Equity Valuation:

Galp

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Abstract

This work is done on the topic of evaluation, where it is shown that there is a few different techniques or methods to evaluate a company.

In order to apply some of these methods, I have chosen the Galp Company, which I will evaluate, their equity through the appropriate methods.

After this evaluation the results obtained from it, I went to compare with a report from an investment entity, in order to demonstrate the similarities or differences on the formulation of the valuations.

Acknowledgements

This thesis was made through several hours of hard work, to where it counted with the help of my advisor Professor José Tudela Martins, both in seminar and also at the meetings and emails. I did not want to pass this opportunity, not to mention the best teacher I had in finance, the Professor Manuela Athayde Marques, who inspired me to follow the major in finance, through their lessons in my undergraduate course of finances two. I also want to thank my companions of this journey, so many days spent together with me at the university and in the library, where we share beyond working hours, also share good moments of conviviality. Also cannot forget the investor's relation's department of Galp the precious's giving aid to this work, which without their help would not be possible to achieve the same. And lastly want to thank my family, for the good family atmosphere that provided me to achieve this work.

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1 – Introduction

1.1 – Dissertation's Purpose

The objective of this master thesis is to analyze and understand some of the concepts of equity valuation. To do that, it was made an assessment in one of the company's PSI-20 (the Portuguese stock exchange) in which, that will be compared with an independent report on the same company.
The company I chose was GALP, since it is one of the most important companies in the PSI-20, and I have used a report from Barclays Capital, as it is one of the most informative reports about the study we are conducting.

1.2 – Dissertation's Structure

This thesis is divided in five parts, in the first one is describe the purpose of this dissertation; in the second section, where was made the state of the art, the concepts and methods of evaluation regarding equity valuation; in the third part, where was develop a short overview regarding the company's industry, as well as the company it self and below its shown some relevant data about the valuation of the company; in the four section, was where I have chosen a independent report of the investment entity to compare with my own valuation, and at the end I have made a short conclusion and show the limitations of this thesis.

2 - Literature Review

2.1 - Introduction

"Why is important Value the value of the company?" (Adapt from the "Valuation", Koller, Goedhart, and Wessels, 2010)

The notion of valuing a company is very important, either for those who are interested in buying and who are interested in selling. The Market gives the values for the companies; through speculation and measurement of their performance. The way of how, they have created the value for shareholders and the amount of this value, will be the main point of valuation.
The goal of the managers should be the sustainable value creation, in order to have a healthy growth for the company, and not the concern of reaching good results on the short-term. Taking this into account companies may opted for safer decisions in terms of strategic and operational to achieve better results.

These are the ten most used methods of discount cash flow to evaluate companies:

1) Free cash flow discounted at the WACC;
2) Equity cash flows discounted at the required return on equity;
3) Capital cash flows discounted at the WACC before tax;
4) APV (adjusted present value);
5) The business's risk-adjusted free cash flows discounted at the required return on assets;
6) The business's risk-adjusted equity cash flows discounted at the required return on assets;
7) Economic profit discounted at the required return on equity;
8) EVA discounted at the WACC;
9) The risk-free rate-adjusted free cash flows discounted at the risk-free rate; and
10) The risk-free rate-adjusted equity cash flows discounted at the required return on assets.

Source: Fernández 2002

2.2 - Valuation Methods

The valuate methods can be divide in six different groups:

MAIN VALUATION METHODS					
BALANCE SHEET	**INCOME STATEMENT**	**MIXED (GOODWILL)**	**CASH FLOW DISCOUNTING**	**VALUE CREATION**	**OPTIONS**
Book value Adjusted book value Liquidation value Substantial value	Multiples PER Sales P/EBITDA Other multiples	Classic Union of European Accounting Experts Abbreviated income Others	**Equity cash flow** **Dividends** **Free cash flow** **Capital cash flow** **APV**	EVA Economic profit Cash value added CFROI	Black and Scholes Investment option Expand the project Delay the investment Alternative uses

Source: Fernández 2002

To valuate a company we must choose the right method to do it, either the objective is to launch a new product or purchase a new plant. Since there are a few methods that are considered good, most of the companies are applying a mix of methods and estimative, in order to get better results (Luehrman, 1997).

In fact isn't unusual see the same companies valuated by different values, cause by the use of different methodologies and estimations, some are more close to another's, where is difficult to agree which is the most correct.

A point of view shared by a few authors is the selection of the right methodology; it's directly correlated to the characteristics of the company in study, and their industry sector (Demirakos, Strong and Walker, 2004).

In other hand, the estimate market value of one company should not be change by the use of different kinds of methods, where the methods should secure that value is the same in order to corroborate the true value (Plenborg, 2002)

2.2.1 – Discount Cash Flow Models

These valuate method is base on forecast of the future cash flows of the company and discount them by one rate that represent their own risk. The popularity of this method came since it is the only conceptual correct of valuation method (Perrakis, 1999). Once the DCF needs the forecasting and estimation of the interest rate, can give different value according the principals used or adopted. The determination of their discount rate is very important, and has to take into account the specific risk and the volatility of the industry.

2.2.1.1- The General Formula of Cash Flow Discounting is:

$$V = \frac{CF_1}{1+k} + \frac{CF_2}{(1+k)^2} + \frac{CF_3}{(1+k)^3} + \ldots + \frac{CF_n + VR_n}{(1+k)^n}$$

CF_i = cash flow generated by the company in the period i.

V_n = residual value of the company in the year n.

k = appropriate discount rate for the cash flows' risk.

Source: Fernández 2002

This formula doesn't take into consideration the growth, if the company has growth, and in a scenario of perpetuity, we should use:

"V = CF (1 + g) / (k - g)"

"V= value of the company; CF = cash flows; k = Discount rate; g = growth rate"

2.2.1.2 – Using the Free Cash Flow and the WACC

The free cash flow (FCF) is the cash flow produce by operations, not including the financial debt after tax; this is the amount that will be available to the company. To figure out the future FCF, we should forecast it and known how much the company will have in each period.
In order to compute the free cash flow of the company, we can use the next formula:

"Free Cash Flow = Net Income (with out debt) +Amortization/Depreciation
- Changes in working Capital - Capital Expenditures"

Having the FCF, to valuate the company we use the follow formula:

"V = PV (WACC; FCF)"
"V=value of the company; PV=present value;
WACC=weighted average cost of capital"
Source: Fernández 2002

2.2.1.3 – Using the Expected Equity Cash Flow (ECF) and the required return on equity (Ke)

To figure out the Equity cash flow (ECF), we have to start with the free cash flow and remove the interest, the principal repayment, and also the new debt in that period.

"EFC = FCF – [interest payments x (1-T)] – principal repayments + new debt"

This give us the remains capital that is available to the company after cover the investment in fixed assets, the working capital and the payment of the debt and their financial charges.

"E = PV [Ke; ECF]"

"E = Value of Equity; Ke = cost of equity; ECF = Present value of the expected equity cash flows"

To compute the value of the company (V), we have to add also the part of debt also (D+E), discounting the debt cash flows by (kd) rate.

"D = PV [Kd; CFd]"

"D= Value of debt; Kd = cost of debt; CFd = present value of expected debt cash flows"

Source: Fernández 2002

2.2.1.4 - Capital Cash Flow and WACC

According to this method the value of the company (D + E), can be produce by the capital cash flows, discounting by the WACC (before tax).

"V = PV [CCF; $WACC_{BT}$]"

"CCF = Capital cash flows; $WACC_{BT}$ = Weighted average cost of capital before tax"

"CCF = (ECF + DCF)"

"ECF= Equity cash flow; DCF = Debt cash flow"

Source: Fernández 2002

2.2.2 – Multiples

The emerge of this different kind of method came from the dependency of quality from the calculation of forecast applied on DCF method and the hard work to realize it. Taking this in consideration, many companies change from DCF methods to Multiples approach. (Lie and Lie, 2002)

The valuation base on multiples isn't constant, the method is characterize by been a sum of particular ratios, in such way to obtain the value of the company.

The selection of those particular ratios is made base in which are the more relevance aspects for that specific industry/company.

The process of this valuation method going by the analyse of the industry or market where the company in question operate, and produce the results to have the comparison peer group, in order to evaluate the marks from the multiples to figure out the value of the company.

Advantages of multiples:	Weakness of multiples:
-"Less time and less assumptions and information." -"Simplicity and easy to understand." -"Accessibility through financial newspaper, magazines, and online platforms (normally daily)."	-"Underlying assumption too simplistic" -"Multiple only use a picture where the company are in that moment" -"Multiples don't achieve the dynamics and the environmental of the business" -"The lack of accuracy on the chosen inputs" -"The possibility of manipulation"

Source: Adaptation from (Milicevic, 2009)

The application of the different multiples as said before are directly correlated to the industry/company structure. According to (Lie and Lie, 2002), the mean of all the multiples valuation have a negative inaccuracy and the median of those errors are around of zero. The author also shows the results of the comparison of several multiples:

"-Asset Value Multiple yields works better than the sales and Earnings Multiples."
"-The fact of the company doing adjusts on cash levels, doesn't interfere on the value estimates."
"-The fact of using forecasted earnings and not the Trailing earnings, improve the estimates of P/E multiple."
"-The use of EBITDA multiple, normally, deliver better estimates than the EBIT multiple, (Except for the Pharmaceutical Companies)."
"-In multiples, he can get a better valuation according to the size, profitability, and the extent of intangible values."
"-The valuations were more viable for large companies."
"-For all companies sizes, the asset multiple was which as the best results and in opposite side, the Sales multiple was the worst. "
"-The use of more than one multiple with opposite mean deviations, as for example the Earnings-based and Asset multiple, result in a better valuator than their individually."
"-Financial firms tend to have a better perform on multiples valuation than the non-financial, since the financials have more liquid assets, which are simpler to valuate."
"-Those companies that have high intangible assets are also penalizing in the multiples methods, since this methodology don't take into consideration the growth opportunity of them neither their intangibles assets."

Source: Adaptation from (Lie and Lie, 2002)

2.2.2.1- Value of earnings (PER)

To calculate this multiple we used the equity value divide by the earnings to achieve the PER (price earnings ratio), which can be present as:

"Equity value = PER x earnings"

We also can calculate the relative PER, and for that we divide the PER of the company by the PER of the country.

2.2.2.2 - Value of the Dividends

The payout of the shareholder is the dividend, which is one part of the company earnings, to measure the value of the company to shareholders; we should discount of those expect dividends and bring them for today's value.
In case of perpetuity, we can calculate as:

"Equity value = DPS / Ke"
"DPS = dividend per share distributed by the company in the last year;
Ke = required return to equity"

But if we consider a constant growth of those dividends, we came up to:

"Equity value = DPS1 / (Ke - g)"
"(DPS1 = the dividends per share for the next year; Ke = required return to equity; g = Growth)"

Notice that it isn't because the company distribute more dividends and has an increase in the dividends growth that share price of those dividends will increase, because the company perhaps has been prejudiced by not investing as much as it should.

2.2.2.3 - Sales Multiples

This valuation multiple consist in multiplied the sales of the company by a number, these kind of multiple is use for example in pharmaceutical industry, where is important to evaluated such type of companies by the volume of sales.
The ratio can be slip into compounds ratios:

$$\text{Price/sales} = \underbrace{(\text{price/earnings})}_{\text{PER Ratio}} \times \underbrace{(\text{earnings/sales})}_{\text{Return on Sales}}$$

2.2.2.4 – Other Multiples

These are the alternative multiples used:

- "Value of the company/earnings before interest and taxes (EBIT)."
- "Value of the company / earnings before interest, taxes, depreciation and amortization (EBITDA)."
- "Value of the company / operating cash flow."
- "Value of the equity / book value."

In opposite of new income, EBIT and EBITDA can not be affect by the capital structure, so to analyse companies that have suffer a change in their capital structure the multiples of EBIT and EBITDA should not be use. And in the earnings multiple we have two different approaches, Kaplan and Ruback and Kim and Ritter subtracted the cash and cash equivalents, and the reason why they defend that those items should be eliminate, because they are assets that the market and book value are too close and don't need to be valuate.

The problem is the companies that have a high cash value could be devaluate because this previous theory, since this, when we are evaluate a company with high cash, we must have this problem in consideration, and make the adjustments that are need.

The multiples method is a good valuation method and useful, but cannot replace a fundamental equity valuation such DCF. It is important as a part of the valuation to increase efficiency, and essential to investments decisions (Milicevic, 2009). To apply the multiples in a more credible way we should take in concern the followings principles, use a good peer group, with similar measures (ROIC, size, sales); use forward multiples and enterprise-value multiples; and the adjusts in enterprise-value multiples for non-operating items. (Goedhart, Koller and Wessels, 2005)

2.2.3- Options

This method of valuating attempt to evaluate the company by mathematical models, it seeks to predict the value change by controversial conditions. Those conditions were the time or the expiration date, the volatility, the cash and the risk (Luehrman, 1997). However the real application of this model as shown more complicate as expect, because a big combination of factors, as active competitors, uncertainties that can not be predict. Regarding those concerns, this model is impractical to be used in real situations (Luehrman, 1997). The use give to this method is as a supplement for other methodologies used, since this method can retain the volatile of business opportunity, better than DCF valuation methods.

2.3 – The majors' problems in Valuation

2.3.1 – Estimations (Discount rate, Beta of equity, Beta of debt, Ke and Kd)

All the models to estimate the discount rate start to define the risk free rate, this is, which is the return expected for an investment with a very low risk or even null. These kinds of assets normally are long-term government bonds, assuming that those assets are truly risk free assets.

Cost of Equity and Cost of Debt

The cost of equity is represent by "ke", which initially is the required rate of return of investors. One important variable of the market environment is the rate of inflation, which changes the cost of capital, for example, if we are in a rose inflation rate scenario, the interest rates will also increase (Chong and Brown, 2000). To define the future cost of equity we should compute the value by a model, such as Capital Asset Pricing Model (CAPM).

This method is use to come up the "ke", it is originally from Harry Markowitz, James Tobin and William Sharpe, winners of a Nobel Prize. The model uses the risk free rate, the premium risk and the beta. The relation between those variables is the multiplication of the premium risk of the market by the volatility of the company (beta) and sum by the return of free risks investment.

"Ke = Rf + b(Rm – Rf)"

"Where: Ke = cost of equity Rf = risk free rate
Rm = return on the market portfolio
b = systematic risk of the company"

The limitation of this model is also the estimations, the beta is the variable that capture the systematic risk from the company, which is compute by the regression of the prices in the public-trade market, so being more difficult for private companies, which had to use a adjusted beta. (Vélez-Pareja, Tham, 2009)

If the company doesn't have debt the "ke" will represent the total cost of capital of the company, once the equity it is the only source of financing. In other way, if there exist debt, the cost of debt name as "kd" is the fix rate of the market associated to the rating of the company and the overall market environment it self. The companies have some advantages of having debt by the tax deductions on the interest payments; to incorporate this impact on the "kd", we should multiple by "(1-t)", being "t" the tax rate.

Betas

Betas are part of the estimation in the discount rate, they are the part of risk in the equation, where sum up the volatility and the distress of the business.
The beta of equity is normally compute base in past prices, in which will appear a beta that already wouldn't represent the actual situation of the business.
To correct that situation we must use the leverage beta:

$$\beta_L = \beta_u \ (1 + (1-t) \ (D/E))$$

where

β_L = Levered Beta for equity in the firm

β_u = Unlevered beta of the firm (i.e., the beta of the firm without any debt)

t = Corporate tax rate

D/E = Debt/Equity Ratio

Source: http://www.stern.nyu.edu/~adamodar/pdfiles/papers/beta.pdf, (16/4/2001; 17h30)

The difference between the leverage and unleveraged formulas is the leverage beta takes into account the structure debt ratio of the firm and the tax shields, in such way to measure the financial leverage of the firm and reflect it in the beta of equity. (Damodaran, unknown)

We also could find more six theories from several authors about the calculation of leveraged beta:

	Theories	Formula	
1	Fernández	[18]	$\beta_L = \beta u + (\beta u - \beta d)\ D\ (1 - T) / E$
2	Damodaran	[33]	$\beta_L = \beta u + (D / E)\ \beta u\ (1 - T).$
3	Practitioners	[35]	$\beta_L = \beta u\ (1 + D / E).$
4	Harris-Pringle	[32]	$\beta_L = \beta u + (D / E)\ (\beta u - \beta d)$
5	Myers	[26]	$\beta_L = \beta u + (D / E)\ (\beta u - \beta d)\ [1 - T\ Kd / (Kd - g)]^*$
6	Miles-Ezzell	[28]	$\beta_L = \beta u + (D / E)\ (\beta u - \beta d)\ [1 - T\ Kd / (1 + Kd)]$
7	Modigliani-Miller	[24]	$\beta_L = \beta u + (D / E)\ [\beta u - \beta d + (T\ Kd / P_M) - VTS\ (Ku - g) / (D\ P_M)]^*$

* Valid only for growing perpetuities

Source: Fernández, 2003

In relation to the beta for the debt, we can use the interest rate base on the bond rating of the firm to estimate the cost of debt. The problem is again the way of the estimation is done, because for this analyse, the characterization of future distress is made base in forecasts, those who could be reveal that weren't right (Rosenberg and Rudd, 1982).

WACC and APV

One-way of many ways to figure out the correct discount rate is by the WACC method, which is built on the average of the cost of the capital (equity part and debt part). This rate will be use to discount the future net cash flow from the company, in order to present the actual value of the company. This method has a few assumptions, passing by the constant capital structure, the model don't take in consideration the optimal debt level for that specific company/industry.
An alternative method is the APV (Adjusted present value); this method is better than WACC, once the APV always works (Luehrman, 1997).
The APV not only leads to a precise managerial information, but also treat the information individually, becoming must easier to analyse how much value is created and where. The formula is:

"APV = Base-case value (NPV) + Value of all financing side effects"

Which is financing side effects: Interest tax shield, Cost of financial distress, Subsidies, Hedges, Issue costs and others costs.

2.3.2- Risks (risk free, Premium risk) in emerging markets.

Regarding the valuation process in companies operating in emergent markets, is necessary take into consideration the amount of existing risks and be able to bring those to the future cash flows. If is impossible to aggregated the value of risks directly on the cash flow, we should be include on the discount rate by adding a risk premium. (Mimi James & Timothy M. Koller, 2000)
The measure of the risk and the precision of their application is also a concern, the mistake of adding two times the country risk is a reality, which happen because the misleading of add the country risk on cost of capital and it is already incorporate in the calculation of cash flow's probability of distress, making in this way a double count of that risk. (Marc H. Goedhart and Peter Haden, 2003)

2.3.4 - Valuation Tax Shield

This variable only exist if the company is financing with debt, and the difference of valuing reduction on tax paid, that reduction come from the tax interest the company has to pay to debt holders.
To figure out the advantage of the savings from the tax interest, we have to calculate the present value of the tax shield, we do that multiplying the interests we have to pay from each year by the tax rate.

After that we will incorporate this amount of saving in the valuation of the company. Even if the discount rate uses to compute this value come from the present interest rate and not with the cost of debt when the debt was acquired, many authors suggest the use of actual market cost of debt (Fernández, 2002)

According to (Modigliani and Miller, 1958), we can use the formula to compute the value of the company with debt structure:

"E + D = Vu + D T ; D T = value of tax shield for perpetuity"

They defend that this formula would work for perpetuities, which was disagreement by (Fernández, 2004), where the author says the discount of tax savings by deduction in the interest payments by the risk free debt at risk free rate, would come up a inconsistent results for growing companies.

The APV method (Adjusted present value) appears in opposition of the previous theory, where it uses the cost of debt (kd) to discount the tax savings. Defending that risk of having tax saving come from the use of debt, and can being judge at same risk of the risk of debt it self. (Myers, 1974)

"VTS = PV (Kd ; D T Kd)"

Another theory says if the firm keeps constant the debt ratio (D/E), could be analyse in a different way, using the (Kd) for the first year, and using the (Ku) return on assets for compute the tax saving in the followings years.

An close theory says that the company should use the (ku) to calculate the discount of tax saving, agreeing that the same systematic risk of the use of interest tax shield is the same as the risk of the firm's underlying cash flows, so in this way should being discount as the required (Ku) return on assets (Harris and Pringle, 1985).

"VTS = PV (Ku ; D Kd T)"

Other theories come up trying to figure out the most correct approach to the valuation of the tax shields, where are the sum up of them:

Perpetuities. Value of Tax Shields (VTS) According to the Nine Theories

	Theory	Equation	VTS
1	Fernández (2004)	[34]	DT
2	Damodaran	[31]	DT-[D(Kd-R_F)(1-T)]/Ku
3	Practitioners'	[33]	D[R_F-Kd(1-T)]/Ku
4	Harris-Pringle	[29]	T D Kd/Ku
5	Myers	[25]	DT
6	Miles-Ezzell	[28]	TDKd(1+Ku)/[(1+Kd)Ku]
7	Miller (1977)	[26]	0
8	With-costs-of-leverage	[35]	D(KuT+R_F- Kd)/Ku
9	Modigliani-Miller	[24]	DT

Source: Fernández, 2002

2.3.5 - Terminal Value

There are numerous of methods to compute the terminal value, one of the most used is the Gordon growth model. The formula of this model is:

"Terminal value = Free cash flow of the year / (Discount rate – Long term cash flow growth rate)"

This model has the statement of the constant growth of the free cash flows perpetually, which turn up the main imperfection of this method.

2.4 – Galp Valuation

To evaluated Galp, I choose to use the DFC method in order to come up by my own perspective of the authentic value of the company in 5 years. I will use also the Multiples method to make a comparison of Galp in a peer Group, in order to understand their performance in their own market of energy.

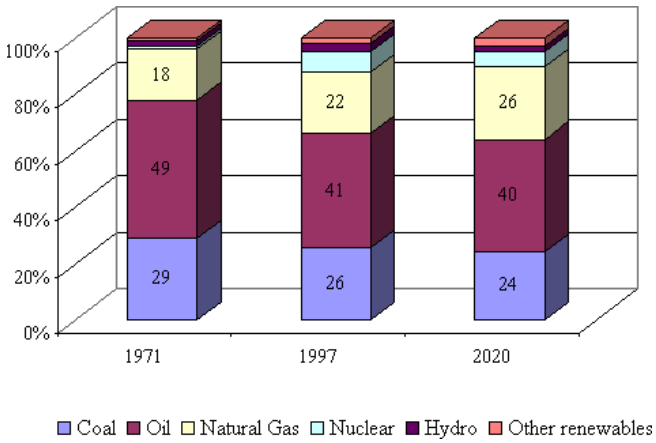
3 - Valuation

3.1 - Industry Overview

The sector of energy has two main sources of raw material, the Gas and the Petrol. These two products are the most important source of energy, where the most used until nowadays is the petrol, but emerging to be changed to natural gas.

This change came from not only the preoccupation of the petrol can withdraw, but also because environmental issues, as the pollution provoke by petrol consumption. According to Energy Information Administration the petrol supply will decrease and at same time will increase the supply of natural gas, as we can observe in the next graph.

Total primary energy supply by fuel



Source: World Energy Outlook 2000, International Energy Agency

Since those markets are too common and in order to figure out the trends and the market's variables, it is important to analyse those markets separately, in such to have a fairly notion where the market demanding is going to.

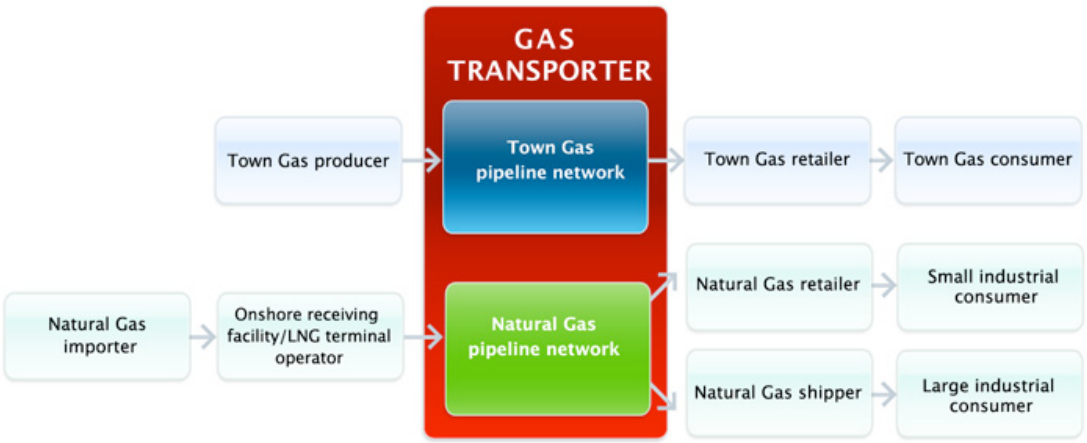
3.1.1 - The Industry of Gas

The gas industry has change from the mid 80's until today; in the past the structures were simple and limited, becoming difficult to delivery natural gas to the final consumer. The process of production and distribution of natural gas was made by pipelines, carrying the gas from the exploration to local facilities and sold to the end customers.

Today the production of gas is more well organized, been only ten percent of the production is wasted, adding with the development of new technologies, making the extraction more and more efficient. The gas production is the most environmental-friendly comparing with the other sources of energy as petrol or coal. Regarding this advantages of use of natural gas, the companies has been investing in this product, making the natural gas the preference of many consumers, using in heating, cooling and other several uses.

The gas market is equal on others commodities markets, having a normal supply and demand, but its prices are state regulated.

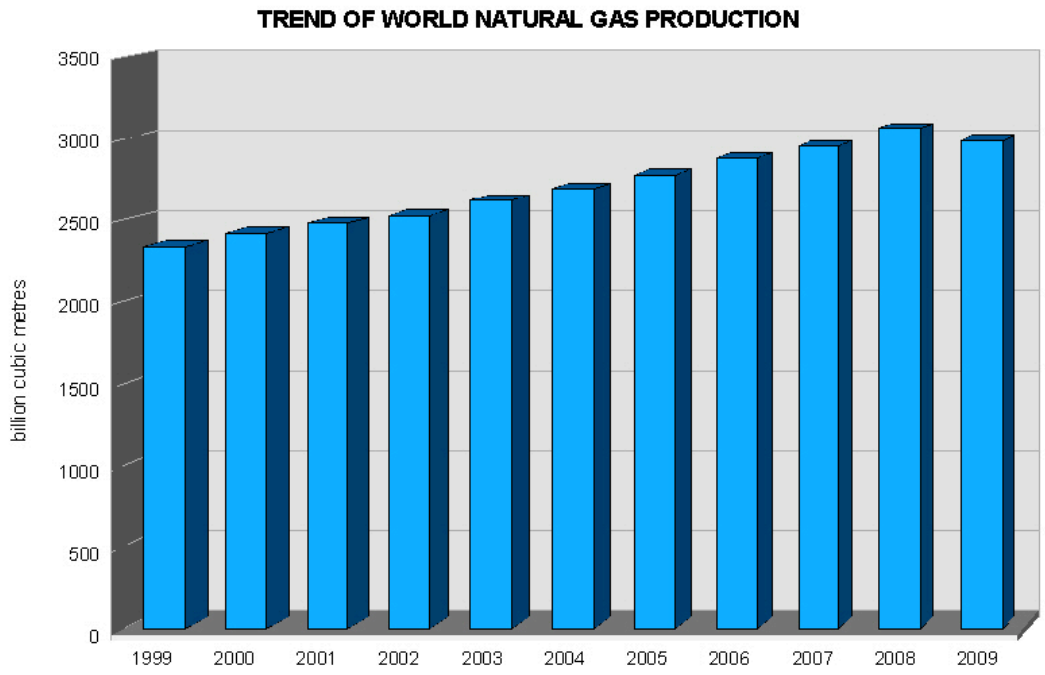
Example of the structure of new gas process line:



Source: http://www.ema.gov.sg/page/114/id:48/

Trends

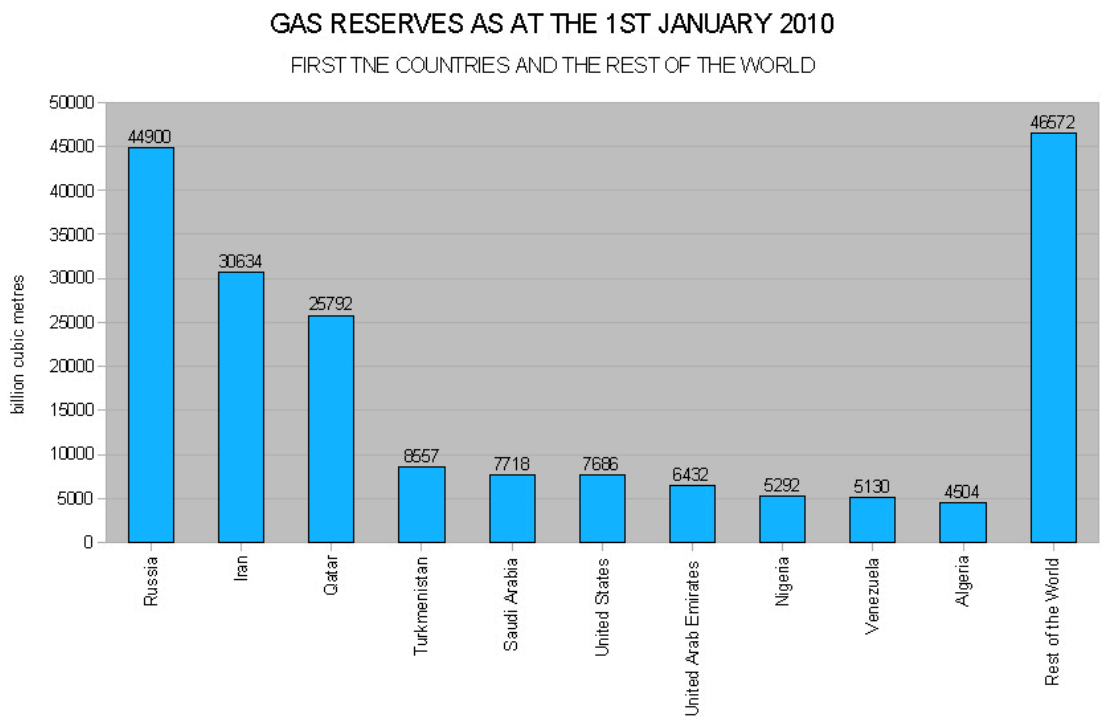
The trend of the natural gas, as said before is to grow much stronger as the petrol production and consumption. In the next graph we can observe the increasing production of the natural gas. In Europe that production increase isn't happen, that could be because the developed countries are too dependent on the petrol fuel, and their own consumption of natural gas doesn't justify for them to produce and export the excess, since a huge production are been made by other countries, so transforming them into a consumers of those countries, as example the Former Soviet Union.



Source: BP Statistical Review of World Energy June 2010.

Global integration

The resource of natural gas wasn't unlimited, but is huge and thru innovations and the development of exploration techniques it would take longer. The gas resources are extending around the world, were a significant amount are to be discover. In the following graph we can identify the allocation of gas geographically:



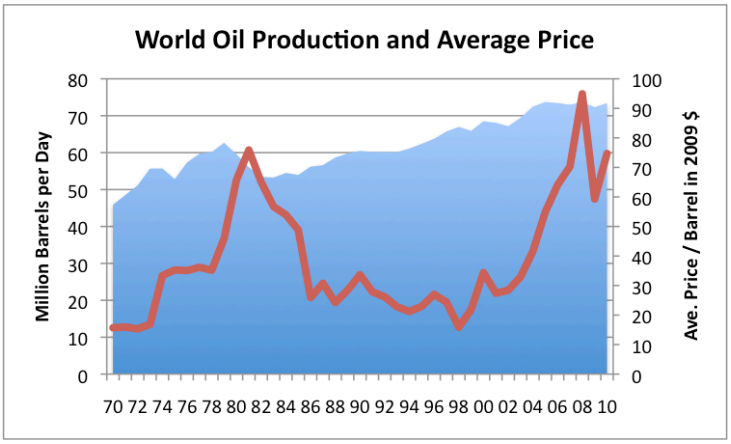
Source: World Oil and Gas Review Eni 2010

In Europe more than 30 percent of the gas consumption comes from Former Soviet Union and North Africa. Here we have a plan of the structure of the natural gas supply and transport:

Source: Eurogas

3.1.2 - The Industry of Petrol

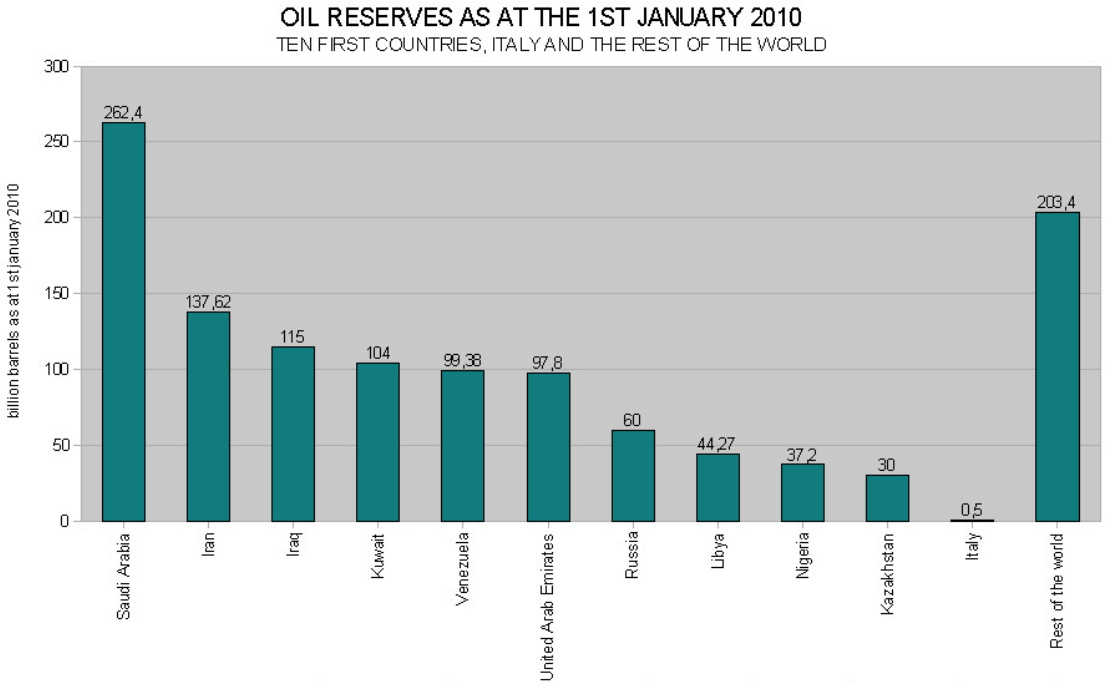
This industry as well the previous industry (gas) has a major role in the countries' economies, once this is the most used source of energy, although it has some disadvantages as pollution and for being a limited resource.
The petrol industry can by divided in some sections, upstream (the exploration, development and production), the downstream (oil tankers, refiners, retailers and consumers), pipeline, marine, service and supply. Petrol market has been characterize as a instable market, since its historical data demonstrated a several changes, some of them huge bumps and colossal decreases, making this industry a mine of opportunities, where can be made a lot of money or hugest losses. Here we can observe that changes in a couple of years.



Source:
http://ourfiniteworld.com/2010/12/16/world-oil-production/,
both based on EIA data.

Trends

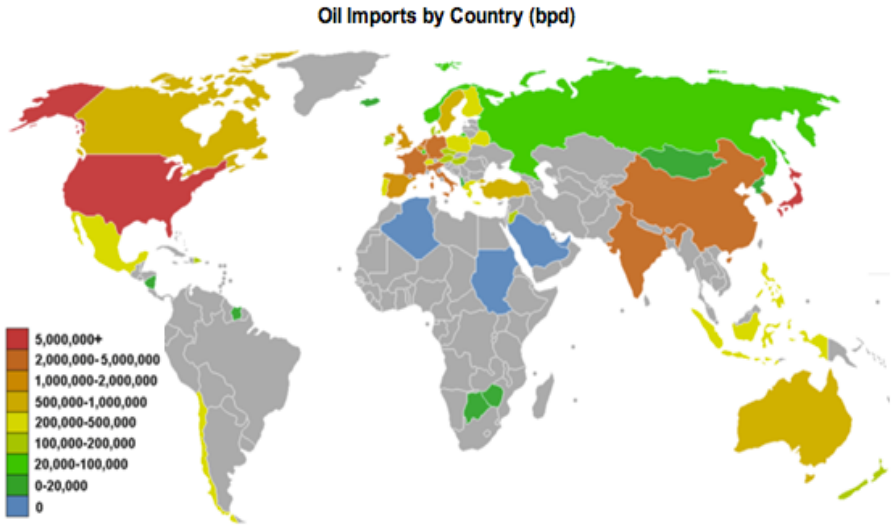
Once this industry can be very profitable, there has been made mergers, in such way to create some synergies, reduce their costs and formulate efforts to respond the prices volatility. The historical data proves that upstream division did eighty five percent of the mergers. Other concern on this industry is the major impact that the taxes on petrol and their products have to be the income budget of the countries. Here we can observe the trends of this industry.



Source: Eni, World Oil and Gas Review 2010

Global Integration

Several countries are distributers of crude, a significant part are organized in a group called as OPEC (Organization of the Petroleum Exporting Countries). OPEC is an organization to defend and promote the countries producers of petrol, in such way to get more advantages to those countries in all oils trades. In this next chart we can observe how the consumption of crude is spread in the world.



Source: http://www.resourceinvestor.com/News/2007/4/Pages/U-S--Report-Predicts-Peak-Oil-by-2040.aspx

3.2 - Galp Overview

Galp Energy is a integrate operator of energy, which is present in all stages in the value chain process, being a Portuguese company but operating in several countries as Spain, Brazil, Angola, Mozambique, Cabo Verde, Guinea-Bissau, Gambia, Timor-Leste, between others. Galp structure is divide in three main parts, the Exploration and Production sector, the Refining and Marketing sector and the Gas and Power Sector.
In the first sector is where is made the exploration of the natural resources as Gas and Petrol, in which they have over than 40 projects worldwide.

Source: Galp Report

In the second sector, the Refining and Marketing section, is where the company refines the Gas and petrol and produce the finals goods to consume, such as, gasoline, diesel, jet fuel and others.
The company has two refineries, one in Sines and other one in Matosinhos, that supplies their stations spread by Portugal and Spain.
The last section of the company is the response for the supply and distribution of natural Gas in Portugal as also in Spain. Also in this section is where the company produces electric and thermal energy.

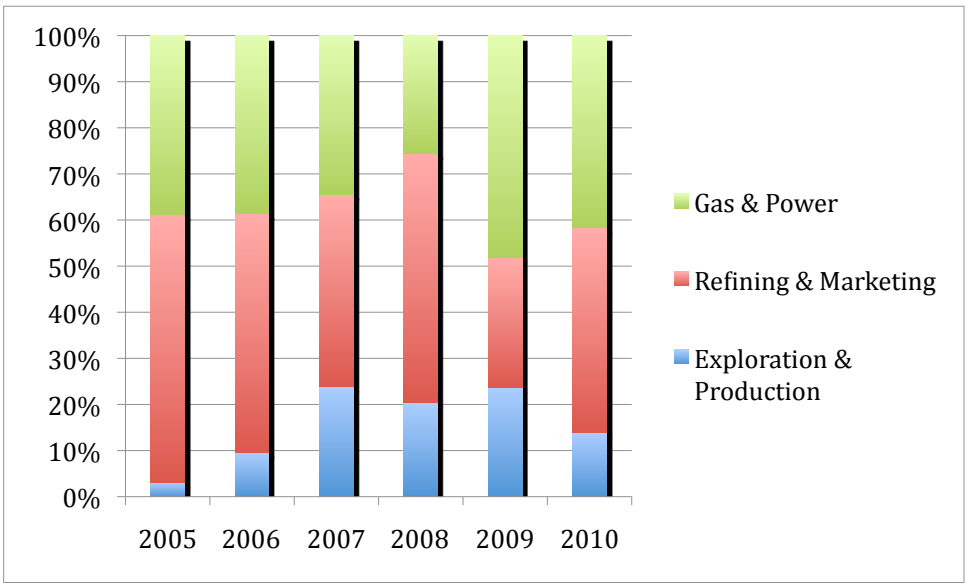
Matosinhos Refinery

3.2.1 – Revenues

The Galp revenues come from their three segments, the Exploration and Production, the Refining and Marketing, and by Gas and Power. In order to forecast the future values I thought what could be the best assumption to each account in the revenues maps, such assumptions as: the value will be the previous year value multiply be the growth of the last three previous years or the assumption of the proportionality of the value taking in consideration the previous values; the detail assumptions could be seen in the appendix, in the revenue's part of the company.

In the next chart we can observe the changes thru the years and the representative percentage of each on. The Refining and Marketing sector is without any doubt the most profitable and important part of the company, being more than 50% of all operations of the group, follow by the Gas and Power sector. The Exploration and Production as the less profitable sector, but having a huge importance for the function of the other two, since is the source of raw material for the others sectors.

% Of the revenues by Segment

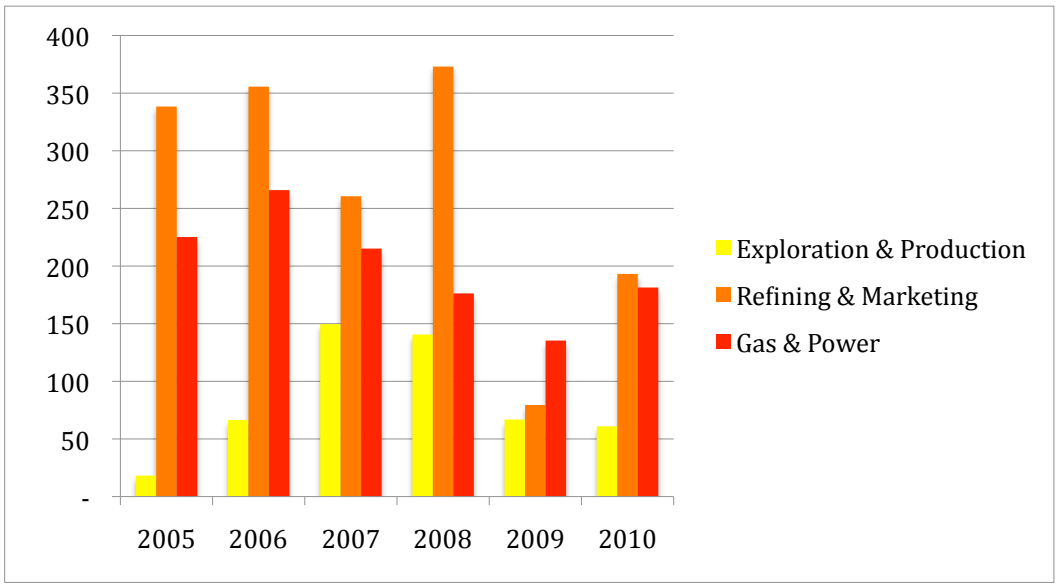


Source: Historic reports of Galp

Their goal it is increase the exploration and production sector with the huge amount of projects in order to get 150 thousand barrels of petrol per day, which is the half of the actual capacity of the refiners.

In the follow chart we can observe the historic profit of each segment in millions of Euros, on which we can see that the Refining and Marketing sector is the major of the years the most profitable part.

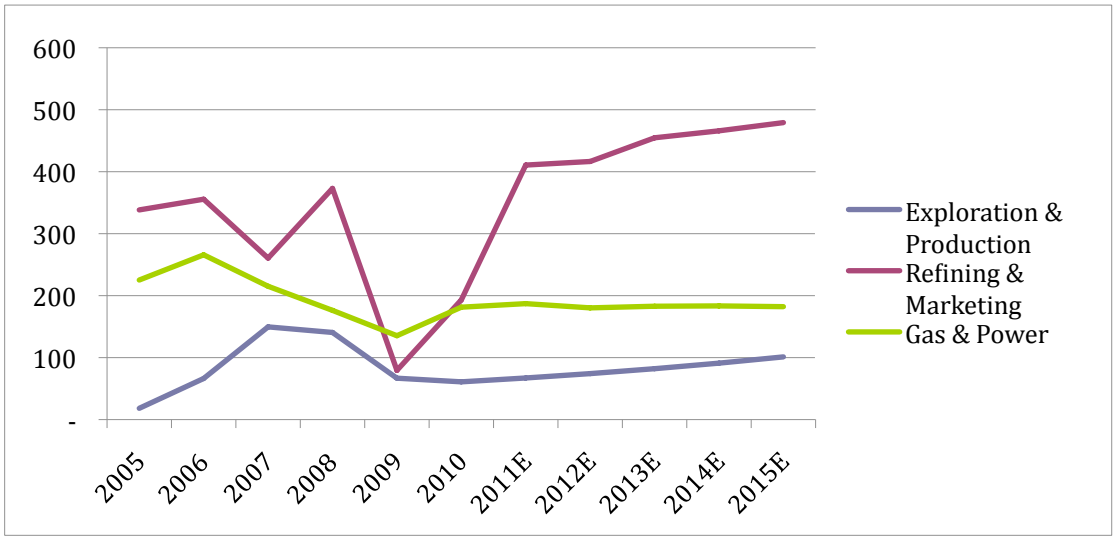
Profit made by Segment Category



Source: Historic reports of Galp, value in millions of Euros

Regarding the prevision of the future revenues, we can observe a kind of stabilization, coming from the unpredebility of the market, becoming very difficult predict the real changes. The only change that we can observe is the small increase in the exploration and production due to a findings and exploration of new fields of crude around the world.

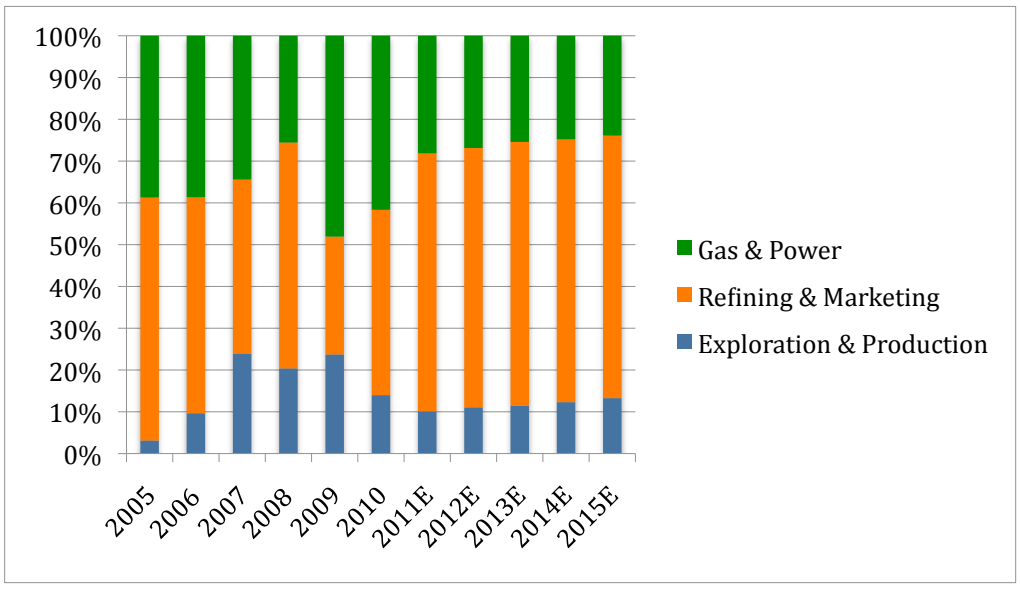
Forecast Revenues



Source: Historic reports of Galp and own calculation, value in millions.

Here we can observe the changes in percentage by segment of the revenues of Galp, where the Exploration and Production sector will increase a bit, where the Refining and Marketing would be the strong and stable section. The importance of the Marketing and Refining sector came from the strategy of being the big operator in the Iberian grid in distribution and sale of energy, taking that importance after the acquisition of sales points of Agip and Exxon-Mobil in the Iberian market.

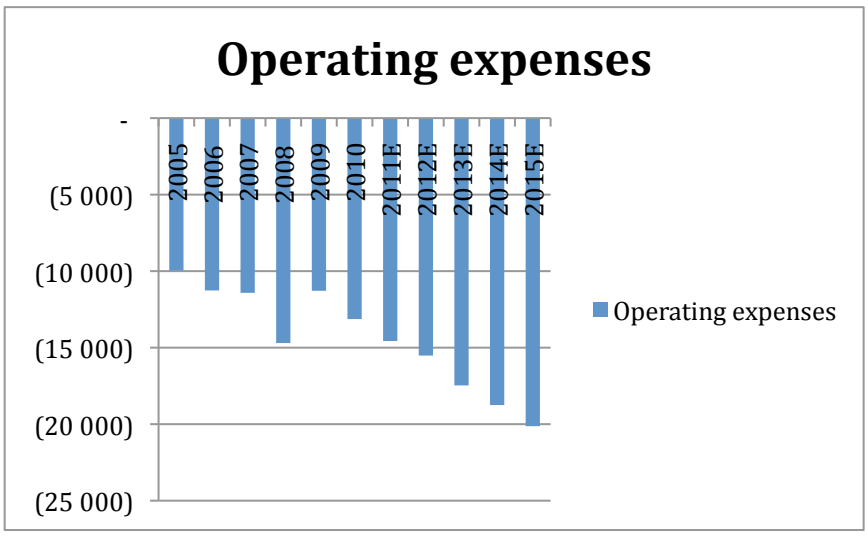
Forecast of revenues in percentage



Source: Historic reports of Galp and own calculation, value in millions.

3.2.2 - Operation costs

The operational costs of Galp are composing on majority by the cost of the raw materials, as Crude and natural Gas. Given the uncertain and the huge variations the price of crude and consequently the price of gas, the company as bear the costs from those changes, showing extraordinary costs in some economic periods, as we can observe in 2008, regarding the economic crisis. To find the operating costs for the company, I made a proportion between the amount of sales and their costs, in such way, after the prediction of the future sales; I could conclude their own costs. In the following forecast map years we can observe an increase due to a growth in all the amount of operations and also due to prediction of the price of crude will increase thru the years.

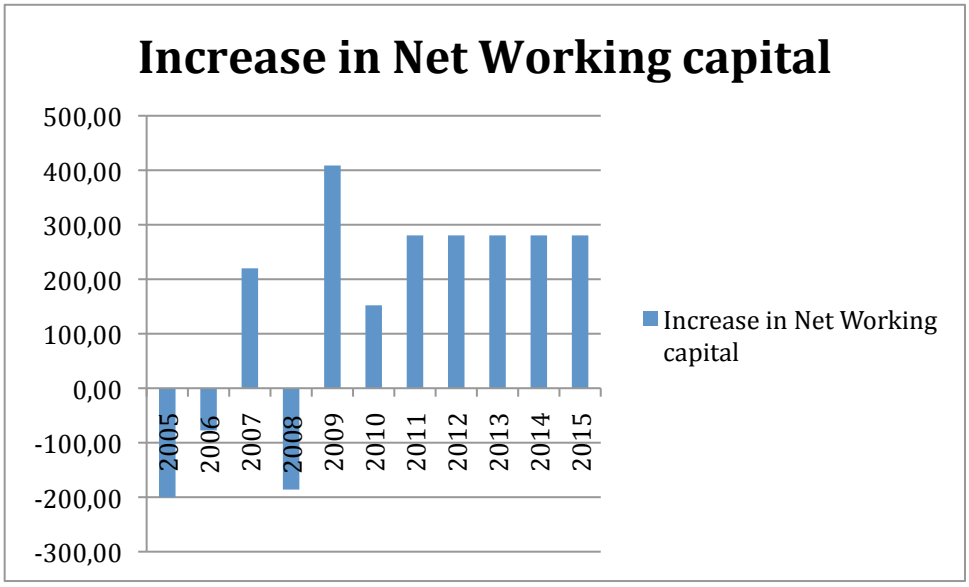


Source: Historic reports of Galp and own calculation, value in millions.

3.2.3 - Net working capital

In 2008 the company had a negative net working capital due to an increase in the strategic stock, which was an attempt to control the huge speculation around the price of crude. After that the amount of net working capital recover to a positive values in the next years. In my forecast I made a assumption of the company will have an increase in net working capital by the average of the last three years, since the company not refer any suggestion, and I decide for three years to taking

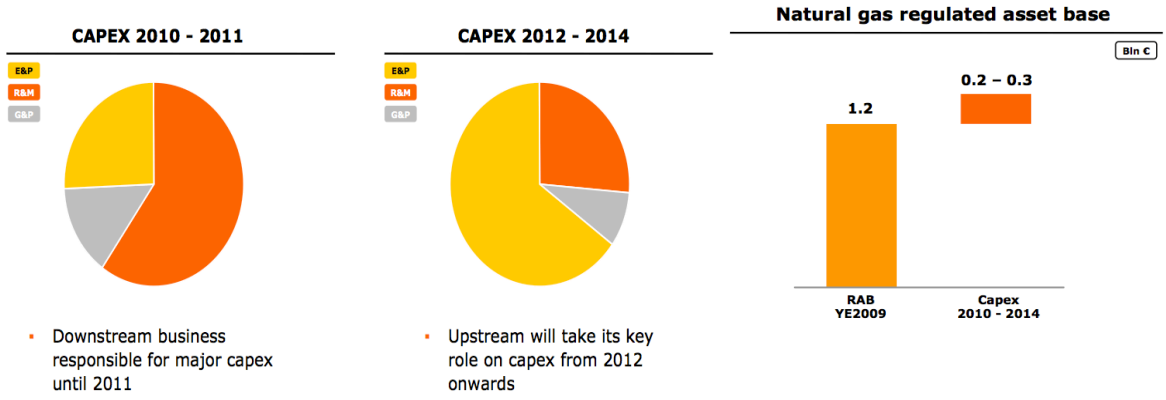
into account the negative year of 2008 and also the huge increase in the next year (2009), in such way to get a better estimative for the proceeding years.



Source: Historic reports of Galp and own calculation, value in millions.

3.2.4 - Capital Expenditures and depreciations

The major capital expenditures of Galp were been made in the segment of Exploration and Production, since is the source of raw material of the others segments. But from 2010 to 2011 the segment where Galp had made efforts on their investments was the Marketing and Refining, where their investment seeks to modernize their refineries, making them more efficient and more secure. The section with the small part of Galp investments is the Gas and Power, as we can observe in the next two charts.

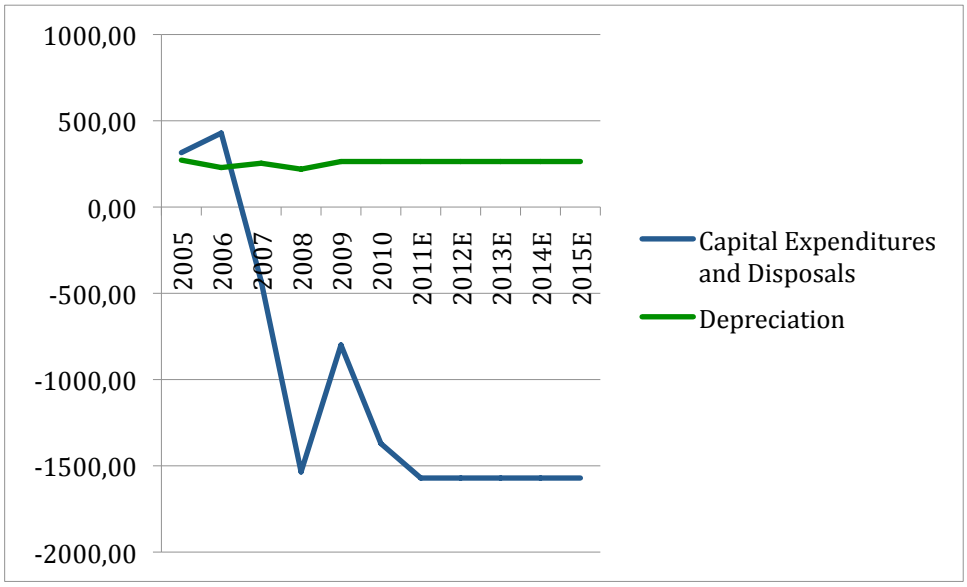


Source: Galp Report

Regarding the new investments that Galp had planned to made after 2009, the company expectation was the increase of 0,2-0,3 Billions of Euros, in the whole amount of Capex.

Taking that into consideration for my forecast of the Galp Capex, I increase the expected Capex to close the value of 1.5 Billions of Euros. Regarding the depreciations, have been very stable, so in my forecast I keep it the same.

Forecast of Capex and Depreciation

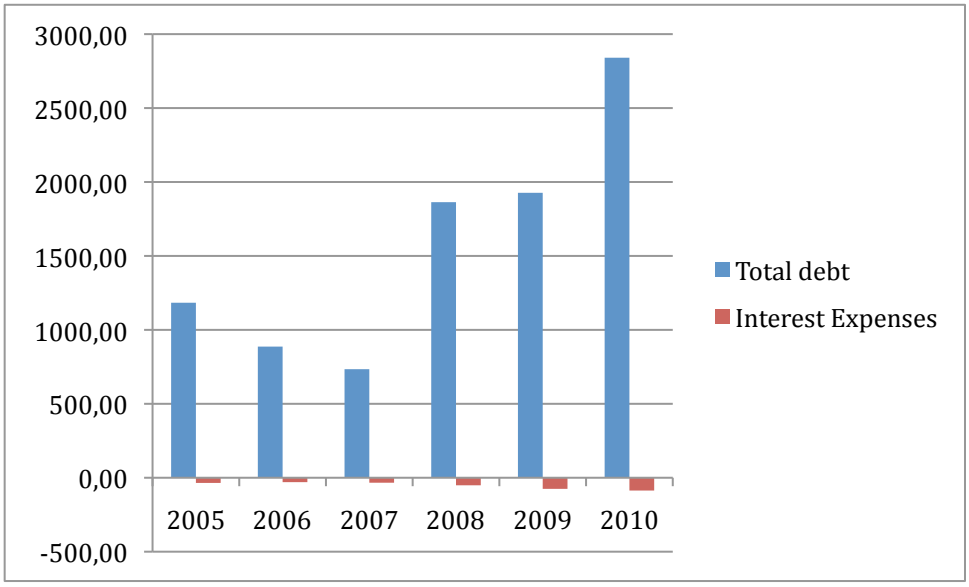


Source: Historic reports of Galp and own calculation, value in millions.

3.2.5 - Debt and interest

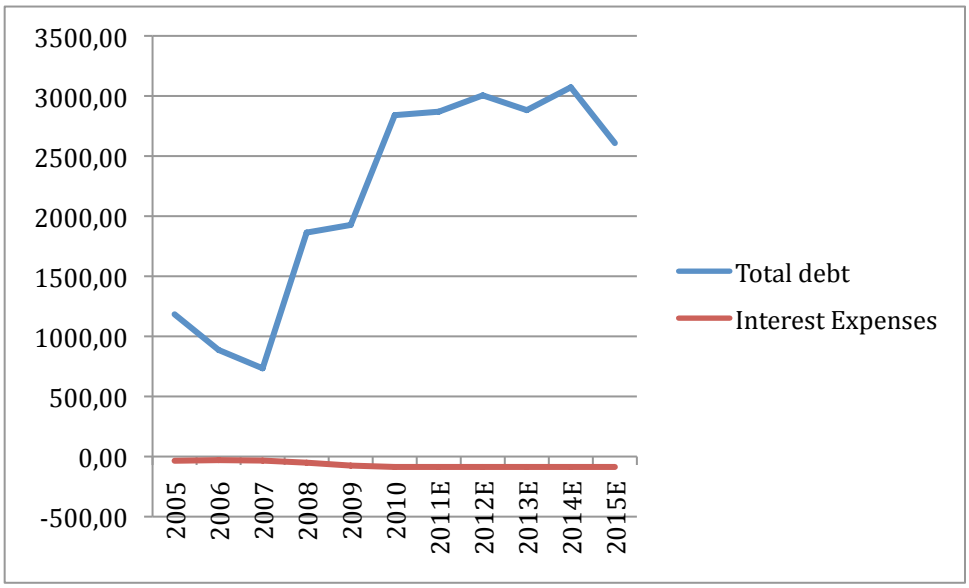
Galp capital structure is made by a significant debt part, this fact happen due to the low cost of the capital financing by debt, comparing to the shareholders cost, leading the company to increase their amount of debt.

The Total Debt and the Interest Expenses of the Company



Source: Historic reports of Galp and own calculation, value in millions.

In my forecast and regarding the increase of capital expenditures, I take into account the last reported amount of debt in 2010 and I add or subtracted on that value by the out come of the balance sheet forecast, where we can see by this graph the amount of debt will increase and consequently also the interests.



Source: Historic reports of Galp and own calculation, value in millions.

3.3 – Valuation by Discount Cash Flows

3.3.1 - Cost of capital (WACC), Ke, Kd and Estimation of risk free rate

In order to calculate the Wacc, I use as risk free rate, the rate of the German Bond rate (10y), since is the rate reference and secure inside of European financial system, and I find the Beta of the Galp in the Bloomberg web site.
I had to divide the operations of Galp to figure out where they were been made and I could conclude that operations where spread in the worldwide. Taking into account this to calculate the Market Premium I computed three different Re of the company, each one concerning where Galp is been operating.

CAPM	Portugal	Angola and Brazil	Portugal and Spain
Re = Rf + B * E(Rm) =	10,95%	13,30%	9,97%

Source: own calculation.

I choose these three types of Re since Galp operations could by divide in those groups of countries; the first on, where is only take into consideration Portugal is the section of Refining and Marketing which is strongly made inside of Portugal, by their two refiners install in Portugal territory; the second group, where has been taken into consideration Brazil and Angola, was referent to major sources of the Exploration and Production sector; and in the last one, the Section of Gas and Power, since have a representative presence in Portugal and Spain I use the rates of the two countries.

After the finding of Re, I study the tax shield rate of the Galp company by the historical report, and I compute a assumption of having two years of recession, where I increase the tax shield from 25,10% of 2010 to 27,98% for 2011, compounding a variation of the growth from the last five years and adding that value to the tax shield of 2010, fixing the 27,98% for two years as said before and decreasing to 25,10% value of 2010, expecting a recover of the economy in the following years.

Regarding the Tax debt rate I decide to maintain the actual one of 3,55%, compose also by the historical data. I decided to not change the debt rate, once the company want to reduce their debt capital structure and improve to a more stable financial situation.

After the calculations I came up the following broad:

Wacc	2010	2011	2012	2013	2014	2015
E&P	5,81%	5,82%	5,92%	6,07%	6,17%	6,28%
R&M	5,12%	5,11%	5,18%	5,31%	5,39%	5,47%
G&P	4,83%	4,81%	4,88%	4,99%	5,07%	5,14%
Average	5,25%	5,25%	5,33%	5,46%	5,54%	5,63%

Source: own calculation.

3.3.3 - Growth

In terms of growth when I had information from the company about their previsions and their forecast I tried to taking them into account, but when I didn't have any support date about the behaviour of the company, I try to follow the same trend of the previous years.

3.4 - Sensitivity Analysis

In order to have a outlook of same different kinds of scenarios, I came up three kinds of changes, first scenario the increase in the Tax shield of the country, in the second scenario I simulate the decrease of the percentage of debt in the value of the company, and at last I propose the increase of the tax debt rate of Galp.

Scenarios for sensitivity Analysis

	Continuing Value	Enterprise Value	Equity Value	Price of share
Value of the company in the normal scenario	19 444	25 021	15 882	19,15€
Value of the company in the scenario 1	20 097	25 682	16 543	19,95€
Value of the company in the scenario 2	24 558	30 890	21 750	26,23€
Value of the company in the scenario 3	14 718	20 730	11 591	13,98€

(Value in millions except if say the unit,)

Source: own calculation.

As we can observe in the normal scenario, with the prevision of the all market indicators that will stay stable the price of shares of Galp will be 19,15€; If the tax shield rate of Portugal increase we can conclude by the first scenario, that situation will not affect to much on the price, will rise a small amount due to tax savings; In the second scenario Galp will face a huge increase on the price per share, since the company would be finance more by equity part, becoming an company with less debt structure; And at last, in the third scenario, where the company would suffer a huge reduction on price per share provoke by the increase of the tax debt rate, once the company is compose by a significant amount of debt.

3.5 - Multiples Valuation

To prepare a multiples valuation I started to choose a peer group, since the Galp is a company of energy. It is also important notice that the companies I choose have different size and operates in different markets. Given that is important compare the Galp energy against the others big energy companies, BG group, Eni, Repsol YPF, in others.

Regarding the conversion of the currency the 12,526 millions of Euros, converted in dollars in currency of today (15, May 2011) is 17,674 millions of dollars.

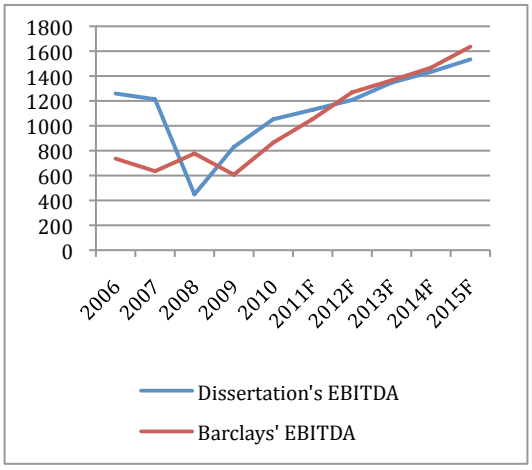
		Galp	BG Group	BP	Eni	Repsol	Total	Industry Average
Market Capitalization (millions)		12,526€	$85,695	$144,545	$107,624	$43,670	$151,014	-
Number of Shares (millions)		813	-	3,168	1,811	1,220	2,247	-
EPS		0,50€	-	-$0,85	3,31€	1,64€	5,30€	-
Book Value per Share		3,19€	-	$32,27	28,69€	17,64€	27,84€	-
Return on Equity		16,24%	15,90%	-2,59%	11,53%	9,61%	19,87%	-
Return on Assets		5,11%	8,46%	-1,01%	4,57%	3,32%	8,33%	-
Growth rates:	Revenue %	-21,07	-18,73	24,01	17,94	-19,59	25,25	-
	Net Income %	201,54	-30,60	-	44,68	-45,05	25,15	-
	EPS %	200,00	-	-	4,38	-42,15	2,46	-
Capex as % of sales		5,57	-	6,09	12,88	8,87	7,71	-
Free cash flow /sales %		-	-	-1,59	2,5	0,85	5,22	-
Free cash flow/net income		-	-	1,29	0,4	0,27	0,54	-
Debt/Equity		-	0,47	0,32	0,4	0,84	0,32	-
Price/earnings		28,9	20,7	-50,8	10,3	14,0	7,6	13,9
Price/Book		4,6	3,1	1,3	1,3	1,3	1,5	1,9
Price/sales		1,0	4,4	0,4	0,6	-	0,6	0,8
Price/Cash flow		-	9,1	16,3	4,2	5,5	4,8	7,2
Dividend Yield %		1,1	1,0	2,0	3,9	3,1	4,4	3,4

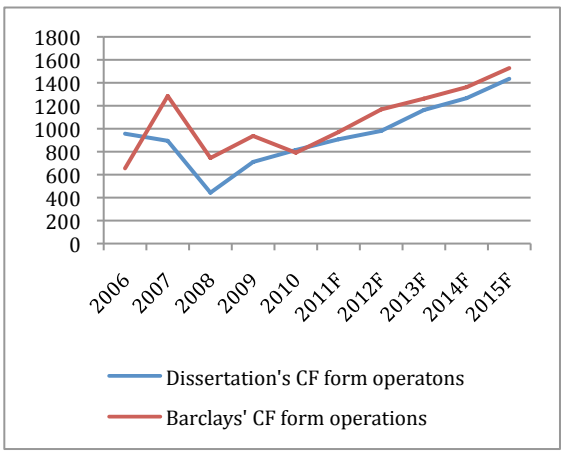
Source: http://financials.morningstar.com/; (19h19, 15 May, 2011)

We can see that the Galp is smaller in this industry starting with the market capitalization, which is the lower. Although Galp present the second best Return on Equity of 16,24%, being the first the 19,87% from Total company; the Portuguese company shows a high price/earnings and also a price/book, due to being the smaller company but with very good results, staying above the industry average, as we can conclude by the table. All the date in the board came from the source web site, in such way to be a fairly comparison, with the same degree of analysis and assumptions.

4 - Comparison with an financial report

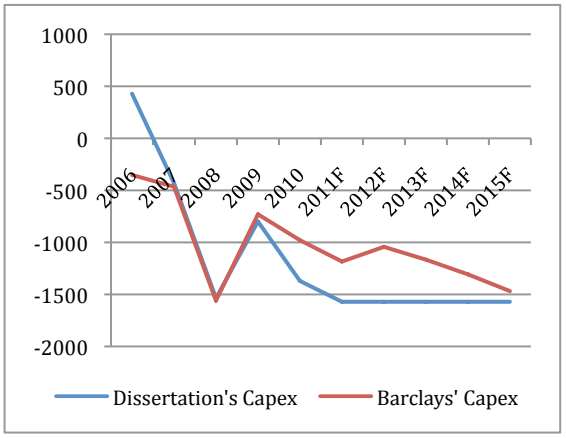
Comparing my own valuation against the valuation made by Barclays Capital, we can observe very different values, starting with the total profit where we have big different as in 2008, thru my calculation the value is 167 and the report f Barclays says 659; values that are compensate in the next years, where the report revise the values for below, and my values in those years (2009, 2010) are higher. Referring to EBITDA is very close in the most of the years, becoming closer in the forecast years, as in the Cash Flow from operations.





Regarding the Nwc as we ca see, the report from Barclays don't try to predict what could happen in the future and regarding the Capex we can see that the value are very close.

The price per share suggest by the report of Barclays is 18,5 Euros, with the recommendation of buy; by my valuation the value for Galp gave 19,15Euros; is very close as the all financial statements and isn't a surprise once more, the values are close one to another.



Comparison with Barclays Capital Report

	2006	2007	2008	2009	2010	2011F	2012F	2013F	2014F	2015F
Dissertation's Total operating profit	968	936	167	459	630	770	824	958	1056	1151
Barclays' Total operating profit	686	620	695	284	481	713	1031	1140	1256	1466
Dissertation's EBITDA	1260	1213	449	830	1053	1129	1208	1347	1433	1534
Barclays' EBITDA	736	635	777	607	865	1054	1269	1365	1467	1636
Dissertation's CF form operations	957	895	443	711	814	908	981	1163	1266	1435
Barclays' CF form operations	655	1285	745	937	791	971	1168	1262	1362	1528
Dissertation's Investment in NWC	-77	220	-186	409	152	280	280	280	280	280
Barclays' Investment in NWC	-74	30	338	181	0	0	0	0	0	0
Dissertation's Capex	429	-430	-1535	-800	-1371	-1571	-1571	-1571	-1571	-1571
Barclays' Capex	-352	-465	-1560	-730	-979	-1184	-1043	-1166	-1307	-1468

Source: Historic reports of Galp and own calculation, value in millions.

Regarding to the historic values of the report been different of my own, according to the investor's relationship's department, this happen due to the reports uses some estimative on the values and not the real ones, or the difference can by explain also by the use of results from the IFRS (International Financial Reporting Standards), instead of the results of the replacement cost. The department also refer that the correct values to use on this work should be the results given on the company's historic reports, as I used.

5 - Conclusion

Through this dissertation we can conclude that there isn't only one general valuation method, and we cannot verify if one is better than another. We can see in the literature review a few kind of different methods and their assumptions.

To analyze the Galp Company, I used the Discount Cash Flows Method, and in order to complement my valuation, I used also the Multiples Method for the comparison on the peer group. After that I compare the result against the report of Barclays Capital, where we can see that both predictions are in line with each other. The price of the value of Galp per share through my dissertation has a result in 19,15 Euros, which does not differ much from the 18,50 Euros, set out by the report of Barclays. This small difference can be explained by the assumptions and expectations of how the Galp Company will create in the future.

This dissertation of Galp Company has some limitations in the order of information about the company's future and its unpredictability, providing adoption of some assumptions of stability and growth, which cannot be the accurate scenario.

6 - Appendices

Appendix 1 Rates Maps: Wacc, Risk free rate, Debt rate, Tax shield rate

Country	Region	Long-Term Rating	Adj. Default Spread	Total Risk Premium	Country Risk Premium
Angola	Africa	B1	400	11,00%	6,00%
Brazil	Central and South America	Baa3	200	8,00%	3,00%
Portugal	Western Europe	A1	85	6,28%	1,28%
Portugal (1)	Western Europe	Baa1	150	7,25%	2,25%
Spain	Western Europe	Aa1	25	5,38%	0,38%

Aswath Damodaran http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html
(1) since Portugal was review as Baa1 by moodys in (http://www.moodys.com/viewresearchdoc.aspx?lang=en&cy=global&docid=PR_216973),
according with the previous web-site rates list, Portugal change from 6,28 to 7,25% in Total Risk Premium

German Bond rate (10y) Rf =	3,38%
Beta of Galp =	1,044

Beta = 0.88 http://www.digitallook.com/cgi-bin/dlmedia/security.cgi?csi=200257&ac=&username=

Source: (Bloomberg ,14h51, 5/4/2011)

CAPM	Portugal	Angola and Brazil	Portugal and Spain
Re = Rf + B * E(Rm) =	10,95%	13,30%	9,97%

Historical Tax Shield Rate

Forcast Tax shield rate

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Tax	21,14%	28,50%	23,78%	15,43%	25,10%	27,98%	27,98%	25,10%	25,10%	25,10%
Var. of Tax		34,83%	-16,56%	-35,11%	62,67%					
					Orientador Hypotesis:	28,50%	28,50%	26,50%	26,50%	26,50%

Average = 11,46%

Assumption: 2 years of bad economic scenario
3 years of recover economic scenario

Historical Tax rate of debt

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Tax Debt		4,63%	5,10%	3,80%	3,55%	3,55%	3,55%	3,55%	3,55%	3,55%
Var of Tax			10,15%	-25,49%	-6,58%	0	0	0	0	0

Assumption: Since they want to reduce the debt capital structure, and their financial situation is stable,
i assume that rate will maintain, once they will not add new debt

Historical Company structure

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
as % E/V	38,85%	41,74%	33,50%	31,79%	29,64%	30,53%	31,44%	32,38%	33,36%	34,36%
var E/V		**7,42%**	**-19,73%**	**-5,11%**	**-6,77%**	**3%**	**3%**	**3%**	**3%**	**3%**
as % D/V	61,15%	58,26%	66,50%	68,21%	70,36%	69,47%	68,56%	67,62%	66,64%	65,64%
var D/V		**-4,72%**	**14,14%**	**2,58%**	**3,16%**	**-1,26%**	**-1,32%**	**-1,38%**	**-1,44%**	**-1,50%**
Sum of control	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%

Assumption: They say that they are commited to have a trustable capital structure,
in which i used a 3% of growth in Equity creation value per year,

Wacc	2010	2011	2012	2013	2014	2015
(Bra. and Ang.) **E&P**	5,81%	5,84%	5,93%	6,10%	6,21%	6,31%
(Port.) **R&M**	5,12%	5,12%	5,20%	5,34%	5,42%	5,51%
(Port. and Spain) **G&P**	4,83%	4,82%	4,89%	5,03%	5,10%	5,17%
Average	5,25%	5,26%	5,34%	5,49%	5,58%	5,66%

Assumption: The rate of discount use on the free cash flows is the WACC ("Weighted Average Cost of Capital"), taken into consideration the segment and also the country where is operating, http://relatorioecontas.galpenergia.com/Página-5-247.aspx

Appendix 2 Revenues Maps

Exploration & Production

Growth of Average work interest production (kbbl/day) = 88,30% 79,82% -11,52% -2,77% 32,90%

Million euros (except otherwise noted)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
	12M05	12M06	12M07	12M08	12M09	12M10						
Average working interest production (kbbl/day)	**5,0**	**9,5**	17,0	**15,1**	**14,7**	**19,5**	**20,7**	**22,0**	**23,3**	**24,8**	**26,3**	Previous value multiple by the average growth of 3 previous periods
Average net entitlement production (kbbl/day)	**4,3**	**7,2**	**12,5**	**10,0**	**9,7**	**11,8**	**12,6**	**13,4**	**14,2**	**15,1**	**16,0**	by porpotion to find the value
Total net entitlement production (million bbl)	**1,6**	**2,6**	**4,6**	**3,7**	**3,5**	**4,3**	**4,6**	**4,9**	**5,2**	**5,5**	**5,8**	by porpotion to find the value
Angola - Block 14	1,6	2,6	4,6	3,7	3,3	3,7	3,8	3,6	3,6	3,7	3,7	Average of 5 previous periods
Brazil - BM-S-11	-	-	-	-	0,3	0,6	0,8	1,3	1,6	1,8	2,2	Difference
Average realized sale price[1] (Usd/bbl)	**44,6**	**57,6**	**70,0**	**96,9**	**59,8**	**76,7**	**81,5**	**86,6**	**91,9**	**97,6**	**103,7**	Previous value multiple by the average growth of 3 previous periods
Operating cost[1] (Usd/bbl)	**7,6**	**5,6**	**5,9**	**9,0**	**10,5**	**12,1**	**12,8**	**13,6**	**14,4**	**15,3**	**16,3**	Previous value multiple by the average growth of 3 previous periods
Amortisation[1] (Usd/bbl)	**n.a.**	**11,4**	**15,8**	**24,0**	**17,3**	**34,5**	**36,6**	**38,9**	**41,3**	**43,9**	**46,6**	Previous value multiple by the average growth of 3 previous periods
Total sales[2] (million bbl)	**1,8**	**2,9**	**4,8**	**3,8**	**3,0**	**2,8**	**3,0**	**3,2**	**3,4**	**3,6**	**3,8**	Previous value multiple by the average growth of 3 previous periods
Net total assets	**274**	**435**	**570**	**693**	**914**	**1 219**	**1 294**	**1 374**	**1 460**	**1 550**	**1 646**	Previous value multiple by the average growth of 3 previous periods
Turnover	67	141	233	200	168	214	227	241	256	272	289	Previous value multiple by the average growth of 3 previous periods
Operating profit	**18**	**66**	**146**	**122**	**31**	**49**	**55**	**62**	**70**	**79**	**89**	Porpotion of Sales and the change in price
Non recurrent items	-	(0)	4	18	35	12	12	12	12	12	12	The maintainess of the last year
Operating profit RCA	**18**	**66**	**150**	**141**	**67**	**61**	**67**	**74**	**82**	**91**	**101**	Sum of the 2 previous points

[1] On the basis of the Angola's net entitlement production.

[2] Considers effective sales.

Refining & Marketing

Million euros (except otherwise noted)

							2011	2012	2013	2014	2015	
	12M05	12M06	12M07	12M08	12M09	12M10						
Rotterdam cracking refining margin[1] (Usd/bbl)	**n.a.**	**1,9**	**3,1**	**3,0**	**1,3**	**1,5**	**1,9**	**1,6**	**1,7**	**1,7**	**1,7**	Average of 3 previous periods
Rotterdam hydroskimming + aromatics + base oil refining margin[1] (Usd/bbl)	**n.a.**	**1,7**	**1,1**	**0,9**	**0,1**	**0,4**	**0,5**	**0,3**	**0,4**	**0,4**	**0,4**	Average of 3 previous periods
Galp Energia refining margin (Usd/bbl)	**7,2**	**5,4**	**5,5**	**4,4**	**1,5**	**2,6**	**2,8**	**2,3**	**2,6**	**2,6**	**2,5**	Average of 3 previous periods
Refinery cash cost (Usd/bbl)	**1,5**	**1,6**	**2,0**	**2,2**	**2,1**	**2,1**	**2,1**	**2,1**	**2,1**	**2,1**	**2,1**	Average of 3 previous periods
Crude processed (k bbl)	**97 526**	**98 502**	**91 937**	**89 808**	**77 624**	**84 720**	**84 050**	**82 131**	**83 634**	**83 272**	**83 013**	Average of 3 previous periods
Raw material processed (million tonnes)	**14,3**	**14,7**	**13,8**	**13,1**	**11,5**	**12,3**	**12,3**	**12,0**	**12,2**	**12,2**	**12,1**	Average of 3 previous periods
Total refined product sales (million tonnes)	**15,9**	**16,2**	**16,0**	**16,0**	**16,7**	**16,7**	**16,5**	**16,6**	**16,6**	**16,6**	**16,6**	Average of 3 previous periods
Sales to direct clients in Iberia (million tonnes)	**9,4**	**9,0**	**9,4**	**9,6**	**11,1**	**10,4**	**10,4**	**10,7**	**10,5**	**10,5**	**10,6**	Average of 3 previous periods
Wholesale	4,6	4,6	4,4	4,6	5,8	6,0	5,4	5,7	5,7	5,6	5,7	Average of 3 previous periods
Retail	2,6	2,4	2,6	2,7	3,6	3,4	3,2	3,4	3,3	3,3	3,4	Average of 3 previous periods
LPG	0,4	0,4	0,4	0,4	0,4	0,3	0,4	0,4	0,3	0,3	0,3	Average of 3 previous periods
Others	1,8	1,7	2,0	1,9	1,4	0,8	1,4	1,2	1,1	1,2	1,2	Average of 3 previous periods
Exports (million tonnes)	**2,3**	**3,1**	**2,4**	**2,5**	**2,4**	**2,8**	**2,6**	**2,6**	**2,6**	**2,6**	**2,6**	Average of 3 previous periods
Sales in Africa (million tonnes)	**n.a.**	**n.a.**	**n.a.**	**0,5**	**0,6**	**0,6**	**0,6**	**0,6**	**0,6**	**0,6**	**0,6**	Average of 3 previous periods
Number of service stations (Iberia)	**1 060**	**1 045**	**1 038**	**1 509**	**1 451**	**1 436**	**1 465**	**1 451**	**1 451**	**1 456**	**1 452**	Average of 3 previous periods
Number of c-stores (Iberia)	**178**	**201**	**210**	**428**	**467**	**509**	**468**	**481**	**486**	**478**	**482**	Average of 3 previous periods
Number of service stations (Africa)	**n.a.**	**n.a.**	**62**	**96**	**98**	**103**	**99**	**100**	**101**	**100**	**100**	Average of 3 previous periods
Net total assets	**3 746**	**3 539**	**3 986**	**4 619**	**4 814**	**6 139**	**6 620**	**6 316**	**6 067**	**6 084**	**6 173**	Average of 3 previous periods multiple by the tax of growth
Turnover	10 030	10 838	11 115	13 224	10 668	12 388	12 093	11 716	12 066	11 959	11 914	Average of 3 previous periods
Operating profit	**602**	**365**	**582**	**(174)**	**316**	**391**	**587**	**568**	**585**	**580**	**578**	Acording to Strategy Report the EBITDA Of Refining&Marketing will duplicateafter 2011, i think is to mucht, so i put it more 50%
Inventory effect	(294)	9	(323)	552	(232)	(201)	(174)	(151)	(131)	(113)	(98)	Growth effect
Non recurrent items	31	(18)	1	(4)	(5)	3	(2)	(1)	(0)	(1)	(1)	Average of 3 previous periods
Operating profit RCA	**338**	**356**	**261**	**373**	**79**	**193**	**411**	**416**	**455**	**466**	**479**	Sum of the 3 previous points

[1] Source: Platts.

Revenues Maps

Gas & Power

0,064595378 0,003277732 0,154006533

Million euros (except otherwise noted)

	12M05	12M06	12M07	12M08	12M09	12M10	2011	2012	2013	2014	2015	
NG supply total sales volumes (million m³)	**4 234**	**4 596**	**5 377**	**5 638**	**4 680**	**4 926**	**5 081**	**4 896**	**4 967**	**4 981**	**4 948**	Average of 3 previous periods
Liberalised market sales volumes (million m³)	**119**	**654**	**3 024**	**3 219**	**3 208**	**3 702**	**3 968**	**4 253**	**4 558**	**4 885**	**5 236**	Previous value multiple by the average growth of 3 previous periods
Portugal, of which:	-	-	1 878	2 198	2 763	3 115	3 233	3 352	3 426	3 475	3 510	Sum
Electrical	-	-	1 878	2 189	1 918	1 939	1 960	1 981	2 002	2 024	2 046	Growth
Industrial	-	-	-	9	845	1 104	1 273	1 371	1 423	1 451	1 465	Using the growth, but because the bad scenario of the economy, i divided by 2 the growth rate
Trading	119	654	1 145	907	280	494	560	445	499	501	482	Average of 3 previous periods
Spain	-	-	-	114	165	93	124	128	115	122	122	Average of 3 previous periods
Regulated market sales volumes (million m³)	**4 115**	**3 943**	**2 354**	**2 419**	**1 472**	**1 223**	**1 348**	**1 285**	**1 316**	**1 301**	**1 309**	sum
Industrial	-	-	1 891	1 876	968	658	813	735	774	755	764	Average of 2 previous periods
Commercial	-	-	48	89	94	99	96	98	97	97	97	Average of 2 previous periods
Residential	-	-	182	201	197	281	239	260	250	255	252	Average of 2 previous periods
Other supply companies	-	-	233	253	212	185	199	192	196	194	195	Average of 2 previous periods
NG distribution clients[1] (thousands)	**705**	**757**	**816**	**868**	**915**	**1 327**	**1 626**	**1 809**	**1 911**	**1 965**	**1 993**	Using the growth, but because the bad scenario of the economy, i divided by 2 the growth rate
Sales of electricity to the grid[2]	**500**	**566**	**578**	**478**	**706**	**1 202**	**1 623**	**1 908**	**2 075**	**2 166**	**2 214**	Using the growth, but because the bad scenario of the economy, i divided by 2 the growth rate
Natural gas net fixed assets[3]	**1 416**	**725**	**727**	**755**	**1 036**	**1 045**	**1 050**	**1 052**	**1 053**	**1 054**	**1 054**	Using the growth, but because the bad scenario of the economy, i divided by 2 the growth rate
Net total assets	**2 030**	**1 801**	**1 487**	**1 659**	**1 927**	**2 058**	**2 129**	**2 165**	**2 183**	**2 193**	**2 197**	Using the growth, but because the bad scenario of the economy, i divided by 2 the growth rate
Turnover	1 125	1 396	1 455	1 942	1 425	1 832	1 733	1 663	1 743	1 713	1 707	Average of 3 previous periods
Operating profit	**244**	**547**	**212**	**216**	**113**	**188**	**194**	**187**	**190**	**190**	**189**	Porpotional
Inventory effect	(19)	(5)	6	(35)	21	(11)	(8)	1	(6)	(4)	(3)	Average of 3 previous periods
Non recurrent items	1	(276)	(3)	(5)	1	4	(0)	2	2	1	2	Average of 3 previous periods
Operating profit RCA	**225**	**266**	**215**	**176**	**135**	**181**	**187**	**180**	**183**	**183**	**182**	Porpotional
Supply[4]	n.a.	n.a.	135	86	36	79	67	61	69	66	65	Average of 3 previous periods
Infrastructure	n.a.	n.a.	81	88	94	92	91	92	92	92	92	Average of 3 previous periods
Power	n.a.	n.a.	(0)	3	5	11	6	7	8	7	8	Average of 3 previous periods

[1] Includes unconsolidated companies where Galp Energia holds a significant interest.

[2] Includes Energin, which does not consolidate but where Galp Energia has a 35% holding.

[3] Excludes financial investment. Net fixed assets are on a consolidated basis

[4] Includes liberalized and regulated commercialization

Appendix 3 Balance Sheet

Consolidated Financial Position

Million euros (except otherwise noted)			9,36%	30,95%	-4,31%	35,83%	17,96%				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Dec, 31	Dec, 31	Dec, 31	Dec, 31	Dec, 31	Dec, 31					
Assets											
Non current assets											
Tangible fixed assets	2 555	1 927	2 108	2 760	2 641	3 588	3 588	3 588	3 588	3 588	3 588
Goodwill	20	17	17	172	189	243	243	243	243	243	243
Other intangible fixed assets	367	325	310	409	1 318	1 309	1 309	1 309	1 309	1 309	1 309
Investments in associates	85	147	149	297	227	253	253	253	253	253	253
Investments in other participated companies	64	1	1	1	3	33	33	33	33	33	33
Other receivables	96	107	89	84	99	115	99	104	106	103	104
Deferred tax assets	159	145	136	200	210	216	216	216	216	216	216
Other financial investments	0	1	1	5	0	1	1	1	1	1	1
Total non current assets	**3 346**	**2 671**	**2 811**	**3 928**	**4 688**	**5 757**	**5 742**	**5 747**	**5 749**	**5 746**	**5 747**
Current assets											
Inventories	1 199	1 065	1 347	1 076	1 229	1 570	2 006	2 563	3 275	4 185	5 348
Trade receivables	898	960	1 077	988	778	1 082	1 082	1 082	1 082	1 082	1 082
Other receivables	323	318	330	500	574	545	545	545	545	545	545
Other financial investments	10	14	6	3	2	5	5	5	5	5	5
Current Income tax recoverable	-	0	0	-	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Cash and cash equivalents	158	212	107	127	244	188	188	189	192	197	203
Total current assets	**2 588**	**2 571**	**2 868**	**2 695**	**2 826**	**3 390**	**3 826**	**4 385**	**5 099**	**6 014**	**7 183**
Total assets	**5 934**	**5 242**	**5 678**	**6 623**	**7 514**	**9 148**	**9 568**	**10 132**	**10 848**	**11 760**	**12 930**
Equity and liabilities											
Equity											
Share capital	829	829	829	829	829	829	829	829	829	829	829
Share premium	82	82	82	82	82	82	82	82	82	82	82
Translation reserve	(2)	(10)	(23)	(27)	(11)	28	28	28	28	28	28
Other reserves	85	107	146	174	193	193	193	193	193	193	193
Hedging reserves	(3)	1	1	(2)	(7)	(4)	(4)	(4)	(4)	(4)	(4)
Retained earnings	669	255	592	1 020	927	1 109	1 334	1 515	1 726	1 955	2 183
Profit attributable to equity holders of the parent	701	755	720	117	347	441	548	438	476	487	467
Equity attributable to equity holders of the parent	**2 361**	**2 018**	**2 348**	**2 194**	**2 361**	**2 679**	**3 011**	**3 081**	**3 331**	**3 571**	**3 778**
Minority interest	25	19	22	25	27	32	40	32	37	40	40
Total equity	**2 386**	**2 037**	**2 370**	**2 219**	**2 389**	**2 711**	**3 051**	**3 113**	**3 368**	**3 611**	**3 818**
Liabilities											
Non current liabilities											
Bank loans and overdrafts	782	287	280	1 304	1 047	1 412	1 383	1 247	1 370	1 180	1 644
Bonds	310	226	226	-	700	1 000	1 000	1 000	1 000	1 000	1 000
Other payables	96	70	62	56	381	321	321	321	321	321	321
Retirement and other benefit obligations	214	242	254	256	271	285	285	285	285	285	285
Deferred tax liabilities	132	93	132	18	57	84	84	84	84	84	84
Other financial instruments	5	0	0	3	9	0	0	0	0	0	0
Provisions	73	83	83	99	153	156	156	156	156	156	156
Total non current liabilities	**1 613**	**1 001**	**1 036**	**1 737**	**2 619**	**3 258**	**3 229**	**3 093**	**3 216**	**3 026**	**3 490**
Current liabilities											
Bank loans and overdrafts	257	566	336	685	422	616	616	616	616	616	616
Bonds	-	20	-	2	1	-	-	-	-	-	-
Trade payables	706	692	956	993	1 122	1 487	1 680	2 228	2 516	3 336	3 768
Other payables	916	843	981	982	961	1 022	1 087	1 156	1 229	1 307	1 389
Other financial instruments	2	3	0	2	0	8	8	8	8	8	8
Income tax	54	78	-	4	(0)	45	84	44	58	62	55
Total current liabilities	**1 936**	**2 204**	**2 272**	**2 667**	**2 507**	**3 178**	**3 475**	**4 051**	**4 426**	**5 329**	**5 836**
Total liabilities	**3 548**	**3 205**	**3 308**	**4 404**	**5 125**	**6 437**	**6 704**	**7 145**	**7 643**	**8 355**	**9 326**
Total equity and liabilities	**5 934**	**5 242**	**5 678**	**6 623**	**7 514**	**9 148**	**9 755**	**10 257**	**11 011**	**11 967**	**13 144**

Appendix 4 Income Statement

Income statement

Million euros

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	12M05	12M06	12M07	12M08	12M09	12M10					
Turnover	11 137	12 193	12 560	15 086	12 008	14 064	15 600	16 618	18 707	20 079	21 560
Operating expenses	(9 957)	(11 262)	(11 417)	(14 698)	(11 283)	(13 132)	(14 567)	(15 518)	(17 468)	(18 750)	(20 132)
Other operating revenues (expenses)	12	329	70	61	105	122	96	107	108	104	107
EBITDA	**1 192**	**1 260**	**1 213**	**449**	**830**	**1 053**	**1 129**	**1 208**	**1 347**	**1 433**	**1 534**
D&A and provisions	(329)	(291)	(278)	(282)	(371)	(423)	(359)	(384)	(389)	(377)	(383)
Operating profit	**863**	**968**	**936**	**167**	**459**	**630**	**770**	**824**	**958**	**1 056**	**1 151**
Net profit from associated companies	51	40	60	48	70	79	66	71	72	70	71
Net profit from investments	54	(19)	21	0	(1)	0	(0)	(0)	(0)	(0)	(0)
Net interest expenses	(75)	(28)	(43)	(61)	(76)	(98)	(79)	(84)	(87)	(83)	(85)
Profit before tax and minority interests	893	962	974	155	451	611	757	606	658	674	646
Income tax	(189)	(203)	(249)	(33)	(99)	(165)	(204)	(164)	(177)	(182)	(174)
Minority Interests	(4)	(4)	(5)	(5)	(6)	(5)	(5)	(5)	(5)	(5)	(5)
Net profit	**701**	**755**	**720**	**117**	**347**	**441**	**548**	**438**	**476**	**487**	**467**
Net profit	**701**	**755**	**720**	**117**	**347**	**441**	**548**	**438**	**476**	**487**	**467**
Inventory effect	(239)	(30)	(280)	355	(161)	(156)	(182)	(150)	(137)	(118)	(101)
Net profit RC	**462**	**724**	**440**	**472**	**186**	**285**	**366**	**288**	**339**	**370**	**366**
Non recurrent items	(37)	(257)	(22)	6	27	21	10	12	14	12	13
Net profit RCA	**425**	**468**	**418**	**478**	**213**	**306**	**376**	**300**	**353**	**382**	**379**

Appendix 5 Free Cash Flow

		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Revenues	11 149	12 521	12 630	15 147	12 113	14 185	**15 695**	**16 725**	**18 815**	**20 183**	**21 666**
Report less	Raw materials	(9 688)	(10 955)	(11 135)	(14 406)	(10 944)	(12 778)	**(14 138)**	**(15 066)**	**(16 948)**	**(18 180)**	**(19 516)**
	loss on disposals	5	5	10	114	7	7	**7**	**7**	**7**	**7**	**7**
	Total Raw materials	(9 683)	(10 950)	(11 125)	(14 292)	(10 938)	(12 771)	**(14 131)**	**(15 059)**	**(16 941)**	**(18 173)**	**(19 509)**
Report add	Personal expense	(270)	(307)	(281)	(292)	(339)	(355)	**(355)**	**(355)**	**(355)**	**(355)**	**(355)**
add	Pension expense	40	52	40	25	25	25	**25**	**25**	**25**	**25**	**25**
	Current and past pension costs service											
	Total Personal	(230)	(255)	(241)	(267)	(313)	(330)	**(330)**	**(330)**	**(330)**	**(330)**	**(330)**
	Ajusted Ebitda	1 237	1 317	1 263	588	862	1 085	**1 235**	**1 337**	**1 544**	**1 680**	**1 827**
	Report EBITDA	**1 192**	**1 260**	**1 213**	**449**	**830**	**1 053**	**1 129**	**1 208**	**1 347**	**1 433**	**1 534**
Report	Depreciation	272	229	254	220	264	264	**264**	**264**	**264**	**264**	**264**
less	Gain on sale of fixed assets	81	165	113	75	69	86	**77**	**77**	**80**	**78**	
	Total Depreciation	353	394	367	295	333	350	**341**	**341**	**344**	**342**	**264**
	Amortization of operating intangibles											
	Ajusted Ebit	884	923	896	293	528	735	**894**	**996**	**1 200**	**1 338**	**1 563**
	Operating Cash taxes	187	195	255	70	82	185	**250**	**279**	**301**	**336**	**392**
	NOPLAT	697	728	641	224	447	551	**644**	**717**	**899**	**1 002**	**1 171**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Free Cash Flow											
NOPLAT	697	728	641	224	447	551	644	717	899	1 002	1 171
Depreciation	272	229	254	220	264	264	264	264	264	264	264
Gross Cash Flow	969	957	895	443	711	814	908	981	1 163	1 266	1 435
Increase in Working Capital	(200)	(77)	220	(186)	409	152	280	280	280	280	280
Capital Expenditures and Disposals[1]	315	429	(430)	(1 535)	(800)	(1 371)	(1 571)	(1 571)	(1 571)	(1 571)	(1 571)
Incr in other operating assets/liabilities		72	(130)	214	96	(217)	31	(30)	(72)	(24)	(42)
Inv in Operating Leases		(15)	(102)	354	(228)	(125)	1	(117)	(80)	(66)	(88)
Gross Investment	115	408	(442)	(1 153)	(523)	(1 560)	(1 883)	(1 704)	(1 699)	(1 762)	(1 722)
Free Cash Flow Excl. Goodwill	854	1 365	453	(710)	188	(745)	(975)	(723)	(536)	(496)	(287)
Investment in Goodwill and Intangibles											
Free Cash Flow Incl. Goodwill	854	1 365	453	(710)	188	(745)	(975)	(723)	(536)	(496)	(287)
AT Interest Income	75	12	17	13							
Interests paid	-35	-30	-34	-51	-75	-87	-87	-87	-87	-87	-87
Taxes	-118	-198	-280	-186	-101	-108	-108	-108	-108	-108	-108
Subsidies	72	19	18	26	22						
Dividends paid/received	-177	-1049	-323	-217	-127	-107	-107	-107	-107	-107	-107
Others	87	-51	39	12	-4	-22	-4	-10	-12	-9	-10
Cash Flow Available to Investors	758	67	(111)	(1 114)	(97)	(1 069)	(1 281)	(1 035)	(850)	(806)	(599)

[1] Net capital expenditures and disposals include financial investments on 4Q08, 4Q07, 1Q08, 2009 and 2010 results

With no more data to the future i made a average of the last years

According to strategic report to 2010-2014, a increase by 0,2 - 0,3 in CAPEX

Appendix 6 Ratios

Ratios	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Operating Ratios											
Cost of Goods Sold / Revenues	-86,84%	-87,45%	-88,09%	-94,35%	-90,30%	-90,03%	-90,03%	-90,03%	-90,04%	-90,04%	-90,04%
EBITDA / Revenue	11,09%	10,52%	10,00%	3,88%	7,11%	7,65%	7,87%	7,99%	8,21%	8,32%	8,43%
Depreciation / Revenues	2,44%	1,83%	2,01%	1,45%	2,18%	1,86%	1,68%	1,58%	1,40%	1,31%	1,22%
Personnel Expenses / Revenues	-2,42%	-2,45%	-2,23%	-1,93%	-2,80%	-2,50%	-2,26%	-2,12%	-1,89%	-1,76%	-1,64%
Reported EBITA / Revenues	10,69%	10,06%	9,61%	2,96%	6,85%	7,42%	7,19%	7,22%	7,16%	7,10%	7,08%
Adjusted EBIT / Revenues	7,92%	7,37%	7,09%	1,94%	4,36%	5,18%	5,70%	5,95%	6,38%	6,63%	7,22%
Return on Invested Capital (average)											
Tangible Fixed assets / Revenues	22,94%	15,81%	16,78%	18,30%	21,99%	25,51%	23,00%	21,59%	19,18%	17,87%	16,64%
Operating Working Capital / Revenues	-1,79%	-0,62%	1,74%	-1,23%	3,37%	1,07%	1,79%	1,68%	1,49%	1,39%	1,29%
Net Other Assets / Revenues	0,11%	2,70%	0,56%	0,40%	0,87%	0,87%	0,61%	0,65%	0,58%	0,52%	0,49%
Revenues / Invested Capital (times)	35,36	29,20	-29,39	-9,87	-15,15	-10,35	-9,99	-10,65	-11,98	-12,85	-13,79
Average ROE	51,26%	56,43%	50,46%	57,61%	25,74%	36,88%	45,33%	36,22%	42,57%	46,03%	45,65%
Growth Rates											
Revenue Growth Rate	NA	12,31%	0,87%	19,93%	-20,03%	17,11%	10,65%	6,56%	12,50%	7,27%	7,35%
Adjusted EBITDA Growth Rate	NA	6,47%	-4,07%	-53,46%	46,58%	25,89%	13,81%	8,28%	15,51%	8,79%	8,76%
NOPLAT Growth Rate	NA	4,42%	-11,95%	-65,09%	99,81%	23,22%	16,96%	11,36%	25,38%	11,47%	16,83%
Investment Rates											
Gross Investment Rate	NA	253,88%	-208,22%	161,00%	-54,63%	198,23%	20,70%	-9,50%	-0,30%	3,71%	-2,29%
Net Income Rate	NA	7,72%	-4,57%	-83,76%	196,89%	27,10%	24,14%	-20,10%	8,65%	2,41%	-4,16%
Financing											
Adjusted EBITDA/Interest payable	35,3	44,2	37,6	11,5	11,5	12,5	14,3	15,5	17,9	19,4	21,1
Cash Coverage (Gross CF / Interest)	27,7	32,1	26,6	8,7	9,5	9,4	10,5	11,3	13,4	14,6	16,6
Debt / Total Cap (Book)	59,80%	61,15%	58,26%	66,50%	68,21%	70,36%	68,73%	69,65%	69,41%	69,82%	70,95%
Valuation indicators											
Enterprise value / EBITA	NA	7,15	15,35	22,91	18,32	17,68					
Price Earnings Ratio	NA	6,58	26,03	12,40	35,26	23,18					

Appendix 7 Valuation

Estiamation of continuing Value

CV =	19 444

	Free Cash Flow	Discount Factor	Present Value of FCF
2010	-745	0,950	-785
2011	-975	0,903	-1 080
2012	-723	0,857	-844
2013	-536	0,812	-660
2014	-496	0,769	-644
2015	-287	0,728	-394
Continuing value	19 444	0,689	28 216
Operating value			23 810
Midyear adjust. factor			1
Operating value, discount to current month			24 310

	Market Value
Value equity	
Value of operations	24 310
excess cash	203
Nonconsolidated investments	286
Other Financial assets	5
Tax loss Carry-forwards	216
Enterprise value	25 021
Short-term Debt	-5 773
Long-term Debt	-2 965
Retirement-related liabilities	-285
Nonoperating provisions	-156
Value of outstanding options	
Minority Interest	40
Equity Value	15 882
Number of Shares outstanding (millions)	829,3
Value per share (euros)	19,151

Appendix 8 Sensitive Analyses

SCENARIO 1 - INCREASE OF TAX SHIELD

Estiamation of continuing Value

CV =	20 097

	Free Cash Flow	Discount Factor	Present Value of FCF
2010	-745	0,950	-785
2011	-975	0,904	-1 078
2012	-723	0,860	-841
2013	-536	0,816	-656
2014	-496	0,775	-640
2015	-287	0,734	-390
Continuing value	20 097	0,696	28 864
Operating value			24 473
Midyear adjust. factor			1
Operating value, discount to current month			24 972

	Market Value
Value equity	
Value of operations	24 972
excess cash	203
Nonconsolidated investments	286
Other Financial assets	5
Tax loss Carry-forwards	216
Enterprise value	25 682
Short-term Debt	-5 773
Long-term Debt	-2 965
Retirement-related liabilities	-285
Nonoperating provisions	-156
Value of outstanding options	
Minority Interest	40
Equity Value	16 543
Number of Shares outstanding (millions)	829,3
Value per share (euros)	19,95

SCENARIO 2 - DESCREASE OF THE DEBT % IN D/V

Estiamation of continuing Value

CV =	24 558

	Free Cash Flow	Discount Factor	Present Value of FCF
2010	-745	0,950	-785
2011	-975	0,905	-1 078
2012	-723	0,863	-838
2013	-536	0,824	-650
2014	-496	0,788	-630
2015	-287	0,754	-380
Continuing value	24 558	0,721	34 044
Operating value			29 683
Midyear adjust. factor			1
Operating value, discount to current month			30 179

	Market Value
Value equity	
Value of operations	30 179
excess cash	203
Nonconsolidated investments	286
Other Financial assets	5
Tax loss Carry-forwards	216
Enterprise value	30 890
Short-term Debt	-5 773
Long-term Debt	-2 965
Retirement-related liabilities	-285
Nonoperating provisions	-156
Value of outstanding options	
Minority Interest	40
Equity Value	21 750
Number of Shares outstanding (millions)	829,3
Value per share (euros)	26,23

Sensitive Analyses

SCENARIO 3 - INCREASE OF DEBT RATE

Estiamation of continuing Value

CV =	14 718

	Free Cash Flow	Discount Factor	Present Value of FCF
2010	-745	0,950	-785
2011	-975	0,887	-1 099
2012	-532	0,828	-643
2013	-408	0,771	-529
2014	-342	0,718	-476
2015	-93	0,668	-140
Continuing value	14 718	0,621	23 692
Operating value			20 020
Midyear adjust. factor			1
Operating value, discount to current month			20 020

	Market Value
Value equity	
Value of operations	20 020
excess cash	203
Nonconsolidated investments	286
Other Financial assets	5
Tax loss Carry-forwards	216
Enterprise value	20 730
Short-term Debt	-5 773
Long-term Debt	-2 965
Retirement-related liabilities	-285
Nonoperating provisions	-156
Value of outstanding options	
Minority Interest	40
Equity Value	11 591
Number of Shares outstanding (millions)	829,3
Value per share (euros)	13,98

	Continuing Value	Enterprise Value	Equity Value	Price of share
Value of the company in the normal scenario	19 444	25 021	15 882	19,15€
Value of the company in the scenario 1	20 097	25 682	16 543	19,95€
Value of the company in the scenario 2	24 558	30 890	21 750	26,23€
Value of the company in the scenario 3	14 718	20 730	11 591	13,98€

(value in millions except if say the unit,)

Appendix 9 Comparison With Barclay's Report

Comparison with Barclays Capital Report

	2006	2007	2008	2009	2010	2011F	2012F	2013F	2014F	2015F
Dissertation's Total operating profit	968	936	167	459	630	770	824	958	1056	1151
Barclays' Total operating profit	686	620	695	284	481	713	1031	1140	1256	1466
Dissertation's EBITDA	1260	1213	449	830	1053	1129	1208	1347	1433	1534
Barclays' EBITDA	736	635	777	607	865	1054	1269	1365	1467	1636
Dissertation's CF form operatons	957	895	443	711	814	908	981	1163	1266	1435
Barclays' CF form operations	655	1285	745	937	791	971	1168	1262	1362	1528
Dissertation's Investment in NWC	-77	220	-186	409	152	280	280	280	280	280
Barclays' Investment in NWC	-74	30	338	181	0	0	0	0	0	0
Dissertation's Capex	429	-430	-1535	-800	-1371	-1571	-1571	-1571	-1571	-1571
Barclays' Capex	-352	-465	-1560	-730	-979	-1184	-1043	-1166	-1307	-1468

	2006	2007	2008	2009	2010	2011F	2012F	2013F	2014F	2015F
Dissertation's EBITDA	1260	1213	449	830	1053	1129	1208	1347	1433	1534
Barclays' EBITDA	736	635	777	607	865	1054	1269	1365	1467	1636

	2006	2007	2008	2009	2010	2011F	2012F	2013F	2014F	2015F
Dissertation's CF form operatons	957	895	443	711	814	908	981	1163	1266	1435
Barclays' CF form operations	655	1285	745	937	791	971	1168	1262	1362	1528

	2006	2007	2008	2009	2010	2011F	2012F	2013F	2014F	2015F
Dissertation's Capex	429	-430	-1535	-800	-1371	-1571	-1571	-1571	-1571	-1571
Barclays' Capex	-352	-465	-1560	-730	-979	-1184	-1043	-1166	-1307	-1468

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8- Table of Acronyms

APV – Adjusted Present Value

β_D – Debt Beta

β_L – Leveraged Equity Beta

β_U – Unleveraged Equity Beta

CAPEX – Capital Expenditures

CAPM – Capital Asset Pricing Model

CCF – Capital Cash Flow

CF – Cash Flow

CFE – Cash Flow to Equity

D – Debt

E – Equity

EBIT – Earnings Before Interest and Taxes

EBITDA – Earnings Before Interest, Taxes, Depreciation and Amortization

D/E – Debt to Equity or Leverage ratio

DCF – Discounting Cash Flow

DPS – Dividend Per Share

ECF – Equity Cash Flow

EPS – Earnings per Share

EV – Enterprise Value

EVA – Economic Value Added

FCF – Free Cash Flow

FCFE – Free Cash Flow to the Equity

FCFF – Free Cash Flow to the Firm

G – Growth rate

IFRS – International Financial Reporting Standards

Kd – Cost of debt

Ke – Cost of Equity

NWC – Net Working Capital

PER – Price earnings ratio

PSI-20 – Portuguese Stock Exchange

PV – Present Value

Rf – Risk free rate

Rm – Return of the market portfolio

Wacc – Weight Average Cost of Capital