful instruments (e.g. public debt, trade restrictions) which are needed in order to save a company like YPF, "too big to fail";
- Economies of scale;
- Vertical integration.

3.5.2) Weaknesses

- Rising interest rates. The increase in Argentina's interest rate means a more expensive debt financing;
- High inflation. The growing inflation in Argentina could lead commodity customers to cut off their daily expenditures, deciding to avoid spending their current amount of money for their oil and gas needs;

³⁸ SWOT Analysis, http://en.wikipedia.org/wiki/SWOT_analysis

- Low reputation. After YPF was expropriated and trade restrictions on imports were introduced, WTO members showed impatience toward Argentinian Government's guide;
- High competition within Oil&Gas industry.

3.5.3) Opportunities

- Increase reputation outside Argentina. Because of the expropriation YPF lately lost most of its reputation . However, a focused and efficient management could help YPF regain its image;
- Catching up new markets. China and India will be the largest markets in coming years and the company should be ready to exploit this opportunity;
- Investing in innovation and R&D. Only a minority (41%) of Oil&Gas companies said they had succeeded in embedding innovation as a core element of their company strategy;^[39]
- Alternative fuels, including second generation biofuels. The heating and transportation market will start to move away from oil and gas commodities as soon as they become unavailable. One chance to re-invent an Oil&Gas company could be to move ahead of competitors and bet on alternative fuels.

3.5.4) Threats

- WTO members actions. If State members decide to condemn Argentina for its behavior about YPF's expropriation, the resulting actions could threaten YPF's survival;
- Principal-Agent problem. The Argentinian Government could have expropriated YPF only to gain public consensus. In this way the Government would allow new managers to gain private benefits while running the company;
- Country default. Since Argentina has recently experienced a national default (2001), it shouldn't be excluded the country could fail again. In this case YPF would be liquidated in order to pay back Argentina's national debt;

³⁹ Ernst & Young, [http:// www.ey.com/GL/en/Industries/Oil---Gas/Turn-risk-and-opportunities-into-results--oil-and-gas---The-top-10-opportunities](http://www.ey.com/GL/en/Industries/Oil---Gas/Turn-risk-and-opportunities-into-results--oil-and-gas---The-top-10-opportunities)

- Health, safety and environmental risks. Health, safety and environmental issues have risen in the Oil&Gas industry agenda, involving both increased public pressure and more complex operational challenges.^[39]

3.6) Partial Conclusion

As shown in the previous paragraphs, YPF future scenario is highly unpredictable. The firm shows important strength points but also high risk factors.

The discovery of Vaca Muerta's shale gave the company a great competitive advantage becoming fundamental toward the reaching of a better market position, but political instability, together with legal actions by WTO members, threaten the realization of this project.

All these factors find their balance inside the company's Board of Directors. Indeed strengths and threats could be removed or enhanced based on which will be the coming management behavior.

The Government has now the responsibility to improve operations and rescue the company from failure.

4. FINANCIAL ANALYSIS

Like most other companies YPF consists of several activities, and they are classified as follows: investing, operating and financing activities. When financial ratios are to be calculated, separating operations and investments will provide a better image of the company's ability to create value from their core operations. Starting with the reformulation of the Income Statement and Balance Sheet, the analysis will continue with a Cash Flow Statement Analysis and a detailed description of YPF's main ratios. Finally, a Growth Analysis will estimate YPF's sustainable growth rate.

4.1) Analytical Income Statement

In order to calculate financial ratios to measure a firm's profitability, it is necessary to reclassify its

³⁹ Ernst & Young, <http://www.ey.com/GL/en/Industries/Oil---Gas/Turn-risk-and-opportunities-into-results--oil-and-gas---The-top-10-opportunities>

statements for this purpose. Indeed, it is beneficial to separate “operations” and “investments in operations” from financing activities. The Analytical Income Statement follows this aim adding alternative measures such as NOPAT (Net Operating Profit After Tax), which is an after tax measure, compared to EBIT (Earnings Before Interest and Tax). In order to calculate NOPAT the analyst has to deduct tax on EBIT. Since reported tax is positively affected by Net Financial Expenses (NFE) it is necessary to add back the tax advantage that NFE offer, called Tax Shield.^[1] NOPAT gives a better understanding of the value creation than Net Earnings provide since there is a high possibility that Net Earnings include noise created by financial activities, non-recurring events and income from non-core operations or other special items, which are unrelated to the future performance of the company.

Table 3: YPF Analytical Income Statement

	2011	2010	2009	2008	2007
Net Sales	56697	44162	34320	34875	29104
COGS	-36721	-24863	-18567	-19440	-15011
Gross Profit	19976	19299	15753	15435	14093
Selling expenses	-3606	-2907	-2390	-2386	-2072
Administrative expenses	-1767	-1300	-980	-926	-703
Exploration expenses	-574	-344	-552	-683	-522
Income/loss on long-term investments	92	79	-9	83	39
Other income/expense	-62	-155	159	-376	-370
EBITDA	14059	14672	11981	11147	10465
D&A	5466	5273	4832	4775	4139
EBIT	8593	9399	7149	6372	6326
Tax on EBIT	3074	3366	2684	2376	2522
NOPAT	5519	6033	4465	3996	3804
NFE	-347	-379	-1242	-174	518
Tax Shield	124	136	466	65	-236
Net Income	5296	5790	3689	3887	4086

4.2) Analytical Balance Sheet

The main purpose when building the Analytical Balance Sheet is to calculate the drivers behind Return on Equity (ROE) and growth. In order to understand these ratios the Analytical Balance Sheet calculates the

¹ Petersen & Plenborg, pag.79

Invested Capital, which shows the combined investment in a company's operating activities. Invested capital is the *"amount a firm invests in its operating activities and which requires a return"*.^[2] Separation of Operating and Financing activities is usually a complicated task, since there is no clear cut distinction between the two and the notes of the annual report do not always contain all the necessary information. However, Petersen and Plenborg provide a very useful and comprehensive template for determining invested capital:^[2]

- Net operating assets = Total Assets – (Cash and cash equivalents + Accounts payable and tax payable)
- Financing = Equity + Net Interest bearing debt = (Current liabilities + Non-Current liabilities – Cash and cash equivalents)

² Petersen & Plenborg, pag.74

Table 4: YPF Analytical Balance Sheet

	2011	2010	2009	2008	2007
Non Current Assets					
Trade receivables	22	28	22	24	32
Other receivables	989	1587	527	391	809
Short-term Investments	633	594	661	741	799
Fixed Assets	39650	31567	27993	28028	25434
Intangible Assets	7	10	12	6	8
Capitalized Operating leases	1063	1169	957	745	570
Tot Non Current Assets	42364	34955	30172	29935	27652
Current Assets					
Cash	899	570	669	391	196
Long-term Investments	562	1957	1476	825	655
Trades receivables	3473	3322	2831	2702	3235
Other receivables	3090	3089	2490	1861	4361
Inventories	6074	3865	3066	3449	2573
Tot Current Assets	14098	12803	10532	9228	11020
Non-Interest bearing debt					
Accounts Payable	18795	13255	10254	10236	6881
Taxes Payable	1435	3094	2265	1885	1462
Contingencies	2917	2822	2300	2445	2328
Tot Non-Interest Bearing Debt	23147	19171	14819	14566	10671
Invested Capital	33315	28587	25885	24597	28001
Equity	18735	19040	17701	18973	26060
Net-Interest-Bearing Debt					
Loans	12767	7789	6819	4479	994
Retirement benefit obligations	750	589	408	400	377
Capitalized operating leases	1063	1169	957	745	570
Tot Interest-Bearing Debt	14580	9547	8184	5624	1941
Invested Capital	33315	28587	25885	24597	28001

4.3) Cash Flow Analysis

The Cash flow Statement presents a company's cash receipts, cash payments, and the net change in the company's cash resulting from the company's operating, investing, and financing activities for the period it is prepared for.^[3]

4.3.1) Change in Net Working Capital

Net working Capital is computed as current asset minus current liabilities. NWC from 2008 decreased of AR \$2,947 per year on average. This change is mostly due to increases in Current Debt and Accounts Payable.

4.3.2) Change in Net Investments

Net Investments are computed as Tangible and Intangible Assets plus Depreciation and Amortization. Between 2008 and 2011 they steadily increased at an average of AR \$8,640 per year, which means the company invested more amounts in Fixed Assets, but decreased its possibilities to produce positive cash flows.

4.3.3) New Net Financial Liabilities

New Net Financial Liabilities represent the amount of NIBD that has changed from one year to the other. From the Cash Flow Statement, is noticeable how the company constantly uses more debt in order to finance its operations until 2011. These increasing amounts allowed the company to reach high FCFE and repay investors.

4.3.4) Dividends

In 2011 Report, YPF states the following about its dividend policy:

“ Repsol YPF and Petersen Energía have agreed to effect the adoption of a dividend policy under which we would distribute 90% of our net income as dividends, starting with our Net Income for 2007.

However, following repeated public statements by the Argentine government that YPF had paid too much of its earnings in dividends and requesting the Company to withhold dividend payments for 2010 and 2011 and invest the related funds in exploration and production activities in Argentina, in March 2012, our Board of

³ Petersen & Plenborg, pag.30

Directors decided not to pay a cash dividend but rather offer a scrip dividend with respect to 2011 and remaining undistributed prior years' earnings. This proposal as well as our accounting documentation corresponding to Fiscal Year N° 35, ended December 31, 2011, are expected to be evaluated by our shareholders.”^[4]

The amount of dividends paid out every year during the period 2007-2011 is on average 86.6% of FCFE, and in years 2008, 2010 and 2011, it exceeds Net Income. The CFS, indeed, clearly shows the company finances its dividends policy with debt. Therefore, the announcement made in 2011 company's report can be considered fake. The 90% edge was not respected as well as the proposal about retaining all the earnings in 2011. This policy threatened the company in its overall financial structure while showed a misleading nature of Repsol management team.

4.3.5) FCFF and FCFE

FCFF dropped to AR \$847 in 2011 from AR \$8,243 in 2008. This means the company is probably investing more than its actual financial situation allows. Indeed, NOPAT is generally steady while Net Investments are highly increasing.

FCFE kept being constant in the last three years while they dropped of more than half between 2008 and 2009. Steady FCFE are assured by a financial policy focused on debt increasing. However, a big part of every year debt increase is not reinvested but given to shareholders as dividends.

⁴ YPF 2011 Report, pag.176

Table 5: YPF Cash Flow Statement

	2011	2010	2009	2008
NOPAT	5519	6033	4465	3996
D&A	5466	5273	4832	4775
Change in NWC	3408	2213	-672	6839
Change in Net Investments	-13546	-8845	-4803	-7367
FCFF	847	4674	3822	8243
NIBD	5033	1363	2560	3683
NFE	-347	-379	-1242	-174
Tax Shield	124	136	466	65
FCFE	5657	5794	5606	11817
Dividends	5565	4444	4897	9287
Cash Surplus	92	1350	709	2530

4.4) Profitability Analysis

One of the most important aspects when conducting a Financial Analysis of a company lies within its Profitability Analysis, which is important for a company's future prospects, and maintaining and developing positive relationships with customers, suppliers and shareholders. The Profitability Analysis is based on the Du Pont model,^[5] which describes the inter-relations between profitability ratios. These profitability ratios are based on the Analytical Income Statement and Balance Sheet analyzed in the preceding sections. The items to be analyzed are the Profit margin, Asset Turnover rate of Invested Capital, Return on Invested Capital, ROE, Net Borrowing Cost and Financial Leverage.

4.4.1) Profit Margin

The Profit Margin describes the Revenue and Expense relation, operating Income as percentage of Net Sales. With all other things being equal, a high profit margin is always perceived as desirable and good. The PM in YPF moved up to 13.7% until 2010, while it lost four entire points in 2011. Indeed, that year there was a drop of 8.5% in NOPAT growth trend. A Profit Margin of 9.7% in 2011 expresses that the company generates 9.7 cents on each monetary unit of Net Sales.

⁵ Petersen & Plenborg, pag.93

4.4.2) Asset Turnover

The Asset turnover rate (ATO) is defined as the ratio between Net Sales and Invested Capital and shows the company's ability to use Invested Capital properly, by converting it into Revenue. All things equal, a high ATO is definitely desirable. A turnover rate of 2 is a representation of the company ability to convert its Invested Capital into Revenue twice a year, or that their Invested Capital is tied up for 180 days (1 year / ATO). In YPF's case ATO grew of 0.5 points from 2008 and 2011, showing an enhanced capacity in investing capital properly and more efficiently. In 2011 ATO was 1.83, which means YPF tied up Invested Capital in 196 days.

4.4.3) Return on Invested Capital

ROIC measures the company's return on capital invested in operations, but it cannot explain whether the profitability is caused by an increase in Revenue and a decrease in Expenses or improvements in capital utilization.^[6]

ROIC is defined as PM multiplied by ATO, thus it is an overall profitability measure of the operating activities and has greater importance when evaluating a company. Having a high ROIC makes the company attractive for investors and lenders, enabling the firm to obtain cheaper financing. ROIC can also be computed by dividing NOPAT or EBIT (before or after tax respectively) on Invested Capital.

In order to be more accurate in ROIC's calculation Average Invested Capital has been utilized.

As shown in Table 5, in YPF ROIC moved upward until 2010, before dropping of 4.4% in 2011. Main cause was the decrease in NOPAT due to an increase of COGS of almost 8.5% on each Revenue unit. Indeed, COGS on Revenue ratio moved up from 56.3% to 64.7% in only one year.

⁶ Petersen & Plenborg, pag.107

Table 6: YPF ROIC calculation

	2011	2010	2009	2008
Average Invested Capital	30951	27236	25241	26299
ROIC (NOPAT/Inv.Cap.)	17,8%	22,2%	17,7%	15,2%
Profit Margin	9,7%	13,7%	13,0%	11,5%
Asset Turnover	1,83	1,62	1,36	1,33
ROIC (PM*ATO)	17,8%	22,2%	17,7%	15,2%

4.4.4) Return On Equity

In order to assess the impact that Financial Leverage has on profitability, by taking into account both operating and financing activities, Return On Equity must be analyzed. This variable represents the owner's accounting returns on their investments in YPF. Among the factors that affect ROE are Operating Profitability, Net Borrowing Interest Rate After Tax, and Financial Leverage.^[7] According to calculations ROE went from 20.5% in 2008, up to 28.3% in 2011. However this ratio experienced a decrease of 2.1 points between 2010 and 2011.

4.4.5) Net Borrowing Cost

Net borrowing cost (NBC) is defined as the ratio between Net Financial Expenses After Tax on Net-Interest Bearing Debt. Usually this ratio does not match the company's borrowing rate and is affected by the difference between deposit and lending rates, as well as other financial items such as currency gains or losses. YPF's NBC moved downward from 2008 to 2011, reaching an estimate of 1.6% over the overall interest bearing debt.

4.4.6) Financial Leverage

Financial Leverage is defined as the ratio of Net Interest Bearing Debt on book value of Equity. YPF's leverage highly increased during the last four years. The company moved from 29.6% in 2008, to 77.8% in 2011, augmenting considerably its overall risks and debt exposure.

⁷ Petersen & Plenborg, pag.117

Table 7: YPF ROE calculation

	2011	2010	2009	2008
NFE before tax	-347	-379	-1242	-174
Tax shield	124	136	466	65
NFEAT	-223	-243	-776	-109
Net Borrowing Cost	1,5%	2,5%	9,5%	1,9%
Financial Leverage	77,8%	50,1%	46,2%	29,6%
ROE (ROIC+(ROIC-NBC)*NIBD/E)	28,3%	30,4%	20,8%	20,5%
ROE (NI/E)	28,3%	30,4%	20,8%	20,5%

The above Profitability Analysis has shown how YPF's main ratios experienced a downturn during 2011 after a rising period. This was mostly due to higher COGS linked to the Exploration and Production operations.^[8] YPF, indeed, is trying to cover its profitability problems raising debt, also because the company still has a ROE and ROIC high enough to permit it. NBC are still not high, but if the company keeps on this stays it will be impossible for YPF to maintain such a cheap cost of debt and still be profitable. Hence, the firm needs to act in order to cut costs or enhance its core operational efficiency.

4.5) Growth Analysis

Companies may have set objectives for market share and growth, but may be unable to fund these objectives through internally generated cash. In this case, a firm has a number of ways to finance its strategy. It can issue new shares, increase Financial Leverage or reduce dividends payments. Alternatively, a firm may reduce its ambitions and adjust its strategy to reflect the firm's financial capacity.^[9]

4.5.1) Sustainable growth rate

A firm's sustainable growth rate is a useful growth measure. It indicates at what pace the company can grow its Revenue while preserving its financial risk. Knowledge about the sustainable growth rate is also

⁸ YPF 2011 Report, pag.114

⁹ Petersen & Plenborg, pag.128

important in valuing companies and credit rating.

The sustainable growth rate is calculated as:

$$g = ROE * (1 - PO)$$

Where:

PO = Payout Ratio (Dividend as a percentage of Net Income)

YPF's sustainable growth rates are shown in Table 8 below.

Table 8: YPF sustainable growth rate

	2011	2010	2009	2008
Sustainable growth rate	-1,4%	7,1%	-6,8%	-28,5%

As shown in Table 8, YPF's sustainable growth rate is negative for almost the overall analyzed period. First among all, the cause of this negative trend is due to YPF's dividend policy. Indeed, the company's Payout Ratio is bigger than one in 2008, 2009 and 2011, where growth is not sustainable. Since ROIC is bigger than NBC until 2011, the only cause for these results must be tracked to YPF's dividends. From the statement previously mentioned in Chapter 4.3.3, YPF agreed to pay out no more than 90% of its earnings in dividends until 2011, and retain all the profits for 2011. However, the company has paid out dividends in 2011 for an amount of AR \$5,565, while from 2008 to 2011, the Dividend Payout Ratio was well above 90% three times on four.

This behavior underlines which are the real intentions of Repsol, and also explains the results in Table 8.

Nonetheless, these numbers are not surprising since if the company's policy results in a negative growth, is not possible to obtain profitable profits.

5. FORECASTING

In order to assess the future operating potential of YPF the paper will provide a Forecast of the company's price per share, given the results supplied by the previous analysis.

The Forecast will be conducted through a sales-driven approach and will help assess the fair amount that Argentina should pay to Repsol in order to take over the company.

5.1) WACC Calculation

5.1.1) Capital Structure

For Capital Structure is intended the ratio between Equity and Debt. In particular, the Capital Structure should be based on market values but in practice the book value of Debt and the market value of Equity are most often used. This is due to the fact that Equity's market value is easily available through the knowledge of share prices at the end of each year and the number of shares issued, but the market value of Debt is usually not provided with proper data. The Capital Structure used in this paper will follow the calculations made in Appendix 15. The ratio between book value of Debt and market value of Equity will be constant, matching the 2011 ratio of 47.02% for D/V and 52.98% for E/V.

5.1.2) Cost of Debt

The cost of debt shows the estimate percentage return which debt holders will be willing to ask to YPF in order to buy part of its debt and is calculated as follow:

$$r_d = (r_f + r_s) * (1 - T)$$

Where:

r_f = risk-free interest rate

r_s = company specific interest rate risk premium

T = corporate tax rate

- Risk-free rate and company risk premium

For the company's risk-free rate has been utilized the 30-years yield on Argentina's bond at the latest date available.^[1] This rate equals 12.04%. Many analysts would evaluate this number too high, but it has to be considered that Argentina is a developing country and has one of the most pessimistic future outlooks.

Both Fitch and Moody's downgraded the company after the Government's expropriation, but while YPF still

¹ 01/05/2013

keeps a stable outlook due to the company's growing business, Argentina has just been predicted of a forthcoming default.^{[1][2]} However, the markets seem not to discriminate anymore between Argentina's negative outlook and YPF's current financial conditions. As seen in Chapter 2.1, YPF almost failed because of public mismanagement during General Mosconi's leadership, and this event seems to concern international investors again, together with the Federal Government ambiguous internal policies. After the take-over markets showed not to trust Argentina's leadership and sold in crowd their YPF stocks. Following the previously made Strategic Analysis, a higher cost of debt and cost of equity for next years will be assumed.

The company specific interest rate risk premium was computed utilizing the real interest rate the company charged for its obligations. From the Official Financial Statements this rate results to be 8.1%^[3] (estimate before tax), which seems way too low since the company's risk premium should be much higher, given its financial and environmental conditions. However, Note 3.g^[4] shows a different reality. Indeed, looking at the most recent rates negotiated by YPF for its obligations and loans, it is possible to have a better picture of the company's real cost of debt. The note shows the interest rates negotiated by YPF for its obligations, revealing a rate fluctuating between 1% and 29%. However, these numbers are not weighted properly, and it is not possible to come up with a correct estimation. The only information available which weights amounts to interest rates says that in 1998 YPF issued obligations for \$1,000,000,000 at a 10% interest rate while in 2008 issued \$2,000,000,000 at a 19.99% interest rate. Another available information about YPF real interest rate is provided in 2010 Report^[5], where the variable interest rate on obligations is linked to the BADLAR (average interest rate that banks pay for deposits of more than ARS 1 Million), which amounts to 10%. The BADLAR is used as a main factor in order to determine YPF's variable interest rate for obligations in both 2010 and 2011.

¹ The Telegraph, 27/11/2012

² Moody's, 15/03/2013

³ Appendix 1

⁴ YPF 2011 Report, pag. F-19

⁵ YPF 2010 Report, pag. F-19

Following the Strategic Analysis conclusions, the highest 2008 interest rate on Negotiable Obligations and the BADLAR-driven variable interest rate have been chosen as the most reliable estimates of YPF's specific interest rate risk premium. Appendix 13 shows the overall r_s calculation. The final assessment equals $r_f + r_s$ to 17.25%.

5.1.3) Corporate tax

The future tax rate for YPF has been computed using the average of last five years tax rates. This rate will be used for different purposes, in particular for the WACC's calculation and in all calculations included in the forecasted and terminal period. It is assumed that the corporate tax rate will not change in the forecasted period. The tax rate is worth 37.26%.

Hence, based on the upon discussions YPF's cost of debt is estimated to be:

$$r_d = 17.25\% * (1 - 37.26\%) = 10.82\%$$

5.1.4) Cost of Equity

The cost of equity calculations will be based on the Capital Asset Pricing Model.

The general idea behind CAPM is that investors need to be compensated in two ways: time value of money and risk. The time value of money is represented by the risk-free (r_f) rate, while the other half represents risk and calculates the amount of compensation the investor needs for taking on additional risk. This is calculated by a risk measure (beta) that represents the strength with which the return on stock is correlated to the returns on the market.^[5] In the case of developing markets a further item has to be added to CAPM's calculation, the Country risk premium, which embraces the macroeconomic risk due to a specific country issues.^[6]

Hence, the CAPM formula for developing countries results to be:

$$k_e = r_f + \beta [E(r_m) - r_f + CRP]$$

Where:

k_e = Cost of Equity

⁵ Investopedia, CAPM, <http://www.investopedia.com/terms/c/capm.asp>

⁶ Damodaran, 2009

r_f = risk-free rate

β = the systematic risk

$E(r_m) - r_f$ = expected market risk premium

CRP = Country risk premium

CAPM final estimate is equal to 27.65%.

5.1.5) Systematic risk (β)

The beta is defined as the measure of volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole. In order to calculate the beta, the paper will provide a regression analysis based on historical data. The regression analysis comprehends the computing of Raw beta, Industry beta and Adjusted beta. All three calculations are presented in the next sections.

- Raw beta

YPF's Raw beta will be assessed through the utilization of five years of financial data, starting from January 1st 2007, and comparing them to the MSCI World Index. The beta will be computed using the following formula:

$$\beta_i = \frac{\sigma_{im}}{\sigma_m^2}$$

Where:

σ_{im} = covariance between market and the company

σ_m^2 = market variance

β_i = company's beta

Based on the previous formula YPF's Raw beta results to be 0.6.

- Industry beta

The computing of the Industry's beta is made through the utilization of five comparable companies and the MSCI-World Index. The five companies are Exxon, Petrobras, Imperial Oil, BP and China Petroleum & Chemicals. All of these companies, like YPF, have and maintain a multinational profile so that it is possible to compare them to the MSCI Index. The data gathered include a five years period starting from January 1st,

2007. After the Raw beta calculation for each of the companies, the consecutive betas have to be adjusted in order to exclude the companies' leverage. Based on this process the industry beta turns out to be 0.59.

- Adjusted beta

The final part of beta's calculation includes the utilization of the what called Bloomberg technique.

According to this equation the industry beta should be adjusted in order to reflect the long-term trend of any stock to converge toward the market's beta. The Bloomberg equation is:

$$\text{Adjusted Beta} = 0.33 + 0.67 * (\text{Raw Beta})$$

Adopting the above equation, YPF's final beta results to be 0.72.

5.1.6) Equity and Country risk premiums

When valuing a project taking place in a developing country with the Capital Asset Pricing Formula, the rate of return for common equity is a bit problematic because beta does not adequately capture country risk. To reflect the increased risk associated with investing in a developing country, the Country risk premium is added to the market risk premium when using the CAPM.

The risk of developing countries is reflected in their sovereign yield spreads. This is the difference in yields between the developing country's Government bonds and Treasury bonds of similar maturity.^[7] For Argentina this risk is quantified as 9%.^[8] The three world main rating agencies have lately downgraded Argentina, underlying a future negative outlook. *"The downgrade of the long-term foreign currency IDR reflects Fitch's view that a default by Argentina is probable..."*, says Fitch in one of its analyst reports.^[9] At today YPF's ratings are B for Fitch and Caa1 for Moody's. These ratings have to do with the high linkage YPF's business has with Argentinian soil (98% of YPF's Revenue are made in Argentina),^[10] and the incoming public management.

In order to calculate YPF's risk premium will be utilized the difference between the Merval (Argentina Stock Market) index average returns of the last 12 years, and the Government risk-free rate yield. The

⁷ Qmarks, <http://qmarks.wordpress.com/2010/02/28/how-to-adjust-country-risk-premium-in-capm/>

⁸ Appendix 12

⁹ Porzecanski, 27/11/2012

¹⁰ YPF 2011 Report, pag. F-77

calculation results in an Equity risk premium equal to $19.13\% - 12.04\% = 7.09\%$.

Finally, the Equity risk premium will be added to the Country risk premium previously mentioned. Hence, the final result is $7.09\% + 9\% = 16.09\%$.

5.1.7) WACC

The Weighted Average Cost of Capital is a weighted average of the required rate of return for each type of investor.^[11] The WACC formula is:

$$WACC = \frac{NIBD}{(NIBD+E)} * r_d * (1 - T) + \frac{E}{(NIBD+E)} * r_e$$

Where :

NIBD = Net interest-bearing debt

E = Market Value of Equity

r_d = Cost of Debt

r_e = Cost of Equity

T = Corporate tax rate

Based on the above paragraphs' calculations, YPF's WACC results to be:

$$47.02\% * 10.82\% * (1 - 37.26\%) + 52.98\% * 23.87\% = 15.73\%$$

5.2) Vaca Muerta shale Revenue

5.2.1) Ownership

As previously mentioned in the paper, Vaca Muerta's shale is YPF's brand new competitive advantage, and it is expected to be its main sales-driver for the next 50 years. Estimated to be the third largest shale in the world, YPF owns a treasure that only the Government's mismanagement or the private interests of Repsol could ruin. The shale was assessed to amount around 22,807 billion barrels of oil equivalent (Bboe). Since YPF owns only 1,2 million acres of the overall Vaca Muerta's dimensions, which are estimated to be 3 million acres, only 40% of 22,807 billion barrels can be accounted as future YPF's Revenue.

The estimated life of Vaca Muerta is assessed to be 34.6 years in Ryder Scoot's report. Indeed, the author

¹¹ Petersen & Plenborg, pag. 24

mentions a duration of 30 years for the oil contained in the shale and 50 years for the gas. In particular, Scott specifies that 77% of the shale is oil-composed, while the rest is gas.^[12]

5.2.2) Shale capacity

Argentina's Federal Governments have not yet shown an effective and efficient way of managing their resources during history. Argentina is indeed still a developing country and does not have all the necessary capabilities to exploit at 100% its assets. For this reason Vaca Muerta is believed to be developed slowly, as suggested by Ryder Scott,^[12] reaching its full productive capacity only in ten years of time.

Hence, the shale is supposed to be utilized at its full possibilities for as long time as possible in order to exploit its coming economies of scale, before being quickly dismantled. This frame results in a threefold division of Vaca Muerta's capacity utilization. The shale will constantly add capacity for its first 10 years of lifetime, keep full exploitation for 27 years and then rapidly lose all its resources in no more than 5 years.

5.2.3) Price per barrel

In order to forecast the future Vaca Muerta's contribution to YPF's overall Revenue it is necessary to compute the future price per barrel of oil. For this purpose have been chosen the prices on oil futures, which are the official market's predictions. Data available stop at December 2021 and beyond that date the Revenue are tracked to the world inflation rate.^[13]

5.2.4) Inflation rate

YPF is a multinational company with operations spread in different countries. After the discovery of Vaca Muerta the company will have the potential to increase its expansion and reach even more customers all over the world. Since YPF does not operate only in Argentina and sells mainly commodities, this paper indexes the company's Revenue after 2021 to the actual world average inflation rate, which is estimated to be 4.2%.^[14]

¹² Ryder Scott, 2012

¹³ Yahoo Finance, <http://finance.yahoo.com/futures>

¹⁴ World Inflation rate, http://www.indexmundi.com/world/inflation_rate_%28consumer_prices%29.html

5.2.5) Exchange rate

The exchange rate at which the price per barrel (officially in USD) will be translated in ARS is computed multiplying the average change of the exchange rate from 2007 to 2012 for the future price per barrel.

5.2.6) Investment

Vaca Muerta it's a huge resource for the company and Argentina itself, but needs also a high investment in order to be exploited properly. The information about the extraction costs of Vaca Muerta is still insufficient for a precise valuation, but given the acreage of YPF it should be necessary to invest around AR \$45,413 to make the shale profitable. This investment will last 10 years and could bring the company to double Argentina's oil and gas capacity.

5.2.7) Revenue

The Revenue calculation is based on the variables mentioned and the estimated price per barrel.

5.3) Forecast assumptions

5.3.1) Revenue growth

Based on previous discussions Revenue can be divided into two parts: Revenue from Vaca Muerta's shale and Revenue from current operations. The previous section was based on Vaca Muerta's Revenue assessment while this one refers to the estimation of current Revenue growth. Due to Vaca Muerta's economic potential, the company should be able to exploit high growth rates and hence increase its ability to gain also within its core operations.

The Oil&Gas industry is predicted to growth at a 7% annual rate in the forthcoming years, but YPF, thanks to its discovery, should be able to overcome the industrial average.^[14]

For this reason YPF's Revenue is believed to growth at a 10% rate in the first 10 years, before slowing down to 7.5% and 5% in the subsequent periods. The forecasted Revenue are divided in three different time frames, because Vaca Muerta's shale should give benefits during its development (10 years) and exploitation phase (17 years), before quickly decline while the company dismantles its operations (5

¹⁴ Oil&Gas Industry growth, <http://www.reportlinker.com/ci01331/Oil-and-Gas-Energy.html>

years).

5.3.2) Terminal period growth

The terminal period is the period where YPF is expected to have reached a steady state and to slow down its growth.

According to World Bank, the forthcoming global economy growth rates are expected to be 2.4% for 2013, 3.1% for 2014 and 3.3% in 2015.^[15] Hence, based on these predictions and considering the internationality of the Oil&Gas industry, the terminal period growth rate will be fixed at 3%.

5.3.3) Payout ratio

Since YPF's new management policy has been declared to be focused on profits reinvestments, the Payout Ratio will be linked to the amount of earnings left after all the current annual investments have been paid out. This is due to the fact that YPF has been expropriated by the Government with the primary intention of ending a previous management policy which used to pay out more dividends than necessary.^[16]

5.3.4) Value drivers

There are many ways to design a forecasting system that ensures the underlying bookkeeping is performed properly. Some prefer a "line-item" approach where each accounting item is forecasted without reference to the expected level of activity, other prefer a sales-driven forecasting approach reflecting that different accounting items are driven by the expected level of activity. This paper favors a sales driven approach as it is believed to ensure a better link between the level of activity and investments compared to a line-item approach.^[17]

In order to develop this kind of approach, pro forma statements for YPF have been created. In Appendix 20 the sales driven approach template for YPF is designed. As shown in Appendix 20, any item has been computed using its average through the overall historical period. This process has been exploited for all the items but some exceptions:

¹⁵ Xinhua, 16/01/2013

¹⁶ Appendix 5

¹⁷ Petersen & Plenborg, pag.175

- Net Financial Expenses have been forecasted using the r_d pre-tax estimate and linked to the Capital Structure forecast ;
- Net Working Capital and Gross Profit have been forecasted through future estimations;
- Net Interest-bearing Debt has been linked to Invested Capital.

Next paragraphs will focus in detail on all those items that have been forecasted without using their historical average, but following information derived from the previous Strategic or Financial Analysis.

5.3.5) Net Financial Expenses

The NFE have been computed using the pre-tax estimated cost of debt for 2011, and weighted for the company's new financial leverage. The NFE have been indexed to the change in YPF's Financial Leverage so that the cost of debt should reflect the percentage increase in the debt's weight upon the company's overall economics. In this sense the cost of debt is expected to reach a rate of almost 19% in 2021 before undertaking a downtrend and come back to normal levels. This prevision is due to the fact that YPF's financial structure has been constantly increasing during the last 5 years, augmenting YPF's cost of financing. Hence, the next funds are expected to be more expensive, until YPF reaches a stage in which gains enough contractual power. Hence, if the future investment in Vaca Muerta's shale turns out to be managed correctly YPF could start to decrease its cost of debt after.

5.3.6) Gross profit

As seen in Chapter 2.7.2, YPF's Operating Margin experienced a decreasing trajectory during the last five years. However, with YPF's new discovery and its potential, the company should be able to exploit new economies of scale.

For this reason YPF's Operating Margin is expected to improve at a 1.5% rate for the first 10 years, before slowing to 0.5% yearly improvements for 27 years. Indeed, during this period YPF is supposed to exploit its new resource economies. After Vaca Muerta's exploitation phase, the Operating Margin will finally come back to pre-growth rates.

5.3.7) Net Working Capital

The Net Working Capital trend is believed to be positively affected by Vaca Muerta's development and exploitation for 37 years before inverting its trend after the shale starts to deplete.

5.3.8) Capital Structure

YPF's shares dropped of 41% between January and April 2012. This drop reduced YPF's possibilities of a share issue to finance its needs. For this reason the company is most probably going to issue debt to fund its investments or otherwise will lose money. Given this assumption YPF's Financial Leverage will increase in order to simulate the new debt improved weight. The NIBD, which uses Invested Capital as value driver, will augment proportionally to the change in the Financial Leverage, which is estimated to reach a 97.8% value.^[18] The leverage is believed to increase for the overall development period. During the exploitation phase a downtrend will start until reaching pre-Vaca Muerta's values.

6. VALUATION

The Valuation of a firm measures the Enterprise Value of a company. In this paper the valuation approaches used are the DCF Model approach and the Multiples approach. Further, in order to make a proper Valuation, different Scenarios will be simulated and a Sensitivity Analysis will be run.

6.1) DCF Model

In this paper the Valuation approach chosen is based on discounting future income streams or cash flows. This kind of models are commonly referred as present value approaches. In particular, has been chosen the Discounted Cash Flow Model, which is undoubtedly the most popular of the present value approaches.^[1] According to this theory the value of a company is determined by the present value of future free cash flows. In case of an infinite cash flow stream the discounted cash flow model can be specified as:

¹⁸ Appendix 20

¹ Petersen & Plenborg, pag.216

$$Enterprise\ Value_0 = \sum_{t=1}^n \frac{FCFF_t}{(1+WACC)^t} + \frac{FCFF_{n+1}}{(WACC-g)} * \frac{1}{(1+WACC)^n}$$

Where:

$FCFF_t$ = Free Cash Flow to the firm in time period t ;

WACC = Weighted Average Cost of Capital;

g = Terminal period growth rate.

The period chosen to develop the DCF Valuation has a duration of 42 years. This time laps has been chosen in order to be able to build a reasonable forecasting period comprehensive of Vaca Muerta's development, its settlement and expiration.

The results from the DCF Model are shown in Table 9:

Table 9: DCF Model results summary

DCF	
PV	99487
Terminal Value	1080
NIBD	14580
#shares	393,31
MVE	85987
PPS (in AR \$)	218,6
PPS (in US \$)	48,1

YPF's fair price per share results to be \$48.1, more than three times the current price at December 31th, 2012 when YPF hit \$14.55.^[2] This Valuation clearly shows that YPF is highly underpriced.

6.2) Scenarios

Up to now the Valuation showed what it would be YPF's value with realistic forecast assumptions.

Anyway, is common sense to consider also different scenarios. In this part the focus will be given to two different predictions simulation. One will contemplate the possibility of a negative pessimistic outlook on YPF results and strategy while the other will consider a more optimistic scenario.

6.2.1) Pessimistic scenario

The pessimistic scenario will be based on the possibility YPF's future strategy ends up to be unprofitable

² YPF Historical prices, <http://finance.yahoo.com/q/hp?s=YPF+Historical+Prices>

or that some environmental issue will threaten the future company's financial outlook. This scenario is not unlikely since YPF is operating in a peculiar macro-environment and with a complete new public management, which has yet to demonstrate its capabilities. Other pessimistic scenarios could also involve the renounce to the company's ownership by the Federal Government because of its fear toward WTO members' reactions, or Argentina default.

Based on these possibilities some forecast assumption will consequently change:

- Vaca Muerta's Revenue will not be included into the forecast period;
- Earnings will not be retained and all the profits, if any, will be paid out as dividends;
- The financing will only fund on debt, constantly increasing Financial Leverage and NFE;
- The Operating Margin will follow a downtrend;
- The estimated r_d , resulting from the equation $(r_f + r_s) * (1 - T)$, will be calculated using only the highest interest rate on obligations charged to YPF (29%);^[3]
- Net Working Capital will not recover its downtrend, but instead worsen its path;
- The Revenue's growth rate will decrease to 5%, 3.5% and 2.5% for the first, second and third period;
- The terminal growth rate will be 1%.

In Appendix 26 is shown the CFS from the pessimistic scenario's Valuation, while a summary is provided in the Table below.

Table 10: DCF Model summary – Pessimistic scenario

DCF	
PV	-29817
Terminal Value	1834
NIBD	14580
#shares	393,31
MVE	-42563
PPS (in AR \$)	-108,2
PPS (in US \$)	-23,8

³ Appendix 26

After developing all the assumptions YPF shows a drop to a negative \$23.8 per share.

This is mostly due to the already precarious financial situation afflicting the company, that together with a negative outlook is destined to fail.

As seen in the previous DCF Valuation, YPF is underpriced and this is not clearly explainable. Looking at the results from the pessimistic scenario, one explanation could be that markets believe in a forthcoming YPF's bankruptcy as much as a normal flowing of its operations.

6.2.2) Optimistic scenario

The optimistic scenario pictures the case in which YPF sustains its potential growth through the successful development of Vaca Muerta. Fundamental for a positive result are the hypothesis that YPF's PPS and Argentina's yield on long term bonds jump back to lower levels in order to allow the company a cheaper financing.

The case supposes the macro-environment of YPF to be led by the Argentine Government through its interposed management with efficiency and professionalism. The firm will indeed be able to find financing at a lower price than today and develop positively the new Vaca Muerta discovery.

This scenario includes the following assumptions:

- The country risk premium will lower to 5%;
- The Capital Structure will held constant during Vaca Muerta's development period at 2011 level;
- Revenue growth will be stated at 15%, 10% and 5% for the first, second and third period;
- The terminal period growth will be fixed at 4%;

Appendix 27 shows the CFS from the optimistic scenario's Valuation, while a summary is provided in Table

11.

Table 11: DCF Model summary – Optimistic scenario

DCF	
PV	182187
Terminal Value	106607
NIBD	14580
#shares	393,31
MVE	274213
PPS (in AR \$)	697,2
PPS (in US \$)	153,5

As shown in Table 11 the final price is \$153.5. This price reflects an improvement of more than 3 times the realistic scenario's assessment and provides a high return to investors willing to bet on a positive swing in YPF's current situation. However, the probabilities that YPF experiences this scenario are low and at today not even considered by markets.

6.3) Sensitivity Analysis

As Petersen and Plenborg state *"a valuation should always be accompanied by a sensitivity analysis that examines the valuation consequences of changing some of the key value drivers"*.^[4] When applied to the analysis of YPF, the possible realities associated with the changes in the key value drivers, growth rate (within terminal period) and WACC, are being referred to their effect on the company's price per share. The Sensitivity Analysis is based on a change of 2.5% for the WACC estimates and a 1% change for the growth rate estimates. Future possible prices for YPF are shown in Table 12.

Table 12: YPF Sensitivity Analysis

		WACC				
		10,73%	13,23%	15,73%	18,23%	20,73%
g	1%	149,0	84,0	48,1	27,1	14,1
	2%	149,5	84,1	48,2	27,1	14,1
	3%	150,2	84,3	48,2	27,1	14,1
	4%	151,1	84,5	48,2	27,1	14,1
	5%	152,3	84,7	48,3	27,1	14,1

The analysis shows a difference of \$138.3 between the lowest and the highest outcome. Furthermore it is noticeable how the current YPF's PPS involves a WACC beyond 20%. Hence, markets value YPF riskier than

⁴ Petersen & Plenborg, pag. 237

expected. This reinforces the likelihood markets are today affected by a belief in a pessimistic outlook, retaining it a probable outcome in next years.

6.4) Multiples

The Multiple Analysis is necessary to confirm the previous Valuation and looking at it from another perspective. In theory this technique consists in evaluating a company using the metrics of other similar companies within the same industry. This analysis operates assuming that similar companies will have similar Valuation multiples.^[5]

In YPF's case it is possible to find an high number of comparable companies, thanks to the size of Oil&Gas industry and its concentrated competition. The analysis will consider 25 different companies^[6] involved within the Oil&Gas sector, and compare them through three different multiple metrics: Price per Share on Earnings per share ratio (P/E), Enterprise Value on EBITDA ratio (EV/EBITDA) and Enterprise Value on Revenue ratio (EV/Revenue).

The multiples will also be calculated using two time frames: 2012 values and current values, where the latter correspond to the latest available values gathered.^[7]

Data have been gathered through the Bloomberg Terminal.

The results of YPF's Multiple Analysis are shown in Table 13.

Table 13: YPF's Multiple Analysis

YPF	PPS (US \$) Current	PPS (US \$) 2012
P/E	\$40,08	\$46,55
EV/EBITDA	\$40,69	\$40,12
EV/Revenue	\$64,00	\$64,38

Looking at Appendix 19 it is possible to notice how YPF's P/E and EV/Revenue ratios distance themselves from the average comparable companies ratios. YPF's P/E, in particular, results to be the lowest number within the entire evaluated sample. The only ratio considered near the industry average is EV/EBITDA,

⁵ Investopedia Comparable Company Analysis, <http://www.investopedia.com/terms/c/comparable-company-analysis-cca.asp>

⁶ Appendix 19

⁷ 10/05/2013

that differences only 0.55 and 1.02 from current and 2012 average industry values.

Looking at Table 13 it is possible to state YPF's PPS range should be between \$40 and \$65. The DCF Valuation gave a price of \$48.1, which is included in this interval. This proves the ran DCF Model can be considered valid.

7. CONCLUSIONS

7.1) Why expropriating could be wrong

Following Chapter 3 overall Strategic Analysis, it is clear which are YPF's current threats coming from the Federal Government expropriation. First among all, YPF is jeopardized by the intentions of public offices, in particular by the possible individual interests that could diverge from the company's objectives. Even though President Fernández clarified YPF was expropriated because of Repsol previous mismanagement, she did not convinced international investors the new public ownership could do any better. YPF's share crash was a clear signal that markets do not trust the President's words, but instead bet on a possible company's default. Indeed, having the company so closely linked to public affairs means exposing it to risks that before were not even contemplated. Of course, Argentina's actual financial situation does not help. The country is suffering from high inflation and low growth rates and it seems it's coming back to its pre-crash economic levels. Faced by a lack of Revenue, President Fernández's Government was accused to have taken shortcuts in order to compensate its losses, such as nationalizing pension funds and rewriting the Central Bank's charter.^[1] YPF's expropriation could be just the continuation of such policies. Furthermore, after Vaca Muerta's discovery, the State has now to find funds, technologies and expertise, that seem too high for its possibilities. This is why the shale would need at least a decade to run at its full capacity, unless other solutions are contemplated.

One could be to adopt a system along the lines of Petrobras, a company of public and private ownership

that operates together with private companies in exploration and production projects.^[1]

At today, the new management limits are the biggest threat of a company that has the opportunity to build growth margins in order to become a leader in the Oil&Gas sector, but is believed to fail.

7.2) Why expropriating could be right

In Chapter 4 and 5 was underlined how Repsol dividend policy threatened the company's current profitability and future growth. Between 1999 and 2011 YPF, under Repsol's management, distributed dividends for \$13.2 million, while Net Profits were \$16.5 million.^[2]

YPF has always been one of the most important resources for Argentina, maybe the only real big profitable company this country had, and was exploited several times during its history. Nowadays Argentina's population gained democracy rights after decades of fights against abuses, and is willing to fight everything could threaten its independence.

Repsol management policy toward Argentina drained the country, forcing Argentina to import oil and gas after 17 years.^[1] With its expropriation, Argentina wanted to revert an unsustainable situation retaking control of a primary strategic asset. The economic crisis already demonstrated how countries rescue their main resources if environmental factors threaten economic growth, the wealth of inhabitants, or political stability. As shown by PESTEL Analysis, Argentina is entering in a slow growth phase after years of high growth and inflation rates, which guaranteed solidity to its economy. Hence, the country cannot allow individualist policies like Repsol's, and needs to act in order to save its current biggest asset, or only hope.

7.3) Final Statement

YPF's case has demonstrated how ownership can affect a company's future and its perspectives. As just mentioned, both Repsol and Argentina's ownerships have advantages and disadvantages, and only YPF future developments will show which would have been the best scenario. However, unlike Repsol, the new public management has yet to demonstrate its value. This should give markets enough faith to believe YPF

¹ Redrado, 20/04/2012

² Rapoport 20/04/2012

will be able to develop profitably its new resources or has at least the intentions to do it, something that Repsol never did.

“... YPF maintains a solid business profile as Argentina's dominant integrated oil company and good credit ratios. Key concerns center on YPF's weak upstream operating measures, a debt profile concentrated in the short term and exposure to government's interference risk.” (Fitch) ^[3]

³ Reuters, 26/04/2012, <http://es.reuters.com/article/idUKWNA344820120326>

References

Books and Articles

- Carin Hall, *"US coal exports booming in Europe"*, 03/10/2012,
http://www.energydigital.com/global_mining/us-coal-exports-booming-in-europe
- Cecilia Novoa, *"Advierten que YPF puede 'sofrir una fuga de talentos' tras la expropiación"*, 08/04/2012,
<http://www.iprofesional.com/notas/134861-Advierten-que-YPF-puede-sufrir-una-fuga-de-talentos-tras-la-expropiacin>
- Eberhard Rhein, *"Argentinian expropriation of YPF shows again the limits of international law"*, 02/05/2012,
<http://rhein.blogactiv.eu/2012/05/02/the-argentinian-expropriation-of-ypf-shows-again-the-limits-of-international-law/>
- Fiona Govan and Emily Gosden, *"Argentina 'to negotiate' on YPF compensation"*, 20/04/2012,
<http://www.telegraph.co.uk/finance/newsbysector/energy/oilandgas/9216013/Argentina-to-negotiate-on-YPF-compensation.html>
- Francisco Peregil, *"Argentina announces expropriation of Repsol oil subsidiary YPF"*, 17/04/2012,
http://elpais.com/elpais/2012/04/16/inenglish/1334595212_305415.html
- Infobae, *"Uno a uno, quiénes son los directores de la 'nueva' petrolera YPF"*, 04/06/2012,
<http://www.infobae.com/notas/651521-Uno-a-uno-quienes-son-los-directores-de-la-nueva-petrolera-YPF.html>
- Jude Webber, *"'Reckless' Argentina risks threat to growth"*, 23/11/2012,
<http://www.ft.com/cms/s/0/2d6097a8-34b5-11e2-8986-00144feabdc0.html#axzz2RT9pzv2U>
- Katia Porzecanski, *"Argentina rating downgraded by Fitch on 'probable' default"*, 27/11/2012,
<http://www.bloomberg.com/news/2012-11-27/argentina-downgraded-by-fitch-on-probable-default-from-ruling.html>
- Mario Rapoport, *"YPF, the view from Argentina, part I: Expropriation was right"*, 20/04/2012,
<http://blogs.ft.com/beyond-brics/2012/04/20/ypf-the-view-from-argentina-part-i-expropriation-was-right/#axzz2TwAshV00>
- Martin Redrado, *"YPF, the view from Argentina, part II: Expropriation was wrong"*, 20/04/2012,
<http://blogs.ft.com/beyond-brics/2012/04/20/ypf-the-view-from-argentina-part-ii-expropriation-was-wrong/?#axzz2SygMPHNw>
- Petersen & Plenborg, *"Financial Statement Analysis"*, 2012, Pearson Custom Publishing
- Reuters, *"Argentina names YPF board, Repsol keeps one seat"*, 04/06/2012,
<http://www.reuters.com/article/2012/06/04/argentina-ypf-idUSL1E8H4HXG20120604>
- Reuters, *"Moody's cuts Argentina foreign law bonds rating, cites default risk"*, 15/03/2013,
<http://www.reuters.com/article/2013/03/15/argentina-bonds-moodys-idUSEMS2IA7PS20130315>

Rodrigo Orihuela, *"Argentina Seizes Oil Producer YPF, as Repsol Gets Ousted"*, 17/04/2012, <http://www.bloomberg.com/news/2012-04-16/argentina-to-send-bill-to-congress-for-control-of-51-of-ypf-1-.html>

Ryan Koronowski, *"Oil companies that caused climate change now fear its financial impacts"*, 06/12/2012, <http://climarealityproject.org/2012/06/12/oil-companies-that-caused-climate-change/>

The Economist, *"better late than ever"*, 25/09/2008, <http://www.economist.com/node/12304938>

The Economist, *"The noose tightens"*, 23/11/2012, <http://www.economist.com/blogs/americasview/2012/11/argentinas-debt-default>

The Economist, *"The President and the potbangers"*, 27/09/2012, <http://www.economist.com/node/21563732>

The Economist, *"The price of cooking the books"*, 23/02/2012, <http://www.economist.com/node/21548229>

The Telegraph, *"Fitch downgrades Argentina and predicts default"*, 27/11/2012, <http://www.telegraph.co.uk/finance/financialcrisis/9707546/Fitch-downgrades-Arentina-and-predicts-default.html>

Vladimir Hernandez, *"Argentina's oil and gas seizure poses new dilemma"*, 08/05/2012, <http://www.bbc.co.uk/news/business-17922132>

Xinhua, *"World Bank estimates global economic growth rate at 2.4 percent in 2013"*, 16/01/2013, <http://www.globaltimes.cn/content/756140.shtml>

Publications

Alfarow, *"The environmental laws in Argentina"*, <http://www.alfarolaw.com/tapa/The%20Environmental%20Laws%20in%20Argentina.pdf>, (19/05/2013)

Aswath Damodaran, *"Volatility rules: Valuing emerging markets companies"*, 09/2009, Stern School of Business

Castillo et al., *"Estimating Spillover Effects of Technology Development Funds (TDF): The case of FONTAR"*, 08/2005, https://poverty-action.org/sites/default/files/day_1_s3_maffioli.pdf

Christopher Click et al., *"2013 Oil and Gas industry perspective"*, 13/12/2012, <http://www.booz.com/global/home/what-we-think/industry-perspectives/display/2013-oilgas-industry-perspective?pg=all>, (19/05/2013)

Cogito, *"How to adjust country risk premium in CAPM"*, <http://qmarks.wordpress.com/2010/02/28/how-to-adjust-country-risk-premium-in-capm/>, (19/05/2013)

Council or trade in goods, *"Argentina's import restricting policies and practices"*, 30/03/2012, http://eeas.europa.eu/delegations/wto/documents/press_corner/2012_03_30_joint_statement_argentina.pdf

- Ernst & Young, *"Oil and Gas: Top 10 opportunities"*, <http://www.ey.com/GL/en/Industries/Oil---Gas/Turn-risk-and-opportunities-into-results--oil-and-gas---The-top-10-opportunities>, (19/05/2013)
- European Parliament, *"Directive 2001/77/EC Of the European Parliament and of the Council"*, 27/09/2001, http://www.seai.ie/Renewables/Renewable_Energy_Policy/4_RES-E_Directive.pdf
- FRBSF Economic Letter, *"Argentina's currency crisis: Lessons for Asia"*, <http://www.frbsf.org/publications/economics/letter/2002/el2002-25.pdf>
- Investing and doing business in Argentina, *"The tax system in Argentina"*, <http://argentinabusiness.blogspot.dk/2009/06/tax-system-in-argentina.html>, (19/05/2013)
- Maria Lambert, *"Prospects for political stability in Argentina"*, <http://smu.edu/center/discourse/MariaLambert.htm>, (19/05/2013)
- Marval O'Farrell & Mairal, *"Overview on Labor law in Argentina"*, 21/11/2011, <http://www.mondaq.com/x/152780/Employee+Benefits+Compensation/OVERVIEW+ON+LABOUR+LAW+IN+ARGENTINA>
- Nonna, Silvia C., *"The environment and its regulation in Argentina"*, <http://www.inece.org/conf/proceedings1/PrecedingsBook%20%20%20%20%2059-72.pdf>, (19/05/2013)
- Pablo Sanguinetti, *"The Determinants of Innovation and R&D Expenditures in Argentina: Evidence from a firm level survey"*, 12/2005, [http://irispublic.worldbank.org/85257559006C22E9/All+Documents/85257559006C22E98525718400677FF0/\\$File/Innovation10Sanguinetti.pdf](http://irispublic.worldbank.org/85257559006C22E9/All+Documents/85257559006C22E98525718400677FF0/$File/Innovation10Sanguinetti.pdf)
- Pardon the information, *"Why are oil companies so profitable"*, <http://www.pardontheinformation.com/2008/06/why-are-oil-companies-so-profitable.html>, (19/05/2013)
- Petroleum Online, *"Oil and Gas Industry Overview"*, <http://www.petroleumonline.com/content/overview.asp?mod=1>, (19/05/2013)
- Reportlinker, *"Oil and Gas Energy Industry: Market Research Reports, Statistics and Analysis"*, <http://www.reportlinker.com/ci01331/Oil-and-Gas-Energy.html>, (19/05/2013)
- Reuters, *"Fitch cuts YPF S.A. rating"*, <http://es.reuters.com/article/idUKWNA344820120326>, (19/05/2013)
- Ryder Scott, *"Ryder Scott confirms major Argentina Oil shale play"*, March-May 2012 Vol. 15 No. 1, Reservoir Solutions
- Vuru, *"YPF S.A."*, <http://www.vuru.co/analysis/YPF/economicMoat>, (19/05/2013)
- WisegEEK, *"How does OPEC influence gas prices"*, <http://www.wisegEEK.org/how-does-opeC-influence-gas-prices.htm#>, (19/05/2013)
- World Finance, *"YPF: Argentina's leading energy company"*, <http://www.worldfinance.com/markets/energy/ypf-argentinas-leading-energy-company>, (19/05/2013)

Reports

Alex Kicillof, *"The Mosconi Report"*, Ministerio de Economía y Finanzas públicas, (19/05/2013)

BP PLC, *"2011 Annual Report"*,

http://www.bp.com/assets/bp_internet/globalbp/globalbp_uk_english/set_branch/STAGING/common_assets/bpin2011/downloads/BP_Annual_Report_and_Form_20F_2011.pdf

China Petroleum & Chemical Corp, *"2011 Annual Report"*,

http://english.sinopec.com/download_center/reports/2012/20120326/download/2011AnnualReport.pdf

Deloitte, *"Argentina an U.S. GAAP and the International Accounting Standards"*,

http://www.deloitte.com/assets/Dcom-Argentina/Local%20Assets/Documents/argentine_us_gaap.pdf, (19/05/2013)

EIA, *"Global Crude Oil and Liquid Fuels"*, http://www.eia.gov/forecasts/steo/report/global_oil.cfm, (19/05/2013)

Exxon, *"2011 Annual Report"*, http://exxonmobil.com/Corporate/Files/news_pub_sar2011.pdf

Imperial Oil, *"2011 Annual Report"*, http://www.imperialoil.ca/Canada-English/Files/2011_AR.pdf

Petrobras, *"2011 Annual Report"*, <http://www.hotsitespetrobras.com.br/rao2008/i18n/en/index.aspx>

PKF, *"Argentina tax guide 2012"*, http://www.pkf.com/media/386981/argentina_2012.pdf, (19/05/2013)

Repsol General Division of Communication, *"Vaca Muerta shale"*,

http://www.repsol.com/imagenes/es_en/Vaca_Muerta_annexes_tcm11-618243.pdf, (19/05/2013)

Repsol, *"Notes after the expropriation of YPF"*, 09/2012

Repsol, *"Repsol YPF raises its hydrocarbons reserves and resources estimate in the Vaca Muerta play to 22.807 billion barrels of oil equivalent (Boe)"*, 08/02/2012,

http://www.repsol.com/es_en/corporacion/prensa/notas-de-prensa/ultimas-notas/08012012-repsol-eleva-prevision-recursos-vaca-muerta.aspx, (19/05/2012)

YPF, *"2011 Annual Report"*,

<http://www.ypf.com/enu/InversoresAccionistas/InfoEconomicoFinanciera/Paginas/Informe-Anual-20f.aspx>

YPF, *"2010 Annual Report"*,

<http://www.ypf.com/enu/InversoresAccionistas/InfoEconomicoFinanciera/Paginas/Informe-Anual-20f.aspx>

YPF, *"2009 Annual Report"*,

<http://www.ypf.com/enu/InversoresAccionistas/InfoEconomicoFinanciera/Paginas/Informe-Anual-20f.aspx>

YPF, *"2008 Annual Report"*,

<http://www.ypf.com/enu/InversoresAccionistas/InfoEconomicoFinanciera/Paginas/Informe-Anual-20f.aspx>

YPF, "2007 Annual Report",

<http://www.ypf.com/enu/InversoresAccionistas/InfoEconomicoFinanciera/Paginas/Informe-Anual-20f.aspx>

Speeches

Abdalla Salem El-Badri, "New Frontiers in the Oil & Gas Industries: The Technological Difference", 01-02/11/2011, http://www.opec.org/opec_web/en/press_room/2145.htm

Websites

<http://www.investopedia.com/>

<http://www.wikipedia.org/>

<http://www.ypf.com/Paginas/Home.aspx>

Databases

http://www.1stock1.com/1stock1_771.htm

<http://www.americanprogress.org>

<http://ars.fx-exchange.com/usd/exchange-rates-history.html>

Bloomberg Terminal

<http://data.worldbank.org>

<http://finance.yahoo.com>

<http://www.eia.gov>

<http://www.indexmundi.com>

<http://www.investing.com>

<http://www.repsol.es>

<http://ycharts.com/companies/>

List of Appendix

Appendix 1 – YPF Historical Income Statement

Appendix 2 – YPF Historical Balance Sheet

Appendix 3 – Depreciation

Appendix 4 – Net Working Capital

Appendix 5 – YPF Cash Flow Statement

Appendix 6 – Operating leases

Appendix 7 – Vaca Muerta data

Appendix 8 – Argentina Inflation Rate

Appendix 9 – Expected market risk premium calculation

Appendix 10 – YPF Adjusted beta calculation

Appendix 11 – Industry beta and final beta calculation

Appendix 12 – Argentina credit rating

Appendix 13 – Company specific interest rate risk premium calculation

Appendix 14 – Average Yearly price per share

Appendix 15 – Capital Structure calculation

Appendix 16 – Pessimistic scenario company specific interest rate risk premium calculation

Appendix 17 – Pessimistic scenario WACC

Appendix 18 – Optimistic scenario WACC

Appendix 19 – YPF Multiples

Appendix 20 – YPF Forecasted items

Appendix 21 – YPF Forecasted Income Statement

Appendix 22 – YPF Forecasted Balance Sheet

Appendix 23 - YPF Forecasted Cash Flow Statement

Appendix 24 – Vaca Muerta shale Revenue

Appendix 25 – Realistic Scenario Outlook

Appendix 26 – Pessimistic Scenario Cash Flow Statement

Appendix 27 – Optimistic Scenario Cash Flow Statement

APPENDIX 1

YPF Historical Income Statement

	2011	2010	2009	2008	2007
Net Sales	56697	44162	34320	34875	29104
COGS	-41932	-29899	-23177	-24013	-19000
Gross Profit	14765	14263	11143	10862	10104
Selling expenses	-3723	-3015	-2490	-2460	-2120
Administrative expenses	-1905	-1429	-1102	-1053	-805
Eploration expenses	-574	-344	-552	-684	-522
Operating Income	8563	9475	6999	6665	6657
Income/loss on long-term investments	92	79	-9	83	39
Other income/expense	-62	-155	159	-376	-370
Financial income(expense), net and holding gains (losses):					
Gains/losses on assets					
Interests	184	118	109	134	278
Exchange differences	524	202	182	416	142
Holding gain/losses on inventories	1089	676	-11	476	451
Losses on liabilities:					
Interests	-1095	-931	-958	-492	-292
Exchange differences	-1049	-444	-564	-708	-61
Sale of long term investments					5
Reversal of impairment of other current assets					69
NIBT	8246	9020	5907	6198	6918
Tax	-2950	-3230	-2218	-2311	-2758
Net income	5296	5790	3689	3887	4160

APPENDIX 2

YPF Historical Balance Sheet

	2011	2010	2009	2008	2007
Current Assets					
Cash	899	570	669	391	196
Investments	562	1957	1476	825	655
Trades receivables	3473	3322	2831	2702	3235
Other receivables	3090	3089	2490	1861	4361
Inventories	6074	3865	3066	3449	2573
Tot Current Assets	14098	12803	10532	9228	11020
Non Current Assets					
Trade receivables	22	28	22	24	32

Other receivables	989	1587	527	391	809
Investments	633	594	661	741	799
Fixed Assets	39650	31567	27993	28028	25434
Intangible Assets	7	10	12	6	8
Tot Non Current Assets	41301	33786	29215	29190	27082
TOT ASSETS	55399	46589	39747	38418	38102
Current Liabilities					
Accounts Payable	11915	7639	5863	6763	4339
Loans	8113	6176	4679	3219	471
Salaries and Social security	569	421	298	284	213
Taxes Payable	812	2571	1437	1132	1441
Contingencies	396	295	341	588	475
Tot Current Liabilities	21805	17102	12618	11986	6939
Non Current Liabilities					
Accounts Payable	6880	5616	4391	3473	2542
Loans	4654	1613	2140	1260	523
Salaries and Social security	181	168	110	116	164
Taxes Payable	623	523	828	753	21
Contingencies	2521	2527	1959	1857	1853
Tot Non Current Liabilities	14859	10447	9428	7459	5103
TOT LIABILITIES	36664	27549	22046	19445	12042
Shareholder's Equity	18735	19040	17701	18973	26060
TOT LIABILITIES AND EQUITY	55399	46589	39747	38418	38102

APPENDIX 3

Depreciation

	2011	2010	2009	2008	2007
Depreciation					
COGS	5211	5036	4610	4573	3989
Selling expenses	117	108	100	74	48
Administrative expenses	138	129	122	127	102
Eploration expenses				1	
TOT Depreciation	5466	5273	4832	4775	4139

APPENDIX 4

Net Working Capital

	2011	2010	2009	2008	2007
NWC	-7707	-4299	-2086	-2758	4081

APPENDIX 5

YPF Cash Flow Statement

	2011	2010	2009	2008
NOPAT	5519	6033	4465	3996
D&A	5466	5273	4832	4775
Change in NWC	3408	2213	-672	6839
Change in Net Investments	-13546	-8845	-4803	-7367
FCFF	847	4674	3822	8243
NIBD	5033	1363	2560	3683
NFE	-347	-379	-1242	-174
Tax Shield	124	136	466	65
FCFE	5657	5794	5606	11817
Dividends	5565	4444	4897	9287
Cash Surplus	92	1350	709	2530

APPENDIX 6

Operating Leases

	2007	2008	2009	2010	2011
Less than 1 year	228	386	578	958	1166
From 1 to 2 years	211	215	384	641	438
From 2 to 3 years	186	135	274	302	199
From 3 to 4 years	156	87	65	140	109
From 4 to 5 years	115	43	36	66	69
More than 5 years	117	147	180	93	130
Pre-tax Cost of Debt	21,3%	10,1%	13,3%	11,1%	8,1%
Capitalized operating leases	570	745	957	1169	1063

APPENDIX 7

Vaca Muerta data

Vaca Muerta Mboe (M.)	22807
YPF Ownership	40%
Usage period	34,6
Capacity per year	264
Price per Barrel (AR \$)	307,0
Inflation rate	4,2%
Investment (AR \$)	45413

APPENDIX 8

Argentina Inflation Rate



APPENDIX 9

Expected market risk premium calculation

Year	MERVAL Return
1995	12,70%
1996	25,13%
1997	5,87%
1998	-37,45%
1999	28,00%
2000	-24,29%
2001	-29,13%
2002	77,74%
2003	104,20%
2004	28,31%
2005	12,21%
2006	35,45%
2007	2,93%
2008	-49,82%
2009	114,95%
2010	51,83%
2011	-30,11%
2012	15,90%
Average	19,13%
Rf	12,04%
Equity Rm	7,09%
Country Rm	9,00%
Rm	16,09%

APPENDIX 10

YPF Adjusted beta calculation

Average Firm	Average MSCI	Sum (x-mean) * (y-mean)	Covariance	Sum (y-mean) ^2	Variance	Raw beta	Adj beta
41,12	31,90	17901,34	14,21	43727,92	34,68	0,41	0,60

APPENDIX 11

Industry beta and final beta calculation

	beta Levered	D/E	beta UnLevered
Exxon	0,36	11%	0,33
Petrobras	0,68	47%	0,52
Imperial Oil	0,88	38%	0,70
BP PLC	1,28	39%	1,06
China Petroleum & Chemical Corp	0,68	46%	0,50
YPF	0,60	78%	0,41
Average	0,75		0,59
Adjusted beta			0,72

APPENDIX 12

Argentina credit rating

Country	Long-Term Rating	Adj. Default Spread	Total Risk Premium	Country Risk Premium
Argentina	B3	600	13,80%	9,00%

APPENDIX 13

Company specific interest rate risk premium calculation

Net Negotiable Obligations	Int.rate
2008	19,99%
2008	4%
2008	13%
1998	10%
Rs	5,21%

APPENDIX 14

Average Yearly price per share

	Average Yearly PPS
2011	41,8
2010	41,2
2009	35,2
2008	45,4
2007	42,8

APPENDIX 15

Capital Structure calculation

	2007	2008	2009	2010	2011
MVE	16824	17860	13841	16206	16431
NIBD	1941	5624	8184	9547	14580
D/V	10,3%	23,9%	37,2%	37,1%	47,0%
E/V	89,7%	76,1%	62,8%	62,9%	53,0%

APPENDIX 16

Pessimistic scenario company specific interest rate risk premium calculation

Net Negotiable Obligations	Int.rate
	2008 29,00%
Rs	17,91%

APPENDIX 17

Pessimistic scenario WACC

Levered Beta	0,72
Rf	12,04%
Rm	16,09%
Re	23,67%
Rd	18,79%
D/V	47,02%
E/V	52,98%
Taxes	37,26%
WACC	18,08%

APPENDIX 18

Optimistic scenario WACC

Levered Beta	0,72
Rf	12,04%
Rm	12,09%
Re	20,78%
Rd	10,82%
D/V	47,02%
E/V	52,98%
Taxes	37,26%
WACC	14,20%

APPENDIX 19

YPF Multiples

Company	Current P/E	Current EV/EBITDA	Current EV/Revenue	2012 P/E	2012 EV/EBITDA	2012 EV/Revenue
EXXON MOBIL CORP	11,45	6,39	1,02	11,45	6,04	0,94
PETROBRAS - PETROLEO BRAS-PR	13,46	7,82	1,42	12,02	7,6	1,44
TOTAL SA	10,17	3,73	0,63	8,23	3,27	0,58
IMPERIAL OIL LTD	9,7	6,98	1,24	9,85	6,66	1,26
ROYAL DUTCH SHELL PLC-A SHS	8,39	4,71	0,53	8,12	4,58	0,51
BP PLC	6,14	6,97	0,42	11,34	7,92	0,43
PIONEER NATURAL RESOURCES CO	40,61	11,50	6,66	27,12	9,53	5,39
MARATHON OIL CORP	15,3	3,56	1,96	12,53	3,22	1,78
CHINA PETROLEUM & CHEMICAL-H	9,28	5,45	0,35	9,6	5,45	0,34
ENI SPA	33,45	0,69	4,04	16,38	0,68	3,52
MOL HUNGARIAN OIL AND GAS PL	9,76	5,59	0,55	12,04	5,84	0,57
MURPHY OIL CORP	10,96	4,02	0,47	9,63	3,79	0,44
SOUTHWESTERN ENERGY CO	24,27	8,53	5,18	31,09	8,14	4,91
NEXEN INC	N/A	N/A	N/A	72,16	4,7	2,6
HESS CORP	11,6	4,39	1,00	9,71	3,66	0,78
NOBLE ENERGY INC	24,93	9,04	5,74	20,55	8,21	5,22
DEVON ENERGY CORPORATION	8,56	6,51	3,27	15,99	5,08	2,71
REPSOL SA	11,6	6,08	0,66	9,03	4,68	0,56
HUSKY ENERGY INC	15,34	5,81	1,45	14,27	5,6	1,38
TNK-BP HOLDING-CLS	N/A	1,65	0,55	3,36	2,11	0,7
EOG RESOURCES INC	23,01	3,62	7,40	21,28	3,45	7,17
ANADARKO PETROLEUM CORP	20,58	7,70	3,89	33,17	7,09	3,5
LUKOIL OAO	4,53	3,18	0,52	4,57	2,88	0,47
OCCIDENTAL PETROLEUM CORP	12,96	5,79	3,26	10,79	4,95	3,8
STATOIL ASA	7,34	1,92	0,71	6,42	1,82	0,68
ROSNEFT OAO	6,22	7,63	1,40	7,46	5,56	1,05
Average	14,57	5,57	2,17	15,70	5,10	2,03
YPF	3,58	6,12	1,52	3,58	6,12	1,52

APPENDIX 20 YPF Forecasted items

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Net Sales	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
Gross Profit (% Sales)	36,7%	38,2%	39,7%	41,2%	42,7%	44,2%	45,7%	47,2%	48,7%	50,2%	50,7%	51,2%	51,7%	52,2%	52,7%	53,2%
Selling expenses (% Sales)	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%
Administrative expenses (% Sales)	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%
Exploration expenses (% Sales)	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%
Income/loss on long-term investments (% Sales)	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Other income/expense (% Sales)	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%
NFE (% NIBD)	15,2%	15,6%	16,0%	16,4%	16,8%	17,1%	17,5%	17,9%	18,3%	18,7%	18,3%	17,9%	17,5%	17,1%	16,8%	16,4%
Tax	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%
NWC (% Sales)	-11,6%	-9,6%	-7,6%	-5,6%	-3,6%	-1,6%	0,4%	2,4%	4,4%	6,4%	6,9%	7,4%	7,9%	8,4%	8,9%	9,4%
Retirement benefit obligations (% Sales)	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%
Trade receivables (% Sales)	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Other receivables (% Sales)	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%
Long-term Investments (% Sales)	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%
Fixed Assets (% Sales)	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%
D&A (% Fixed Assets and Intangible Assets)	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%
Intangible Assets (% Sales)	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Capitalized operating leases (% Sales)	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%
Cash (% Sales)	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%
Short-term Investments (% Sales)	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%
Trades receivables (% Sales)	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%
Other receivables (% Sales)	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%
Inventories (% Sales)	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%
Accounts Payable (% Sales)	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%
Taxes Payable (% Sales)	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%
Contingencies (% Sales)	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%
NIBD (% Invested Capital)	44,4%	45,0%	45,6%	46,2%	46,8%	47,3%	47,9%	48,4%	48,9%	49,4%	48,9%	48,4%	47,9%	47,3%	46,8%	46,2%

APPENDIX 20 (continue)

	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Net Sales	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
Gross Profit (% Sales)	53,7%	54,2%	54,7%	55,2%	55,7%	56,2%	56,7%	57,2%	57,7%	58,2%	58,7%	59,2%	59,7%	60,2%	60,7%	61,2%
Selling expenses (% Sales)	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%
Administrative expenses (% Sales)	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%
Exploration expenses (% Sales)	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%
Income/loss on long-term investments (% Sales)	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Other income/expense (% Sales)	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%
NFE (% NIBD)	16,0%	15,6%	15,2%	14,9%	14,5%	14,1%	13,7%	13,3%	12,9%	12,6%	12,2%	11,8%	11,4%	11,0%	10,7%	10,3%
Tax	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%
NWC (% Sales)	9,9%	10,4%	10,9%	11,4%	11,9%	12,4%	12,9%	13,4%	13,9%	14,4%	14,9%	15,4%	15,9%	16,4%	16,9%	17,4%
Salaries and Social security (% Sales)	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%
Trade receivables (% Sales)	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Other receivables (% Sales)	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%
Long-term Investments (% Sales)	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%
Fixed Assets (% Sales)	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%
D&A (% Fixed Assets and Intangible Assets)	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%
Intangible Assets (% Sales)	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Capitalized operating leases (% Sales)	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%
Cash (% Sales)	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%
Short-term Investments (% Sales)	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%
Trades receivables (% Sales)	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%
Other receivables (% Sales)	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%
Inventories (% Sales)	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%
Accounts Payable (% Sales)	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%
Taxes Payable (% Sales)	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%
Contingencies (% Sales)	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%
NIBD (% Invested Capital)	45,6%	45,0%	44,4%	43,8%	43,1%	42,5%	41,8%	41,1%	40,4%	39,7%	39,0%	38,2%	37,4%	36,6%	35,8%	35,0%

APPENDIX 20 (continue)

	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	TP
Net Sales	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
Gross Profit (% Sales)	61,7%	62,2%	62,7%	63,2%	63,7%	64,2%	60,2%	56,2%	52,2%	48,2%	44,2%	40,2%
Selling expenses (% Sales)	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%	6,7%
Administrative expenses (% Sales)	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%	2,8%
Eploration expenses (% Sales)	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%
Income/loss on long-term investments (% Sales)	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Other income/expense (% Sales)	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%	0,4%
NFE (% NIBD)	9,9%	9,5%	9,1%	8,7%	8,4%	8,0%	8,4%	8,7%	9,1%	9,5%	9,9%	10,3%
Tax	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%	37,3%
NWC (% Sales)	17,9%	18,4%	18,9%	19,4%	19,9%	20,4%	16,4%	12,4%	8,4%	4,4%	0,4%	-3,6%
Salaries and Social security (% Sales)	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%
Trade receivables (% Sales)	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Other receivables (% Sales)	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%
Long-term Investments (% Sales)	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%	1,9%
Fixed Assets (% Sales)	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%	78,1%
D&A (% Fixed Assets and Intangible Assets)	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%	16,2%
Intangible Assets (% Sales)	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Capitalized operating leases (% Sales)	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%
Cash (% Sales)	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%	1,3%
Short-term Investments (% Sales)	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%	2,9%
Trades receivables (% Sales)	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%	8,2%
Other receivables (% Sales)	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%	8,0%
Inventories (% Sales)	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%	9,4%
Accounts Payable (% Sales)	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%	29,2%
Taxes Payable (% Sales)	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%	5,3%
Contingencies (% Sales)	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%	6,6%
NIBD (% Invested Capital)	34,1%	33,3%	32,4%	31,4%	30,5%	29,5%	30,5%	31,4%	32,4%	33,3%	34,1%	35,0%

APPENDIX 21 YPF Forecasted Income Statement

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Net Sales	74898	91186	109451	128220	147077	168643	183748	205531	227174	250930	266322	282725	300207	318845	338717	359910	382516
COGS	47386	56323	65963	75351	84227	94047	99715	108453	116466	124881	131209	137877	144901	152303	160102	168320	176979
Gross Profit	27512	34863	43488	52869	62850	74596	84033	97078	110709	126050	135113	144848	155306	166542	178615	191591	205537
Selling expenses	-5025	-6117	-7343	-8602	-9867	-11314	-12327	-13789	-15241	-16834	-17867	-18967	-20140	-21390	-22724	-24145	-25662
Administrative expenses	-2135	-2599	-3119	-3654	-4192	-4806	-5237	-5858	-6474	-7152	-7590	-8058	-8556	-9087	-9653	-10257	-10902
Exploration expenses	-1006	-1225	-1470	-1722	-1975	-2265	-2468	-2761	-3051	-3370	-3577	-3797	-4032	-4283	-4549	-4834	-5138
Income/loss on long-term investments	107	130	156	183	210	240	262	293	324	358	380	403	428	455	483	513	545
Other income/expense	-302	-368	-442	-518	-594	-681	-742	-830	-917	-1013	-1075	-1141	-1212	-1287	-1367	-1453	-1544
EBITDA	19151	24684	31270	38556	46432	55770	63522	74135	85349	98038	105383	113288	121794	130949	140804	151414	162837
D&A	9486	11549	13863	16240	18628	21360	23273	26032	28773	31782	33731	35809	38023	40384	42901	45585	48448
EBIT	9665	13135	17407	22316	27804	34410	40249	48103	56576	66256	71652	77479	83771	90565	97904	105829	114389
Tax on EBIT	3601	4894	6486	8314	10359	12820	14996	17922	21079	24685	26696	28866	31211	33742	36476	39429	42618
NOPAT	6064	8241	10922	14002	17445	21590	25253	30181	35497	41571	44956	48612	52560	56823	61427	66400	71771
NFE	-3704	-4686	-5838	-7093	-8429	-10003	-11271	-13027	-14866	-16940	-17428	-17920	-18415	-18913	-19412	-19909	-20405
Tax Shield	1380	1746	2175	2643	3140	3727	4199	4854	5539	6311	6493	6676	6861	7046	7232	7418	7602
Net Income	3740	5301	7259	9551	12156	15314	18181	22008	26170	30942	34022	37369	41006	44957	49248	53908	58968

APPENDIX 21 (continue)

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Net Sales	406633	432366	459830	489145	520441	553858	589545	627664	668385	711893	758386	808077	861192	917976	978692	1043619	1113061
COGS	186104	195720	205852	216530	227782	239638	252131	265295	279165	293777	309172	325389	342471	360463	379410	399363	420371
Gross Profit	220529	236647	253977	272615	292659	314220	337414	362368	389220	418115	449214	482688	518721	557514	599281	644257	692690
Selling expenses	-27280	-29006	-30849	-32815	-34915	-37157	-39551	-42108	-44840	-47759	-50878	-54212	-57775	-61585	-65658	-70014	-74672
Administrative expenses	-11589	-12322	-13105	-13941	-14833	-15785	-16802	-17888	-19049	-20289	-21614	-23030	-24544	-26162	-27893	-29743	-31722
Exploration expenses	-5462	-5807	-6176	-6570	-6990	-7439	-7919	-8430	-8977	-9562	-10186	-10854	-11567	-12330	-13145	-14017	-14950
Income/loss on long-term investments	580	617	656	698	742	790	841	895	953	1015	1081	1152	1228	1309	1396	1488	1587
Other income/expense	-1642	-1745	-1856	-1975	-2101	-2236	-2380	-2534	-2698	-2874	-3062	-3262	-3477	-3706	-3951	-4213	-4493
EBITDA	175136	188382	202647	218011	234562	252393	271603	292302	314608	338647	364555	392482	422586	455040	490030	527757	568439
D&A	51503	54762	58240	61953	65917	70150	74670	79498	84655	90166	96055	102348	109076	116268	123958	132181	140976
EBIT	123634	133620	144406	156058	168645	182243	196933	212805	229953	248481	268501	290134	313511	338772	366072	395576	427463
Tax on EBIT	46062	49783	53802	58143	62832	67899	73372	79285	85674	92577	100036	108096	116805	126217	136388	147381	159261
NOPAT	77571	83837	90604	97915	105813	114344	123561	133520	144279	155904	168465	182038	196705	212555	229684	248195	268202
NFE	-20896	-21380	-21856	-22321	-22772	-23206	-23619	-24009	-24372	-24703	-24998	-25252	-25461	-25620	-25722	-25763	-25736
Tax Shield	7785	7966	8143	8316	8484	8646	8800	8945	9080	9204	9313	9408	9486	9545	9583	9599	9589
Net Income	64461	70422	76891	83910	91525	99784	108742	118455	128987	140405	152781	166194	180730	196481	213545	232031	252054

APPENDIX 21 (continue)

	2046	2047	2048	2049	2050	2051	2052	2053	2054	TP
Net Sales	1187339	1266802	1351822	1442798	1341057	1335361	1364085	1392945	1421904	1464562
COGS	442487	465766	490266	516047	533299	584449	651584	721087	792955	875326
Gross Profit	744852	801036	861555	926751	807757	750913	712501	671858	628950	589236
Selling expenses	-79656	-84986	-90690	-96794	-89968	-89586	-91513	-93449	-95392	-98254
Administrative expenses	-33839	-36104	-38527	-41120	-38220	-38058	-38876	-39699	-40524	-41740
Exploration expenses	-15948	-17015	-18157	-19379	-18012	-17936	-18322	-18709	-19098	-19671
Income/loss on long-term investments	1693	1806	1928	2057	1912	1904	1945	1986	2028	2088
Other income/expense	-4793	-5114	-5457	-5825	-5414	-5391	-5507	-5623	-5740	-5912
EBITDA	612310	659623	710651	765692	658055	601846	560228	516363	470223	425747
D&A	150384	160449	171217	182740	169854	169132	172770	176426	180093	185496
EBIT	461925	499174	539434	582952	488202	432714	387458	339938	290129	240250
Tax on EBIT	172101	185978	200978	217192	181890	161217	144356	126651	108094	89511
NOPAT	289825	313195	338456	365760	306311	271497	243102	213286	182035	150740
NFE	-25636	-25456	-25191	-24833	-24990	-26834	-29452	-32208	-35102	-38492
Tax Shield	9551	9484	9385	9252	9311	9998	10973	12000	13078	14341
Net Income	273740	297223	322651	350179	290632	254660	224623	193078	160011	126589

APPENDIX 22 YPF Forecasted Balance Sheet

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Non Current Assets																	
Trade receivables	52	63	76	88	102	116	127	142	157	173	184	195	207	220	234	248	264
Other receivables	1614	1965	2359	2763	3169	3634	3960	4429	4895	5407	5739	6092	6469	6871	7299	7756	8243
Long-term Investments in operations	1387	1688	2027	2374	2723	3122	3402	3805	4206	4646	4931	5235	5558	5903	6271	6664	7082
Fixed Assets	58530	71259	85533	100200	114936	131790	143594	160617	177530	196094	208123	220941	234603	249168	264697	281259	298925
Intangible Assets	17	21	25	29	34	39	42	47	52	58	61	65	69	73	78	83	88
Capitalized operating leases	1709	2080	2497	2925	3356	3848	4192	4689	5183	5725	6076	6450	6849	7274	7728	8211	8727
Tot Non Current Assets	63309	77077	92515	108380	124319	142549	155317	173729	192023	212103	225114	238978	253756	269509	286307	304220	323328
Current Assets																	
Cash	992	1207	1449	1698	1947	2233	2433	2721	3008	3322	3526	3743	3975	4222	4485	4765	5065
Short-term Investments in operations	2148	2615	3139	3677	4218	4837	5270	5894	6515	7196	7638	8108	8610	9144	9714	10322	10970
Trades receivables	6106	7433	8922	10452	11990	13748	14979	16755	18519	20456	21710	23048	24473	25992	27612	29340	31182
Other receivables	5995	7299	8761	10263	11772	13498	14707	16451	18183	20085	21317	22629	24029	25521	27111	28807	30617
Inventories	7060	8595	10317	12086	13863	15896	17320	19373	21413	23652	25103	26649	28297	30054	31927	33924	36055
Tot Current Assets	22300	27150	32588	38176	43790	50211	54709	61194	67638	74711	79294	84178	89383	94932	100849	107159	113889
Non-Interest bearing debt																	
Accounts Payable	21875	26633	31967	37449	42957	49256	53668	60030	66351	73289	77785	82576	87682	93125	98929	105119	111722
Taxes Payable	3979	4845	5815	6812	7814	8960	9763	10920	12070	13332	14150	15021	15950	16940	17996	19122	20323
Contingencies	4980	6063	7278	8526	9780	11214	12218	13666	15105	16685	17708	18799	19962	21201	22522	23931	25434
Tot Non-Interest Bearing Debt	30835	37541	45060	52787	60550	69429	75648	84616	93526	103306	109643	116396	123593	131266	139448	148173	157479
Invested Capital	54773	66686	80043	93769	107559	123331	134377	150308	166135	183508	194765	206760	219545	233175	247708	263206	279738
Equity	30460	36676	43544	50462	57266	64972	70053	77549	84840	92764	99460	106675	114452	122839	131884	141644	152179
Net-Interest-Bearing Debt																	
Loans	21614	26723	32554	38686	44991	52281	57701	65350	73107	81700	85706	89895	94272	98844	103615	108590	113772
Retirement benefit obligations	991	1206	1448	1696	1946	2231	2431	2719	3005	3319	3523	3740	3971	4218	4481	4761	5060
Capitalized operating leases	1709	2080	2497	2925	3356	3848	4192	4689	5183	5725	6076	6450	6849	7274	7728	8211	8727
Tot Interest-Bearing Debt	24314	30009	36499	43307	50292	58359	64324	72758	81295	90744	95305	100085	105093	110336	115823	121562	127559
Invested Capital	54773	66686	80043	93769	107559	123331	134377	150308	166135	183508	194765	206760	219545	233175	247708	263206	279738

APPENDIX 22 (continue)

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Non Current Assets																	
Trade receivables	281	298	317	338	359	382	407	433	461	491	523	558	594	634	675	720	768
Other receivables	8762	9317	9909	10540	11215	11935	12704	13525	14403	15340	16342	17413	18558	19781	21089	22489	23985
Long-term Investments in operations	7529	8005	8514	9057	9636	10255	10916	11621	12375	13181	14042	14962	15945	16996	18121	19323	20608
Fixed Assets	317771	337881	359343	382252	406709	432823	460712	490500	522322	556323	592656	631487	672996	717371	764818	815557	869823
Intangible Assets	93	99	105	112	119	127	135	144	153	163	174	185	197	210	224	239	255
Capitalized operating leases	9277	9864	10491	11160	11874	12636	13450	14320	15249	16242	17302	18436	19648	20943	22329	23810	25394
Tot Non Current Assets	343714	365465	388679	413458	439912	468158	498324	530544	564964	601740	641039	683041	727938	775936	827257	882138	940834
Current Assets																	
Cash	5384	5725	6088	6476	6891	7333	7806	8311	8850	9426	10041	10699	11403	12154	12958	13818	14737
Short-term Investments in operations	11662	12400	13187	14028	14926	15884	16908	18001	19169	20416	21750	23175	24698	26327	28068	29930	31921
Trades receivables	33148	35246	37485	39875	42426	45150	48059	51167	54486	58033	61823	65874	70204	74833	79782	85075	90736
Other receivables	32547	34607	36805	39151	41656	44331	47188	50239	53498	56980	60702	64679	68930	73475	78335	83532	89090
Inventories	38328	40754	43342	46106	49056	52205	55569	59162	63000	67101	71484	76167	81174	86526	92249	98369	104915
Tot Current Assets	121070	128732	136908	145637	154955	164904	175530	186879	199003	211957	225800	240594	256409	273316	291393	310724	331399
Non-Interest bearing debt																	
Accounts Payable	118766	126282	134303	142865	152006	161766	172189	183322	195216	207923	221502	236015	251529	268114	285847	304811	325092
Taxes Payable	21604	22972	24431	25988	27651	29427	31323	33348	35511	37823	40293	42933	45755	48772	51998	55448	59137
Contingencies	27038	28749	30575	32524	34605	36827	39200	41735	44443	47336	50427	53731	57263	61039	65076	69393	74010
Tot Non-Interest Bearing Debt	167408	178002	189309	201378	214262	228020	242712	258405	275170	293082	312223	332680	354547	377925	402921	429651	458240
Invested Capital	297375	316194	336279	357717	380604	405043	431141	459018	488797	520615	554616	590956	629800	671327	715729	763211	813994
Equity	163553	175837	189110	203454	218962	235734	253878	273514	294772	317793	342732	369759	399057	430829	465296	502701	543307
Net-Interest-Bearing Debt																	
Loans	119166	124773	130596	136633	142884	149346	156014	162880	169935	177163	184550	192072	199703	207411	215157	222895	230569
Retirement benefit obligations	5379	5719	6083	6471	6885	7327	7799	8303	8842	9417	10032	10689	11392	12143	12946	13805	14724
Capitalized operating leases	9277	9864	10491	11160	11874	12636	13450	14320	15249	16242	17302	18436	19648	20943	22329	23810	25394
Tot Interest-Bearing Debt	133822	140357	147169	154263	161642	169309	177263	185503	194025	202822	211884	221197	230743	240498	250432	260510	270687
Invested Capital	297375	316194	336279	357717	380604	405043	431141	459018	488797	520615	554616	590956	629800	671327	715729	763211	813994

APPENDIX 22 (continue)

	2046	2047	2048	2049	2050	2051	2052	2053	2054	TP
Non Current Assets										
Trade receivables	819	874	933	996	926	922	941	961	981	1011
Other receivables	25586	27298	29130	31090	28898	28775	29394	30016	30640	31559
Long-term Investments in operations	21984	23455	25029	26714	24830	24724	25256	25791	26327	27117
Fixed Assets	927870	989967	1056408	1127503	1047995	1043545	1065991	1088544	1111175	1144511
Intangible Assets	272	290	310	331	307	306	313	319	326	336
Capitalized operating leases	27089	28902	30841	32917	30596	30466	31121	31780	32440	33413
Tot Non Current Assets	1003619	1070787	1142651	1219551	1133552	1128738	1153017	1177411	1201890	1237947
Current Assets										
Cash	15721	16773	17899	19103	17756	17681	18061	18443	18827	19391
Short-term Investments in operations	34052	36331	38769	41378	38460	38297	39121	39948	40779	42002
Trades receivables	96791	103269	110200	117616	109322	108858	111199	113552	115913	119390
Other receivables	95035	101396	108201	115483	107339	106883	109182	111492	113810	117225
Inventories	111916	119406	127420	135995	126405	125868	128575	131296	134025	138046
Tot Current Assets	353515	377174	402488	429575	399282	397587	406139	414731	423354	436054
Non-Interest bearing debt										
Accounts Payable	346787	369996	394828	421399	391683	390020	398409	406838	415297	427756
Taxes Payable	63083	67305	71822	76656	71250	70948	72474	74007	75546	77812
Contingencies	78949	84233	89886	95935	89170	88792	90702	92620	94546	97382
Tot Non-Interest Bearing Debt	488820	521534	556536	593991	552104	549759	561585	573466	585389	602950
Invested Capital	868315	926427	988603	1055135	980730	976565	997571	1018676	1039855	1071051
Equity	587405	635313	687379	743985	681905	669696	674846	679924	684917	696292
Net-Interest-Bearing Debt										
Loans	238114	245454	252500	259147	250489	258738	273560	288546	303689	321972
Retirement benefit obligations	15706	16758	17882	19086	17740	17664	18044	18426	18809	19374
Capitalized operating leases	27089	28902	30841	32917	30596	30466	31121	31780	32440	33413
Tot Interest-Bearing Debt	280909	291114	301224	311150	298825	306869	322725	338752	354938	374759
Invested Capital	868315	926427	988603	1055135	980730	976565	997571	1018676	1039855	1071051

APPENDIX 23 YPF Forecasted Cash Flow Statement

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
NOPAT	6064	8241	10922	14002	17445	21590	25253	30181	35497	41571	44956	48612	52560	56823	61427	66400	71771
D&A	9486	11549	13863	16240	18628	21360	23273	26032	28773	31782	33731	35809	38023	40384	42901	45585	48448
Change in NWC	-976	-65	437	1139	1887	2598	3434	4199	5064	6065	2318	2546	2796	3068	3364	3687	4039
Change in Net Investments	-29362	-25818	-29862	-32681	-35146	-40251	-36505	-45113	-47731	-52591	-47214	-50177	-53337	-56709	-60308	-64149	-68250
FCFF	-14788	-6092	-4640	-1300	2814	5297	15456	15299	21604	26827	33791	36791	40042	43566	47384	51523	56008

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
NOPAT	77571	83837	90604	97915	105813	114344	123561	133520	144279	155904	168465	182038	196705	212555	229684
D&A	51503	54762	58240	61953	65917	70150	74670	79498	84655	90166	96055	102348	109076	116268	123958
Change in NWC	4422	4840	5295	5790	6329	6915	7554	8249	9005	9828	10723	11696	12755	13906	15158
Change in Net Investments	-72628	-77304	-82297	-87632	-93331	-99422	-105930	-112888	-120325	-128277	-136781	-145875	-155602	-166008	-177142
FCFF	60868	66135	71842	78026	84727	91988	99855	108378	117614	127620	138461	150207	162933	176721	191658

	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	TP
NOPAT	248195	268202	289825	313195	338456	365760	306311	271497	243102	213286	182035	150740
D&A	132181	140976	150384	160449	171217	182740	169854	169132	172770	176426	180093	185496
Change in NWC	16520	18000	19609	21358	23259	25324	-74404	-54349	-51000	-53292	-55600	-58409
Change in Net Investments	-189055	-201804	-215449	-230055	-245691	-262432	-80732	-164144	-197931	-201705	-205461	-222862
FCFF	207842	225374	244369	264947	287241	311393	321028	222137	166942	134715	101067	54965

APPENDIX 24 Vaca Muerta shale Revenue

	Vaca Muerta Revenue																
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Capacity per year	26	53	79	105	132	158	185	211	237	264	264	264	264	264	264	264	264
Price per Barrel	475	428	430	429	423	431	397	398	394	394	411	428	446	464	484	504	525
Vaca Muerta Revenue	12531	22583	33987	45210	55766	68201	73262	83996	93486	103873	108236	112781	117518	122454	127597	132956	138540

	Vaca Muerta Revenue																
	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Capacity per year	264	264	264	264	264	264	264	264	264	264	264	264	264	264	264	264	264
Price per Barrel	548	571	594	619	645	673	701	730	761	793	826	861	897	935	974	1015	1057
Vaca Muerta Revenue	144359	150422	156740	163323	170183	177330	184778	192539	200625	209052	217832	226981	236514	246448	256798	267584	278822

	Vaca Muerta Revenue									
	2046	2047	2048	2049	2050	2051	2052	2053	2054	
Capacity per year	264	264	264	264	132	79	53	26	0	
Price per Barrel	1102	1148	1196	1247	1299	1354	1410	1470	1531	
Vaca Muerta Revenue	290533	302735	315450	328699	171252	107067	74376	38750	0	

APPENDIX 25 Realistic Scenario Outlook

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Revenue "without" Vaca Muerta	62367	68603	75464	83010	91311	100442	110486	121535	133689	147057	158087	169943	182689	196391	211120	226954	243975
Amount to be raised up by E+NIBD	54773	66686	80043	93769	107559	123331	134377	150308	166135	183508	194765	206760	219545	233175	247708	263206	279738
Fin.Lev.	80%	82%	84%	86%	88%	90%	92%	94%	96%	98%	96%	94%	92%	90%	88%	86%	84%
Equity	30460	36676	43544	50462	57266	64972	70053	77549	84840	92764	99460	106675	114452	122839	131884	141644	152179
NIBD	24314	30009	36499	43307	50292	58359	64324	72758	81295	90744	95305	100085	105093	110336	115823	121562	127559
Equity raised through share issue	25164	32936	38243	43203	47715	52815	54740	59368	62832	66594	68518	72653	77084	81833	86927	92396	98270
Retained earnings	5296	3740	5301	7259	9551	12156	15314	18181	22008	26170	30942	34022	37369	41006	44957	49248	53908

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Revenue "without" Vaca Muerta	262274	281944	303090	325822	350258	376528	404767	435125	467759	502841	540554	581096	624678	671529	721894	776036	834238
Amount to be raised up by E+NIBD	297375	316194	336279	357717	380604	405043	431141	459018	488797	520615	554616	590956	629800	671327	715729	763211	813994
Fin.Lev.	82%	80%	78%	76%	74%	72%	70%	68%	66%	64%	62%	60%	58%	56%	54%	52%	50%
Equity	163553	175837	189110	203454	218962	235734	253878	273514	294772	317793	342732	369759	399057	430829	465296	502701	543307
NIBD	133822	140357	147169	154263	161642	169309	177263	185503	194025	202822	211884	221197	230743	240498	250432	260510	270687
Equity raised through share issue	104585	111377	118688	126563	135052	144209	154094	164773	176317	188806	202328	216978	232863	250099	268816	289156	311276
Retained earnings	58968	64461	70422	76891	83910	91525	99784	108742	118455	128987	140405	152781	166194	180730	196481	213545	232031

	2046	2047	2048	2049	2050	2051	2052	2053	2054	TP
Revenue "without" Vaca Muerta	896806	964067	1036372	1114099	1169804	1228295	1289709	1354195	1421904	1464562
Amount to be raised up by E+NIBD	868315	926427	988603	1055135	980730	976565	997571	1018676	1039855	1071051
Fin.Lev.	48%	46%	44%	42%	44%	46%	48%	50%	52%	54%
Equity	587405	635313	687379	743985	681905	669696	674846	679924	684917	696292
NIBD	280909	291114	301224	311150	298825	306869	322725	338752	354938	374759
Equity raised through share issue	335351	361573	390156	421334	331726	379065	420186	455301	491839	536281
Retained earnings	252054	273740	297223	322651	350179	290632	254660	224623	193078	160011

APPENDIX 26 Pessimistic Scenario Cash Flow Statement

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
NOPAT	4071	4048	3979	3856	3669	4036	4440	4884	5372	5909	6352	6829	7341	7891	8483	9119	9803
D&A	7899	8689	9558	10514	11565	12722	13994	15393	16933	18626	20023	21524	23139	24874	26740	28745	30901
Change in NWC	-1083	-1222	-1378	-1554	-1751	-1972	-2219	-2496	-2807	-3154	-2841	-3114	-3411	-3735	-4089	-4475	-4895
Change in Net Investments	-16994	-13564	-14921	-16413	18054	-19859	-21845	-24030	-26433	-29076	-28644	-30793	-33102	-35585	-38254	-41123	-44207
FCFF	-6106	-2049	-2762	-3597	-4571	-5074	-5631	-6249	-6935	-7696	-5110	-5553	-6033	-6554	-7119	-7733	-8398

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
NOPAT	10539	11329	12179	13092	14074	15130	16264	17484	18796	20205	21721	23350	25101	26983	29007	31183	33521
D&A	33219	35710	38388	41267	44363	47690	51266	55111	59245	63688	68465	73600	79120	85054	91433	98290	105662
Change in NWC	-5354	-5854	-6399	-6992	-7639	-8343	-9110	-9945	-10854	-11844	-12920	-14092	-15367	-16754	-18262	-19903	-21686
Change in Net Investments	-47522	-51087	-54918	-59037	-63465	-68224	-73341	-78842	-84755	-91112	-97945	-105291	-113188	-121677	-130803	-140613	-151159
FCFF	-9119	-9901	-10750	-11669	-12667	-13748	-14921	-16191	-17569	-19062	-20680	-22434	-24334	-26394	-28625	-31043	-33662

	2046	2047	2048	2049	2050	2051	2052	2053	2054	TP
NOPAT	36036	38738	41644	44767	47005	49355	51823	54414	57135	58849
D&A	113586	122105	131263	141108	148163	155572	163350	171518	180093	185496
Change in NWC	-23626	-25734	-28025	-30516	-24005	-25498	-27080	-28756	-30533	-22293
Change in Net Investments	-162496	-174683	-187784	-201868	-191708	-201293	-211358	-221926	-233022	-218841
FCFF	-36499	-39573	-42903	-46509	-20544	-21864	-23264	-24750	-26326	3211

APPENDIX 27 Optimistic Scenario Cash Flow Statement

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
NOPAT	6064	9487	13401	18084	23343	29443	35564	42015	49935	58607	62747	67473	72549	78000	83855	89519	96224
D&A	9486	13295	17009	20975	24927	29129	32775	36239	40476	44807	47080	49703	52484	55434	58564	61457	64955
Change in NWC	-976	-1387	-127	934	2191	3408	4717	5834	7196	8582	3008	3392	3698	4030	4389	4460	5163
Change in Net Investments	-28377	-36803	-39930	-45453	-49317	-55064	-55275	-57619	-66624	-71536	-61110	-65890	-69649	-73642	-77882	-79309	-86550
FCFF	-13802	-15408	-9647	-5459	1144	6916	17780	26469	30983	40460	51725	54679	59082	63822	68927	76127	79793

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
NOPAT	103428	111168	119485	128422	138028	148353	159452	171385	184216	198013	212851	228811	245978	264447	284319
D&A	68670	72615	76805	81256	85986	91014	96359	102043	108088	114519	121362	128645	136398	144653	153444
Change in NWC	5616	6108	6640	7217	7841	8518	9251	10045	10905	11836	12845	13938	15121	16403	17792
Change in Net Investments	-91596	-96960	-102664	-108729	-115180	-122044	-129348	-137122	-145398	-154211	-163597	-173595	-184247	-195599	-207699
FCFF	86118	92930	100265	108166	116675	125841	135714	146350	157810	170157	183462	197799	213251	229905	247856

	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	TP
NOPAT	305702	328713	353479	380138	408836	439732	381848	305329	260757	223155	185461	152203
D&A	162807	172783	183413	194743	206821	219698	211740	190208	185318	184589	183483	187297
Change in NWC	19296	20925	22689	24600	26670	28912	-79692	-87961	-63317	-58780	-58331	-59029
Change in Net Investments	-220598	-234352	-249021	-264668	-281360	-299173	-162625	-57322	-155133	-180092	-176654	-210841
FCFF	267207	288069	310561	334814	360966	389169	351271	350254	227625	168873	133958	69631