Universidade Católica Portuguesa

Catolica Lisbon School of Business & Economics

Equity Research
Mota Engil SGPS

Pedro Miguel Rodrigues Valério Da Silva Moreira, 152110097

Abstract

Equity Valuation has been since the beginning a generator of controversy among authors. New methods have been developed throughout time and even though they are clearly justified, weakenesses have been pointed to each one. The growth, increased speed and connection of modern economies, implies a more detailed and appropriate valuation of corporations. The purpose of this dissertation is to provide a general view over the concept and methods of equity valuation, through a review of the extensive literature and the valuation of Mota-Engil SGPS.

Advisor: José carlos Tudela Martins

Dissertation submitted in partial fulfillment of requirements for the degree of Masters of Science in Economics, at the Católica Lisboa School of Business and Economics, 17th Semptember 2012

I. Acknowledgments

In order to fulfill the development of this dissertation, it fundamental the contact and assistance of a certain group of people, without whom it would not be possible the realization of this academic work.

First of all, I would like to thank Dr.João vermelho of Mota-Engil SGPS, who was always available to provide the information needed for the valuation process and any information regarding the company's operations, as well as the knowledge he provided me regarding the valuation methodology.

Second, I am thankfull to the entire Millenium Investment Bank Equity team. Particularly Dr. Luís Feria and Dr. António Seladas. For being always available and support the comparison between the valuation done in this dissertion and the one realized by the bank.

Last, I am greatful to Professor José Carlos Tudela Martins, for being always available for any doubt regarding the academic work as well the important advices given to improve the dissertation.

II. Overview

Practitioners have developed Equity research with a vast, complex and rich literature, which is the base of this work. As any complex theme, the theories supporting it are debatable and subjugated to different opinions.

In literature terms, the main goal was to provide a general view of the different approaches that compose a company's valuation process. Some contradictory approaches within a certain theory have been exposed, so that the lack of consensus in some points would be observable. However clearness was a concern, so that the main goal of providing a global and real sample would be fulfill.

Some specific questions, such as valuing emerging markets or cyclical firms have been developed due to the nature of the company's analyzed further, but also because of the relevance that both questions are gaining for valuation purposes nowadays.

Mota-Engil SGPS

Company Valuation 2012

1. Executive Summary

Mota-Engil is one of the biggest Portuguese Companies, and the main reference in the construction sector in the Country. Present in 19 countries, spread between Europe, Africa and America, the company operates in two different business areas. Engineering and Construction which is the core activity, and Environment and Services, mainly developed in Portugal.

The Engineering and Construction sector, continues to be the main activity of the company. The exponential increase in order book particularly in Africa and Latin America predicts a positive year for 2012. While in Poland, low EBITDA margins due to high competition turned the market less attractive.

The Environment and Services have recently reached a 20% weight in the total turnover of the company. However, the main incidence in Portuguese market leads predictions to be cautious in this Area. Although an increase in the Logistics operations is expected due to the expansion of exportations in the country.

In terms of investments, the participation in Martifer is overshadowing the good performance of the company in its core activities. And for Ascendi, even though the company knows more or less with what can count for the future, the revaluation of the PPP's by the Portuguese Government may compromise the profitability of the company.

Financially it is also important to highlight the high debt level of the company. Even though the company is making an effort to decrease it, the increase in the order book and the consequent need to expand will hamper the intentions of the company.

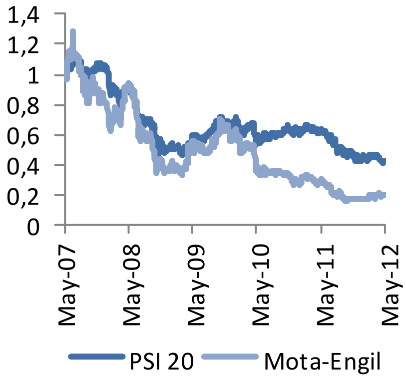
Mota-Engil SGPS is listed in Portuguese Stock exchange, Euronext Lisboa, and at the beginning of 2012 the company valued €1,035 per Share, giving it a upside potential of 58%. For a price target of €1,66 and a market capitalization of approximately €336 million euros.

Recommendation	Buy
Price target	€ 1,92
Price (01/08/2012)	€ 1,006
FY 2012	

Reuters	EGL.LS
Bloomberg	EGL.PL

Upside	91%
No. Shares (mn)	205
Market cap (€mn)	€ 205

PSI-20 vs Mota-Engil



FY	2012(f)	2013(f)
Turnover (€mn)	€ 2.499	€ 2.664
EBITDA mg	13,33%	12,80%
Net Profit (€mn)	€ 79,21	€ 78,57
EPS	€ 0,199	€ 0,198
DPS	€ 0,108	€ 0,108
ROE	9,55%	9,39%
Dividend Yield	6,50%	5,75%

2. Literature Review

2.1 Introduction

Financial markets are constantly growing up, making corporate valuation a more significant process. The importance of proper valuation is now more relevant than ever, as mergers, acquisitions, high volume transactions, IPO's, financial restructuring or project valuation are becoming more common.

Every day, investors, research analysts or portfolio managers deal with the most important question of their activity: How much does a certain asset value? It is this simple question that generates numerous, complex and contradictory answers and may safeguard the health of a certain investment decision. (Pinto, Henry, Robinson, Stowe, 2010)

Listed companies, see their evaluation changing constantly due to changes in macroeconomic variables, the company's business characteristics or the business environment they face.

However, mergers and acquisitions or IPO's involve not only listed companies making the valuation of private companies also part of this complex theme. Analysts tend to follow two different sets of approaches: (1) the use of transaction multiples of other private companies, (2) comparing the company with listed firms, making the necessary adjustments so that a proper value is reached. (Damodaran,2012)

There is no rules book, on what method should be applied in a given company. But it is relevant to choose an accurate model, which may depend on the intentions behind the valuation. The life cycle of a firm, future forecasts or the capital structure, are some of the factors needed to be considered when selecting the valuation methodology (Talmor, Vasvari, 2011).

The main differences between practitioners when computing a valuation, is the assumptions used. Even when using the same method, analysts may reach a wide range of possible values depending mainly on the macroeconomic variables used. Changes in the whole economy, such as exchange rates or inflation, play the main role of valuation techniques with slightly mistakes compromising the validity of the process (Damodaran, 2002).

Corporate valuation is then a process which exceeds the company itself. If the company acts in several countries, there is the need to pay attention to the macroeconomic environment, so forecasts are done properly. The company's competition must not be neglected from the valuation, as well as the portfolio of investments hold by the company.

2.2 Methodology

2.1.1 Dividend discount model

The Dividend Discount Model (DDM), it is widely refer as the oldest valuation method still used. Developed by John B. Williams in 1931, has in its basis the equity cash flows, namely the dividends paid. Considering this, the value of share is defined as the present value of the cash payments, provided by owning the titles. (Armitage, 2005)

According to Brigham and Houston (2011) the cash flows that shares are entitled with depend on two components: (1) The dividends mentioned above that constitute one investor's right. (2) And the price received by the same investor when he sells the shares. Taking into account that the price of a share is defined by the evolution of future dividends, the PV of the same is equal to share's price today.

Although modern literature sometimes looks to the dividend discount model as a very conservative and inappropriate model, some of its assumptions may be used as base concepts for other discounting cash flow methods. To consider this valuation method it is necessary to consider 4 different approaches developed in literature. (1) The Gordon Growth Model, (2) Two Stage Dividend Discount Model, (3) The H Model for Valuing Growth, (4) Three Stage Dividend Discount Model.

Both two stage dividend discount models will not be considered, has they may point to very specific situations and both use opposite approaches.

The Gordon Growth Model is going to be consider for analysis, due to the contribuition of Myron J.Gordon theory (1962), which constitutes a simple improvement of the general form of the DDM, looking forward the perpetuity of the discounted cash flows (Poitras , 2011).

$$\text{Value per Share} = \frac{\text{DPS1}}{\text{Ke - g}} \quad (1)$$

Where,

DPS1= Dividends per share

Ke= Cost of equity

G= Growth Rate

Although it excels for the simplicity of the mathematical terms, the assumption behind the estimation of the cost of equity, demands the usage of an accurate risk free rate, share's beta and equity premium, since the basis of calculation is CAPM (Armitage, 2005).

$$Ke = R_f - \beta_L \times (R_m - R_f) \quad (2)$$

Where,

Ke= cost of equity

R_f = Risk free Rate

β_L= Systematic risk of the company

$R_m - R_f$ = Market Risk Premium

The growth rate used has a determinant impact in the valuation process, has slightly changes of it may have a great impact in value obtained. There are two insights which need to be kept in consideration when computing the growth estimation. First of all, the growth rate estimated is intended to last forever and secondly it must assume reasonable values, specifically within the growth rate of the economy, (damodaran, 2011)

2.1.2 Multi-Stage Dividend Discount Model

However, some companies may reveal unstable growth rate, dividends or payout ratios, essential factors for the well function of the Gordon model. In this case we may consider a Multi-Stage approach, particularly a three stage Dividend Discount model.

$$P_0 = \sum_{t=1}^{t=n1} \frac{EPS_0 \times (1+g_a)^t \times \Pi_a}{(1+k_{e,hg})^t} + \sum_{t=2}^{t=n2} \frac{DPS_t}{(1+k_{e,t})^t} + \frac{EPS_{n2} \times (1+g_n) \times \Pi_n}{(k_{e,st} - g_n)(1+r)^n} \qquad (3)$$

Where,

EPS_t = Earnings per share, year t

DPS_t = Dividends per share, year t

g_a = Growth rate, high growth period (n1 periods)

g_n = Growth rate, infinite stable period

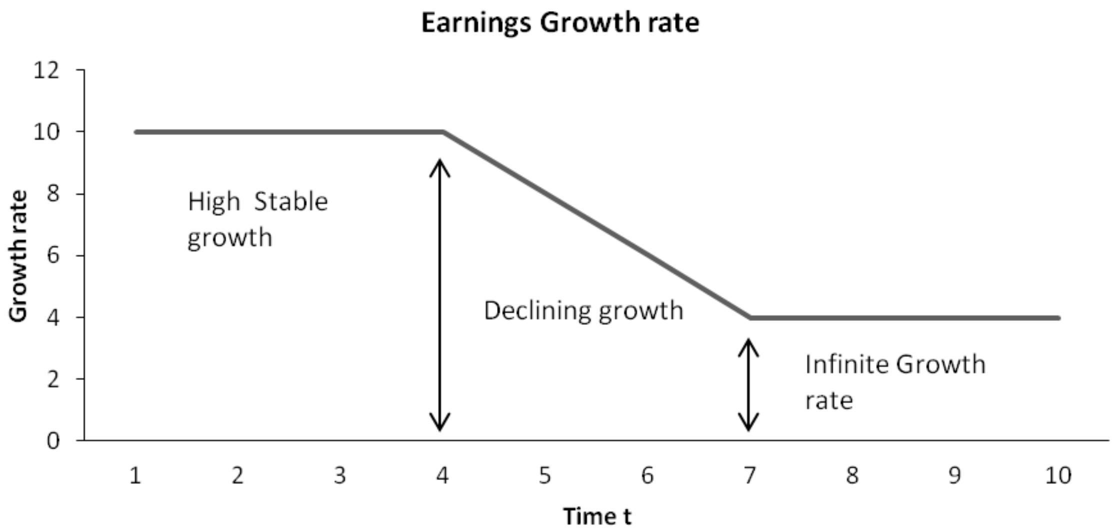
Π_a = Payout ratio for the high growth period

Π_n = Payout ratio for the Infinite stable growth period

k_e = Cost of equity, for all different periods, (hg), (t), (st)

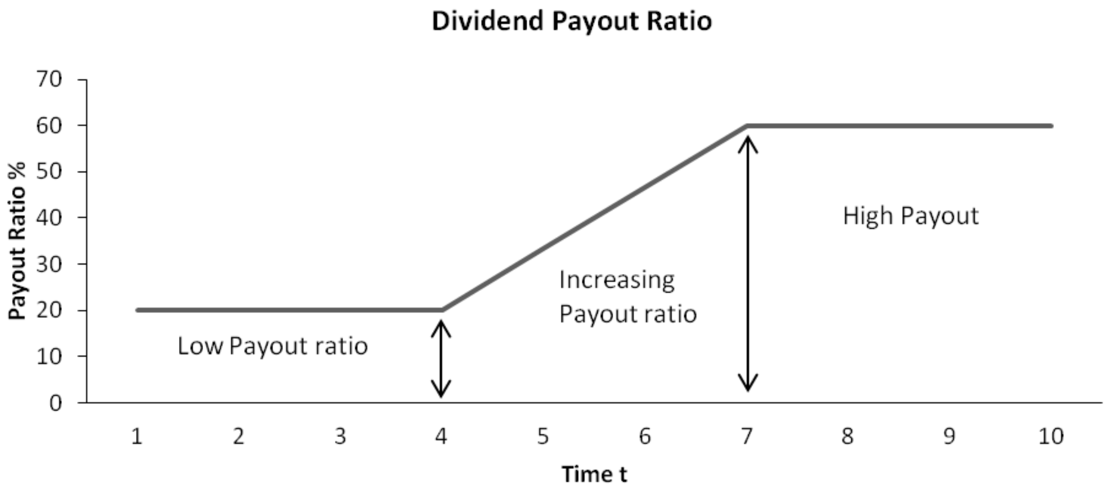
The three stage growth model has become the most famous multi stage approach. It assumes that all companies go through three phases, imposing a higher flexibility in terms of growth rate, market risk and payout ratios, in comparison with the Gordon Model .

Figure 1: Growth DDM; Three stage model



So, as it is showed in the image above, in a first phase, the company faces a high growth rate experience, probably above the economy's growth rate generating high and rapid earnings. In transitional phase the company is starting to become mature, and cash flows and growth rate are now turning towards the general economy. At the end in the third and final stage, the company is expected to grow at the same level of the economy as a whole, in a infinite stable state(Fabozzi, 2009).

Figure 2: Payout ratio; Three stage Model



Although it seems strange in graphical analysis, in the final stage, investors may receive higher dividends, as the investment needs of the company are now lower.

2.2 Discounted cash Flow

The Discounted Cash Flow method (DCF) uses in its basis, the projections related with future cash flows of a company, discounting this same cash flows at a determined rate in order to achieve the present value.

In General, Financial authors describe four different approaches to value a company by so: 1) Free Cash Flow to the Firm (FCFF), 2) Free Cash Flow to Equity (FCFE), 3) Adjusted Present Value (APV), and 4) Capital Cash Flows (CCF) (Oded & Michel,2007)

$$\text{Value} = \sum_{t=1}^{t=n} \frac{CF_t}{(1+r)^t} \qquad (6)$$

Where,

CF_t = Cash Flow at period t

r = Discount rate

Although through a basic analysis, it seems an easy, clear and precise method it has been shown in different literature that the clearness of the method has been challenged by different authors.

In order to particularly analyze this method we need to consider some key concepts, as the free cash flow (FCF), the cost of capital (WACC), the cost of equity (ke), growth rate (g). These concepts have been debated by different authors and different perspectives will be presented here.

2.2.1 The differences in the DCF model

The DCF method as well as the other valuation approaches, is defined through massive assumptions. Slightly movements on the assumptions made differently by analysts will tamper the final results obtained. The valuation results from future predictions of numerous variables must be made in different prediction scenarios, in order to absorb the possible changes in macroeconomic factors (Steiger, 2008). In a “Bear case”, predictions are made in the case a negative performance is expected for the company. In the opposite direction goes the “Bull Scenario”, with basis for “base to base scenario” resulting for management estimations.

When considering the DCF valuation approach, 2 different paths may be considered for the analysis. First we may look to the Enterprise valuation models, considering the operation cash flows generated by the company. And on the other hand, the equity holder’s rights on the same cash flows.(Koller, Goedhart, Wessels, 2005).

The usage of Enterprise valuation models has been widely defended by authors. According to koller, Goedhart and Wessels (2005), this occurs because of the relevance that the majority of authors give to the operational cash flows for valuation purposes.

Since it is more popular between authors we are going in first hand to develop this question, developing after the equity approach based on the equity holder’s claims.

2.2.1.1 FCFF

According to Damodarn (2002) the FCFF approach is based in prediction and sum of future cash flows that are rightly entitetled to all of the company’s claim holders, including bondholders, stockholders and preferred stockholders.

Four main issues must be considered in the FCFF valuation approach:

1. Estimation of future cash Flows

2. Estimation of the accurate discount rate

3. Both the costs of Equity and Debt

4. How does the valuation incorporate the impact of taxes

$$\text{Value of the Firm} = \sum_{t=1}^{t=n} \frac{\mathrm{FCFF}_t}{(1+\mathrm{WACC})^t} \qquad (5)$$

Where,

$FCFF_t$ = Free Cash Flow Firm in period t

WACC = Weighted average cost of capital

Each of these subjects has been highly discussed in literature, leading to supported differences in each of them. However, here we are going to follow the theory that mainly supports the reasoning behind the valuation made.

Damodaran (2002) has defined two different ways of estimating the free cash flow to the firm. First, we may add to the cash flows to equity the part relative to the claim holders, on the other hand and most used, we may compute the EBIT net out taxes and reinvestment needs, and giving us an estimate of the FCFF.

$$\mathrm{FCFF} = \mathrm{EBIT}(1-\mathrm{t}) + \mathrm{Depreciation} - \mathrm{Capital\ Expenditures} - \Delta\,\mathrm{NWC} \qquad (6)$$

The widely usage of the DCF model, namely the FCFF, turned the method popular, among Financial Analysts and investors. Besides the mechanization of the process, usually, when an investor acquires a company, it takes over the total amount of liabilities, whether they are debt or equity. (Steiger, 2008).

However the estimation of future cash flows has raised several theories, with some authors considering another concept

$$\text{FCFF} = \text{NOPLAT} + \text{D\&A} - \text{Capex} - \text{increase in NWC} \quad (7)$$

Taking into account these two different approaches of calculating the FCFF, we are going to consider the analysis demonstrated by Damodaran (2002) for forward analysis. The reason behind this choice is related with the fact, that the FCFF uses information that can be gathered through the financial statements.

After estimating properly the free cash flows, we need to consider the discount rate used. Several authors defend that the most important step of the valuation process, starts with the estimation of the cost of capital, the key input of the process. The Weighted average cost of capital (WACC), represents the sum of the weighted costs of the equity capital (ke) and debt (Kd), each properly weighted in the capital structure(Bierman, 2010). Considering this we obtain:

$$\text{WACC} = \frac{D}{D+E} \times K_d \times (1-t) + \frac{E}{D+E} \times K_e \quad (8)$$

Where,

$\frac{D}{D+E}$ = Debt-to-value ratio

K_d =Cost of Debt

t = taxes

$\frac{E}{D+E}$ = Equity-to-value ratio

K_e = Cost of Equity

Before proceeding with the analysis, we need to mention that the WACC must be analyzed, not as a return rate but as a discount one. Its construction aims to lead, in valuation terms, from the cash flow of the firm as unlevered to the levered value of the firm (Oded and Michel, 2007).

To estimate the weighted average cost of capital, we need to consider three different components: the cost of equity, the after-tax cost of debt and the company's target capital structure. Considering this, different models, assumptions and approximations may be considered in order to estimate each component since none of them can be directly observable.

2.2.1.2 FCFE

The DCF model composed by the free cash flow to equity (FCFE) will lead the valuation process directly to the equity value, and not to the enterprise value obtained through the usage of the free cash flow to the firm.

If we consider a direct comparison with the DDM model, which states that only the cash flows received by the shareholders are taken into account, we may adulterate the valuation in the case of firms that do not pay dividends to investors (Damodaran, 2012). This way, it is possible to bridge the main limitation of the DDM model, which means valuing firms with no zero payout ratios (Madura, 2010)

$$\text{Equity value} = \sum_{t=1}^{t=n} \frac{FCFE_t}{(1+k_e)^t} \qquad (13)$$

Where, (Damodaran,2012)

FCFE = Free Cash Flow to Equity

K_e = Cost of Equity

t= t periods

The main question under this approach is then the estimation of the free cash flow and the discount rate. Damodaran (2012), defines the FCFE as following:

$$\text{FCFE}=\text{FCFF} - \text{Interest}(1-t) - \text{debt repayment} + \text{debt issue} - \text{preferred dividends} \qquad (14)$$

As can be observed in the formula, in order to estimate the FCFE, we start from the net income, subtracting capital expenditures as a cash outflow and adding back depreciations because they do not represent a cash expense. Variations in net working capital are considered as they increase the cash flow available for equity holders, as well as the effect of debt changes in the cash flows.

However, the estimation of the FCFE may become easier than it seems, if we consider some assumptions regarding the debt ratio, capital expenditures or working capital needs**.**

2.2.1.3 Capital Cash Flow

Now let’s consider a second approach linked with the Enterprise Value, the cost of capital which is in part similar to the FCFF. According to the main developer of this methodology (Ruback, 2000), the

Capital Cash Flow prizes the simplicity, of using the same assumptions as the FCFF but valuing in a different way. According to the author, the present value of the tax shields is included in the cash flows, using the cost of capital before taxes as the discount rate

The main difference respects in way the present tax shields are treated. Ruback(2000), supports the alternative as the best suited when valuing risky cash flows. As the tax shields are seen as a cash flow which does not decrease the value of them. For the author, CCF is more properly used when the present value of tax shields has a major impact in the valuation results, namely capital restructuring or high leveraged operations.

$$\text{Value of the firm} = \sum_{t=1}^{t=n} \frac{FCFF_1}{(WACC_{bf} - g_n)} \qquad (16)$$

Where,

$FCFF_1$ = Free Cash Flow to the Firm in the next period

$WACC_{bf}$ = Weighted average cost of capital before taxes

g_n =Growth rate

Ruback (2000), states that the riskiness of the CCF's is the WACC before taxes, where both the cost of equity and debt are determined through the CAPM.

$$\text{Pre-tax WACC}=\frac{D}{V} \times K_d + \frac{E}{V} \times K_e \qquad (17)$$

Even though, it has been explored throughout literature, some authors have prefered to base their opinion on the limitations of the CCF's method. Koller, Goedhart and Wessels (2005) believe that FCFF and CCF lead to the same results, however the first one is more accurate than the CCF.

2.2.1.4 APV

The APV method has been discussed throughout literature by several authors. The valuation process has followed the discipline of Modigliani and Miller, who defended that only market imperfection such as taxes or distress costs would affect the value of a firm. Damodaran (2012) claims that in the APV approach we consider three different parts. The unlevered value of the firm, discounting the cash flows at the unlevered cost of equity, the costs (bankruptcy costs) and benefits (Interest tax shields), which appear when debt is added to firm's capital structure. We this we obtain[1]:

$$\text{APV} = \text{Enterprise Value}_{\text{all equity financed}} + \text{PV}_{\text{tax shields}} - \text{Expected Bankruptcy costs} \quad (18)$$

If we analyze the different parts that compose the APV approach separately, we should start by estimating the value of the unlevered firm. Through that we obtain the following:

$$\text{Value of the Unlevered firm} = \frac{\text{FCFF}_1}{(\rho_U - g)} \quad (19)$$

Where,

$FCFF_1$= After-tax Free Cash Flow to the firm in period 1

ρ_u = Unlevered cost of equity

g = growth rate

When estimating the value of the unlevered firm we must not forget that the company may be under the assumption of constant growth, and as in the other free cash flow approaches a perpetuity may be considered.

We now reach on of the main differences of the APV approach when compared with the WACC model. As we have seen before, the APV method sums the value of tax shields to the present value of equity in order to reach the current value of the firm. Like the CCF method, tax shields are then better treated when compared with the WACC. The support comes from the believe that debt ratios fluctuate over time, and in this cases the value of the tax shields and their impact on the valuation will be mis-valued by the WACC approach. (Koller et all, 2005)

However the estimation of the present value of tax shields has been one of the most debated questions throughout literature. Linked with the subject of capital structure and particularly the question of the usage of constant or rebalanced debt ratios, has been discussed by authors such as Ruback, Damodaran, Koller or Harris and Pringle.

Koller, Wessels, Goedhart (2005), have a particular and interest point of view regarding how tax shields need to be treated, depending on the debt ratio policy implemented throughout the years. If the company defines a certain target ratio level, debt level will tend to follow the company's growth.

[1] Source: Investment Valuation, Tools and Techniques for Determining the value of Any Asset; Damodaran (2012)

In this case, what happens is that the tax shields will follow the value assumed for the operating assets.

$$k_{txa} = k_u \quad (20)$$

$$k_e = k_u + \frac{D}{E}\left(k_u - k_d\right) \quad (21)$$

Where,

$k_{txa} = k_u$ = the risk of the tax shield matches the operating asset's risk

On the other hand, if the debt ratio fluctuates over time, the value assumed for the tax shields will be easily linked with the forecast value for the debt.

$$k_{txa} = k_d \quad (22)$$

$$k_e = k_u + \frac{D - V_{txa}}{E}\left(k_u - k_d\right) \quad (23)$$

The unlevered cost of equity is then, in the first approach linked with target debt to value ratio, as well as the cost of equity and debt verified. While in the second approach both the cost of equity and debt verified, as well as the inconstant debt to value ratio and the consequent value of the tax shields, determine this same cost (Koller,2005).

This secondary approach proposed by Koller et all (2005), seems more reasonable, has companies usually tend to change their capital structure during their life. Whether for investment needs or restructuring measures, it turns more easily to accept non-fixed debt policies, since their more realistic. (Ruback,2000**)**

The APV method in its theory, takes also into to account the present value of Bankruptcy costs. Where the present value of the costs of financial distress are given through:

$$\text{Probability}_{\text{bankruptcy costs}} \times PV_{\text{bankruptcy costs}} \quad (24)$$

Perhaps the main challenge and possible disadvantage in using APV comes at this point. As it is difficult to predict cost associated with the financial distress and the probability of happening. (Fabozzi, Drake, Polimeni, 2008). With this in mind many authors use the APV considering only the value of the all equity form and the present value of tax shields, meaning that the value of the firm may become overstated by not accounting the bankruptcy probability.

2.2.2 Important issues to consider in the DCF methodology

2.2.2.1 Cost of equity

We start now, analyzing the cost of equity as a composing part of the WACC. Determined as a cost for a company, it represents the return that investors require to compensate the risk of investing their capital.

$$Ke = R_f - \beta_L \times (R_m - R_f) \qquad (9)$$

The capital Asset Pricing Model (CAPM) has gained popularity among authors, as the most common approach to determine the cost of equity. The method consists in the sum of the risk free rate, with the product between the systemic risk of the company and the market premium. (Subramanyam, 2008)

Although the is widely recognized, CAPM'S has rised some empirical doubts about it (Pratt, Grabowski,2010). Other approaches have criticized the components used by the model, namely the company's beta. The three factor model developed by Eugene Fama and Kenneth French as well as the APM (Arbitrage Pricing Model) provides an alternative theory. Where not only one market risk is considered but several are taken into account, using different Betas and market premiums (Pratt, Grabowski, 2010).

However, CAPM is simpler and easier to understand and apply. The main assumption behind the model is that, investors may hold well diversified common stock portfolios in order to spread out the risk (Pratt, Grabowski, 2010).

2.2.2.2 Cost of debt (Beta)

When composing the CAPM, besides the estimation and application of the risk free rate and the equity risk premium already mentioned, there is also the need to estimate the Beta.

Although there are several ways of doing it, the most common consists in comparing the share's returns (Ri) and the market return (Rm) in regression model, during a certain time period. The regression is highly sensitive to the extension of the period in analysis, usually being used by analysts, periods from 2 to 9 years. (Clayman, Fridson, Troughton, 2012)

$$R_i = a + bR_m \qquad (10)$$

Where,

R_i =Share's returns

a = estimated intercept

b = Slope of the regression

R_m = Market return

The slope of the regression is equal to the beta of the company, so:

$$\beta = \frac{\text{Covariance}(R_i, R_m)}{\text{Variance}(R_m)} \qquad (11)$$

Other approaches, have been developed by other authors, as the "Bottom Up" approach, which is based on the usage of the unleveraged Beta for the Industry or business type, adding up the leverage of the company, according to the debt ratio or target capital structure (Meyer, Mathonet, 2005). According to Damodaran (2002), the main advantage of this approach consists in the fact that averaging the unleveraged beta of the business may reduce the risk of the approach.

2.2.2.3 Risk free rate

The estimation the risk free rate is linked with the Treasury bond, usually with a 10 year maturity. Some authors define it, based on U.S Treasury securities, namely short-term securities, where the inflation has a low or even absent impact. (Brigham, Ehrhardt, 2010). In Europe, the tendency was to use the German Bund, the 10 Treasury bond for Germany, however recent foreign crisis in Europe has raised the question about the riskless factor of the bunds.

Choosing the accurate figure, has shown to be mainly a theoretical problem. Analysts nowadays tend to realize a portfolio of foreign currency bonds, computing the average between them, or simply selecting a rate adjusted for the risk level. (Greer, Kolbe, 2003)

2.2.2.4 Risk premium Rate

The equity risk premium represents the incremental amount that investors demand for a certain investment when compared with the risk-free rate, which represents the time value of the money. (Pinto, Henry, Robinson, Stowe, 2010)

$$\text{Required return on equity} = \mathrm{R_f}\ \text{return} + \mathrm{Equity}\ \text{Risk premium} \qquad (12)$$

The risk premium differs from market to market, it differs throughout time, and it affects differently several economy sectors. The complexity behind the concept, does not allow a consensus among authors. If we consider Standard & Poors (S&P) 500 Index, in a eighty year period, from 1926 to 2006, the equity return exceeded the U.S Treasury Bill by 6,6% (Goetzmann, Ibbotson, 2006). However, data also shows that the returns are now decreasing, since for the 1926-1974 period, the same comparison amounted for 8,1%, leading to possible expect a downgrade for the future.

2.2.2.5 Terminal value

The terminal value is an extremely important concept in valuation terms, since the its weight will have a big impact in a company's value. The estimation of an appropriate growth is essential to provide validity to the process. Authors have developed several theories in order to reach a proper value. (see appendix 1)

2.3 Relative Valuation (Multiples)

The use of DCF method has become highly used has the principal valuation method. However the complexity of its usage has induced different authors to developed different approaches around the general method, showing evidence of weaknesses of the model.

With this in mind it is appropriate to consider other processes of valuation, namely the Multiples approach. Which has become popular among analysts and investors in order to particularly understand, whether a certain stock is under or over-valued when compared with the industry or simply the peer group chosen for the analysis (Vishwanath, Krishnamurti, 2009).

Authors have debated in terms of peer group, equity vs entity multiples and the influences of economical variables, since the valuation is then obtain through comparable companies in the market, the method is known as relative valuation

2.3.1 Importance of defining a good peer group

We need to consider from now on, in the multiples valuation the importance of choosing the accurate peer group, the comparable firms in the industry or market. Even inside the same industry it may be difficult to find similar firms, because financial structures, future investment opportunities or growth perspectives may differ across a given industry making it difficult to create a comparable peer group. Analysts, believe that different characteristics, non comparable between companies, annul each other out, making the use of multiples effectual. (Palepu, Healy, 2008)

However it is more reasonable to understand that the criteria of comparison may differ from multiple to multiple. In a practical example, if we consider the P/E multiple, debt ratio among companies must be similar, in order to avoid high differences in the number of shares and by consequence in the earnings of per share, adulterating the result of the valuation. (Vishwanath, Krishnamurti, 2009)

2.3.2 Enterprise vs equity multiples

As it happened with the DCF model, there is the possibility of using the Multiples approach in two different ways. One linked with the enterprise value, related with all the claims using data such as sales or EBIT and another other equivalent to the claims of equity shareholders, thus using sources as earnings.

Both methods show limitations and advantages regarding each other. If we consider the teachings of Modigliani & Miller (1963), the existence of taxes may encourage managers to use debt, in order to create value for shareholders. The tax benefits of leverage as well as the costs of financial distress have an influence on the firm’s value, affecting less entity value multiples, encouraging the use them for valuation purposes.(Schreiner, 2007)

2.3.3 Using the right multiple

Although it has been mentioned before that enterprise multiples may be more accurate, it is one equity approach that is the most used in valuation. The price earnings ratio (PER), gains advantage through the attractiveness it offers by its simplicity. It is mainly used to price public offerings, and to triangulate a company’s value, giving the investor the information whether a stock is over or undervalued (Pinto, Henry, Robinson, Stowe, 2010). However analysts tend to ignore the financial fundamentals of the approach, mis-valuing the company and the method (damodaran 2012). The reasoning behind PER, is to give the investor the information whether a stock may be over or under valued.

$$PER = \frac{P_0}{EPS_0} \qquad (28)$$

Where,

P_0 = Market price of a share in t=0

EPS_0 = Earnings Per Share in t=0

In an extreme situation PER may mis-value totally the value of a company, in the beginning of the century, the technological bubble lead several companies of the sector to negative earnings. However PER was still considered as a valuation choice, tampering the results obtained (Stahl, 2004).

The PER's restrictions have aroused throughout the authors and analysts the usage of the EV/EBITDA approach. Besides the fact that it constitutes an enterprise valuation method, Damodaran (2012), points three advantages of using it over the price earnings ratio.

(1) Although it is more common to find companies with negative earnings in the market, it is far more difficult to find the same situation in EBITDA terms. (2) The different settings of depreciation rates assumed by different companies will not have effect, since the EBITDA measure preecedes the accounting of the same. (3) At last, the financial structure of the companies analyzed may not have a vast effect on the valuation, since debt costs like amortization are taken into account after the estimation of the EBITDA.

As a final remark even though PER prizes simplicity, when compared with EV/EBITDA the tendency is now changing for the application of the last one among authors, and particularly between analysts and investors.

2.4 Options valuation

Although it is not going to be developed further on in the dissertation, the "Options Valuation" model is here mentioned due to the relevance it has for some specific cases.

The method claims for valuing flexibility and it has gained notoriety mainly in the commodities industry, as well as companies in financial distress or sellers of single products. (Koller et all, 2005)

The Black and Scholes model (1972) has been highly used since its creation particularly for decision making processes in the commodities and natural resources businesses or R&D investments (Luehrman, 1997).

2.5 Other Valuation approaches

Even though they are not used for the dissertation purposes it is necessary to refer the excess return valuation approaches, particularly EVA and Dynamic ROE, both measuring the excess returns that a given expects to obtain from a certain project or assets. (see appendix 2)

2.6 Other Valuation Issues

Macroeconomic factors have a high impact in valuation terms and now more than ever, with the Globalization process reaching its peak, valuing emerging markets and companies with a performance highly influenced by economic factors is more important than ever. (see appendix 3)

3. Mota-Engil SGPS

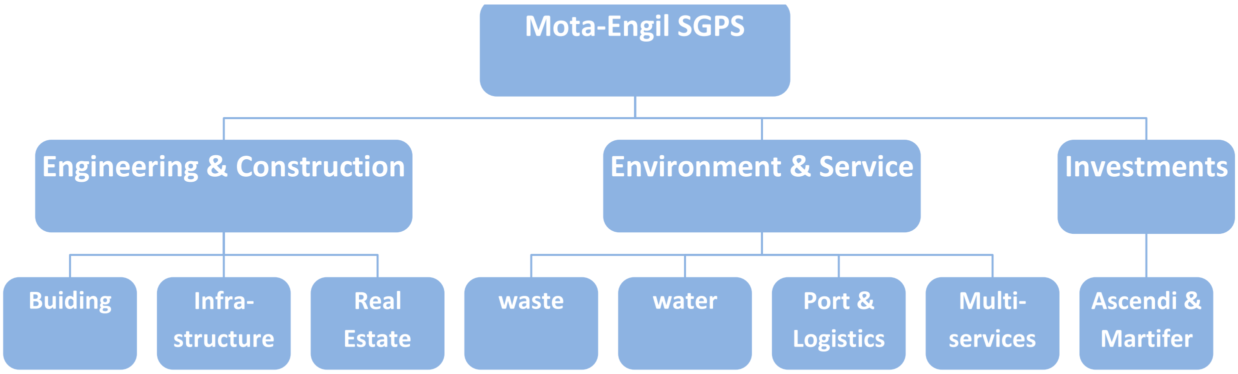
3.1.1 Company Presentation

Mota-Engil SGPS is today, the largest Portuguese company in the sector of civil and public construction, being a result of the merger between Mota and Engil, back in 2000. However before the merger, both companies acquired experience for several years, at national and international level. Mota & Companhia, was created in 1946 by Manuel António da Mota, and in the same year the company opened a branch in Angola, and by 1952 it was awarded with the first big international project, the Luanda's International airport. It was also in 1952 that the Engil, Sociedade de Engenharia, Lda was founded, by António Lopes de Almeida and Fernando José Saraiva.

Internationalization is since the beginning a major concern and philosophy for Mota-Engil, the small dimension of the domestic market and more recently the macroeconomic environment lived in Portugal, forced the company to seek for foreign opportunities. Nowadays, the company develops activities throughout 19 countries, spread between Europe, Africa and America, making the process of internationalization the essence of growth of the group.

Besides internationalization, Mota-Engil has also diversified its activities to other business areas, in order to seek for new profitable opportunities. The company is now structured in three different areas: Enginnering & Construction, Environment & Services and Investments.

Figure 3: Mota-Engil Structure 1



Source: Mota-Engil SGPS 1

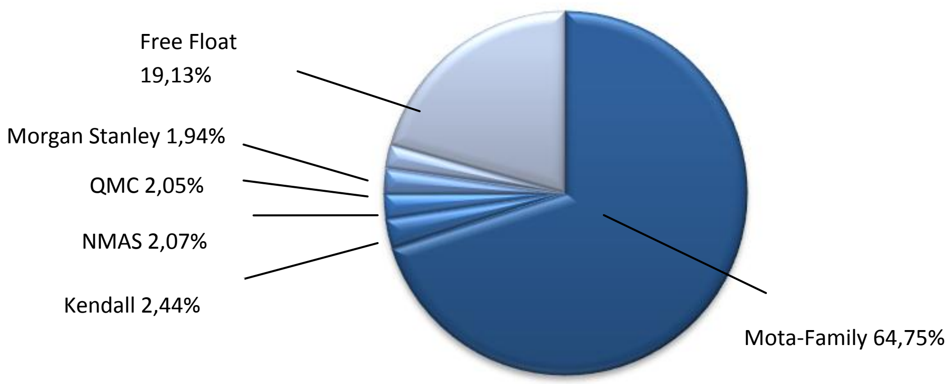
Although it is not the only business area of the group, has Services & Environment are gaining more importance nowadays, Engineering & Construction represent the core area of the group. Has it is the engine for the leading position in Portugal as well for the internationalization process.

Economically the company has been growing in recent years, mainly due to the strong operational presence in Africa and more recently in Latin America. (see appendix 4 for details on the financial figures of Mota-Engil)

3.1.2 Shareholders Structure

Eventhough the company is listed at the stock market, the shareholder structure of company, has been stable throughout time. Approximately 2/3 of the company are owned by the Mota family, meaning that the free float present in the market assumes very low levels as well as the volume of transactions on the stock exchange.

Figure 4:Shareholders Structure



Source: Bloomberg

Such structure may grant the company some stability in terms of management, since the majority of capital is control of the company’s managers. However, regular investors may have difficult to enter the shareholders structure of the company, has the Mota family position in the company, may give them the incentive to prefer debt over equity funding, in order to maintain the control of the company and avoid the overlap of their interests.

3.1.3 Martifer

Martifer Group is a multinational company based in Portugal, acting mainly in the metallic construction and solar energy sectors. The company is listed in the stock exchange since 2007 and by the following year Mota-Engil acquired a strategic position in Martifer Group, holding nowadays 37,5% of the equity claims of the group. Martifer, holds positions in 19 countries including Polond, Slovakia and Angola where Mota-Engil also holds strategic operations.

The company has shown high growth rates during the mid 2000’s, mainly in the solar energy sector due to high investments made in renewable energies on the past decade. However, recently Martifer’s activity has been highly compromised by the same macro-economic factors that have conditioned Mota-Engil’s activity, particularly in Portugal. The intensification of the sovereign debt crisis and the more restrict budgetary policies have delayed or even frozen some projects. This policies allied with the disinvestment on renewable energies had a severe damage on Martifer’s operations, and the results have been reflected on the company’s figures. (see details on Appendix 5)

3.1.4 Ascendi Group

Ascendi Group SGPS, results from a partnership made between *"Mota-Engil Concessões de transportes, SGPS, SA"* and *"Espírito Santo concessões, SGPS, SA"*. Mota-Engil, holds 60% of this partnership created by the end of 2006 in order to obtain synergies from exploring road concessions on highways build by the company.

By 2012**,** the group is expected totalize 3000km of highways under concession, with more than a 1500km in Portugal, through 11 concessions and the rest spread between, Spain, Mexico, Brazil and Mozambique, with a total investment of €10 85amillion. (see appendix 6 for detailed concessions)

Table 1: Ascendi Concessions

Concessionarie	Km	Investment €mn
Portugal	1608	8491
Spain	156	810
Latin America	475	859
Africa	701	151
Railways concessions	20	338
Total	**3046**	**10854**

Source: Mota-Engil SGPS

However the concessions managed by the Ascendi Group are now being reviewed by the Portuguese government, mainly due to the austerity measures applied in the country which led to the revaluation of the public-private partnerships (PPP). This means that the concessions contracts may change in the near future, with the payments made to Ascendi being reduced.

3.1.5 Mota-Engil in the Stock Exchange

The financial crisis in euro area witnessed during 2011 as an extension of what happened in 2010, had a severe impact on the financial markets, requiring financial aid conceded by IMF and the European Union to Portugal, Greece and Ireland. The Contagion to Spain and Italy, two of the largest

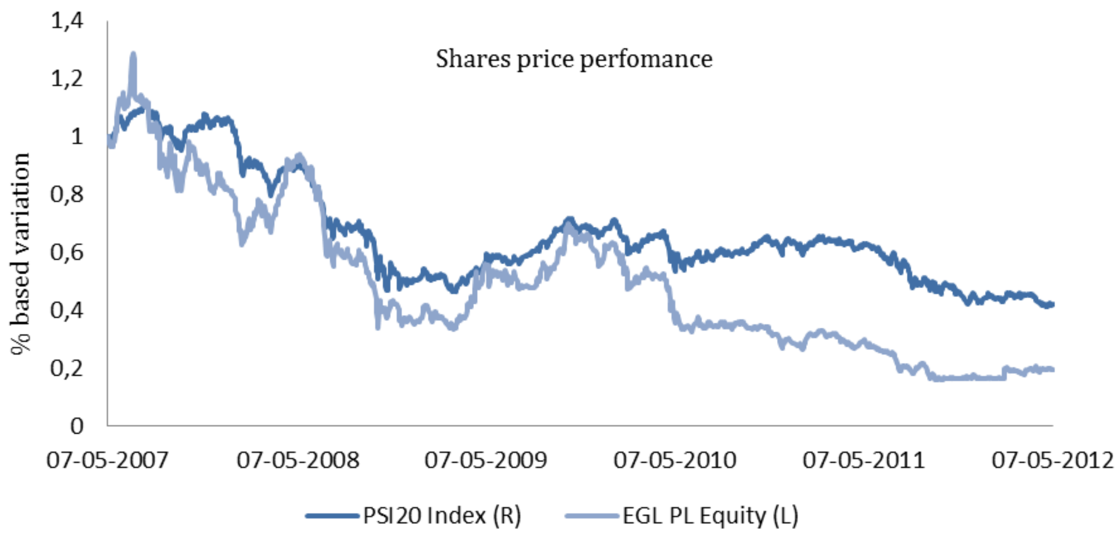
European economies seems now more real than before and the efforts by the European Central bank to control the increase in the interest rates of government bonds, has been highly compromised.

The 1.5% average GDP growth for the Euro area in 2011[2], and the low perspective for the next two years, brought down the confidence levels of investors, leading to a massive capital flight, particularly in the peripheral countries of Europe. The suspension of large construction projects in Portugal and Europe, lead to reluctant expectancy regarding the performance of the construction and public works sector.

Mota-Engil SGPS is a Portuguese listed Company at the Euronext Lisbon Stock Exchange. In terms of index weight as well as market capitalization, the company is only in 19th position, only ahead of “Sonae Indústria SGPS SA”, with index weight of 0,5% and a market cap of €250 million.[3]

During 2011, Mota-Engil shares loss 41% of its value, which allied with the 56% drop in 2010 has made, represents a loss of € 182 million.

Figure 5: Shares performance (2007-2012)



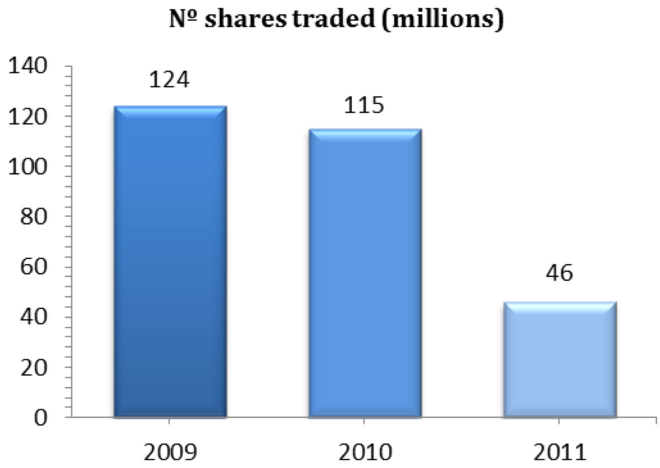
Source: Bloomberg

[2] Source: Eurostat

[3] Source: Bloomberg

During 2011, 46 million shares were traded, 60% less than 2010, a decrease following the trend of the Index. PSI-20 has lost more than half of its value in past 5 years, being severed damaged by the financial crisis that plagues Europe, and particularly Portugal.

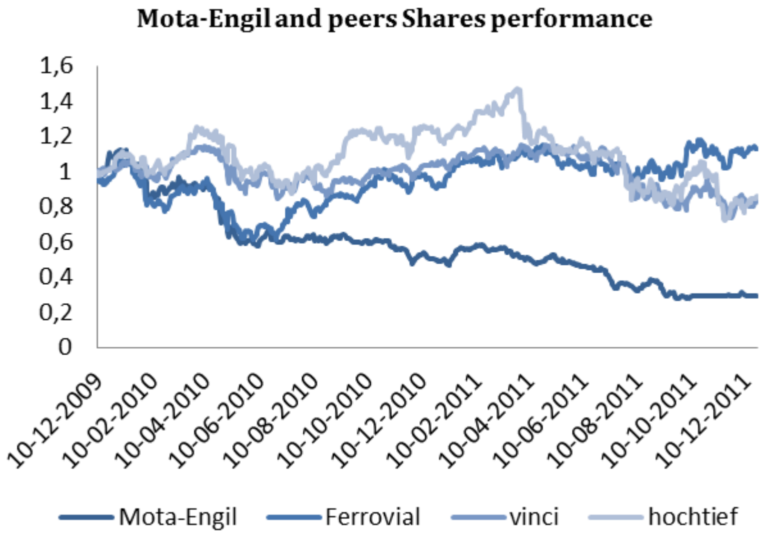
Figure 6: Nº of Shares traded on PSI-20 1



Source: Mota-Engil SGPS

When compared with some international peers, Mota-Engil, has been highly punished by the markets. The sovereign debt crisis faced by Portugal, as well as the importance of the internal market for the company’s performance, led to a suspicious and cautious predictions regarding the future of Mota-Engil.

Figure 7: Mota-Engil&Peers Performance "2010-2011"



Source: Bloomberg

As we may see above, even in an above average risk business, some European competitors, Ferrovia (Spain), Vinci (France) and Hochtief (Germany), have been able to minimize the European crisis and the crash of the sector. In the Past two years, Vinci and Hochtief lost approximately 15% of their value, while Ferrovial increased by 13%. Mota-Engil, punished by the Portuguese market, lost 70% of its value.

3.2 Industry overview

In order to conduct a proper valuation process of Mota-Engil, we need to conduct an overview from the different sectors the company operates, as well as the different competitors and the macroeconomic variables that influence the operating activities of the group. The hugeness of the operations in geographical terms implies an accurate study of these variables, due the great impact assumptions may generate in the valuation.

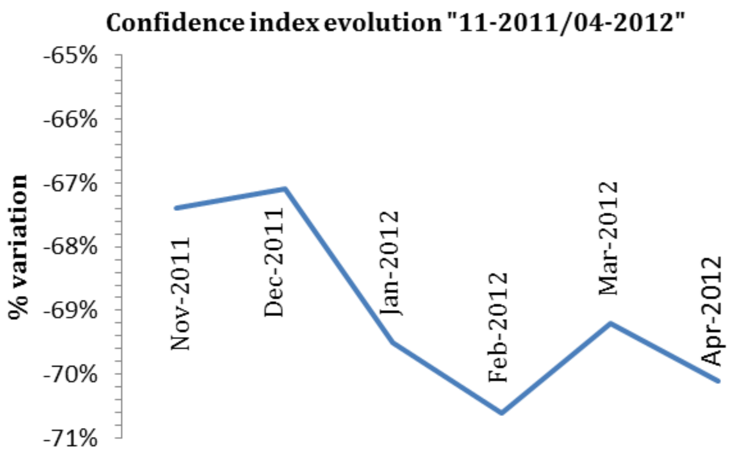
3.2.1 The construction sector, Engineering, Cement and GDP in Portugal

The sovereign debt crisis which is affecting the European peripheral countries, particularly, Greece, Portugal and Spain has resulted in the forced use of austerity policies, with direct consequences for the economical growth. GDP figures are reviewed constantly, pointing to severe recession values, damaging directly the construction sector.

For several years, the Portuguese economy was known as dependent of the civil and public construction sectors. It was in this sector that Mota-Engil gained a prestigious position, being awarded with several public projects that have increased the order book of the company for years. However, the general paradigm is changing, has the construction business areas are now becoming less attractive, with lower margins and worst profitable expectations.

Recent forecasts point to a more severe recession than what was expected, with Eurostat predicting a reduction of 3.3% in GDP terms for 2012. The confidence of the sector has felled down almost 3%, in the last 6 months, has figure (8) indicates us. And if we consider the year basis is 1997, the accumulate decrease of the confidence level in the last 15 years is near 70%.

Figure 8: Confidence index, construction Sector in Portugal

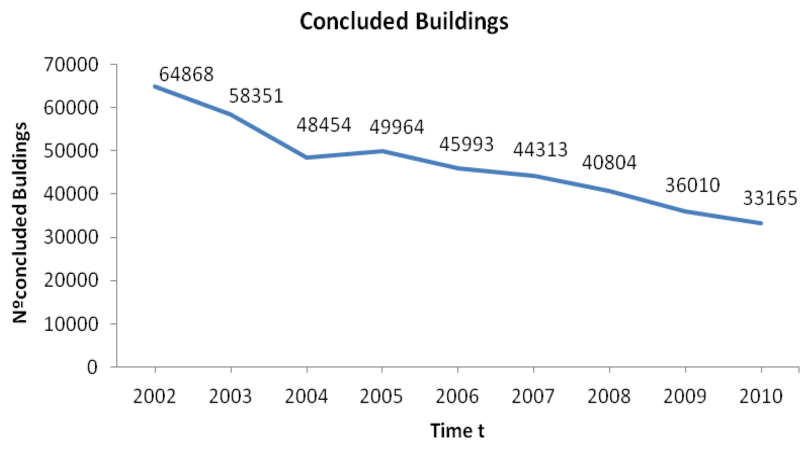


Source: INE, Portuguese National Statistic Institute

This break of confidence by the sector aligned with the government's measures of public disinvestment, leads us to believe in low output construction levels for the upcoming years.

Official data, provided by the Portuguese national statistic institute, demonstrates the deceleration of the sector in Portugal. Between 2008 and 2010, the number of concluded buildings dropped an impressive 49%.

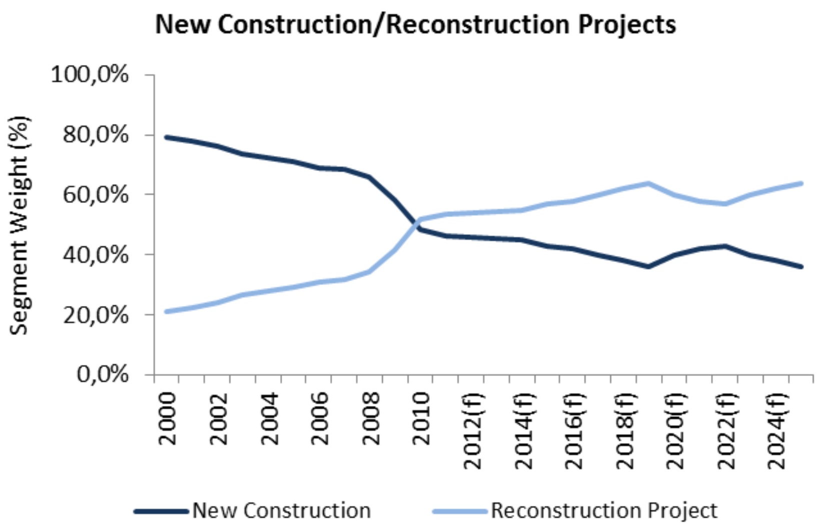
Figure 9: Nº Concluded buildings 1



Source: INE, Portuguese Stat. Institute

Future expectations do not bring any brightness to the sector, large projects, mainly related to the transportation sector such as highways, the new Lisbon international airport or the TGV have been postponed[4]. In the Domestic market, Troika has pushed the government to smooth the house renting market, opening an opportunity to renovation and rehabilitation of existing houses.

Figure 10: New construction/Reconstruction Projects weight in the sector



Source: AECOPS, "Uma Visão revisitada do futuro", 31-01-2011

[4] Source: 70th Euroconstruct Conference, 70th Euroconstruct summary book. Market Trends until 2013, 2/3 December 2010

In addition to this[5], from the total of €13.150 million of the non-performed loans from the Portuguese banks, €3.079 million come from the construction sector that defends that the situation was caused by the government's debt of € 1.419 million to the companies of the segment, who were forced to appeal for bank's credit, in order to face short-term liabilities. Construction companies are now on their debt limit, strangled in operational terms which will directly affect the country's unemployment rate, seriously compromising the future of the sector.

Although internationalization is part of Mota-Engil's philosophy, the negative expectation of the Portuguese market emphasized the importance of the foreign markets for the company's financial health, creating a forcing movement on external operations, with no positive prediction for the Portuguese operation.

Table 2: GDP forecast/Investment as % of GDP "2010-2017"

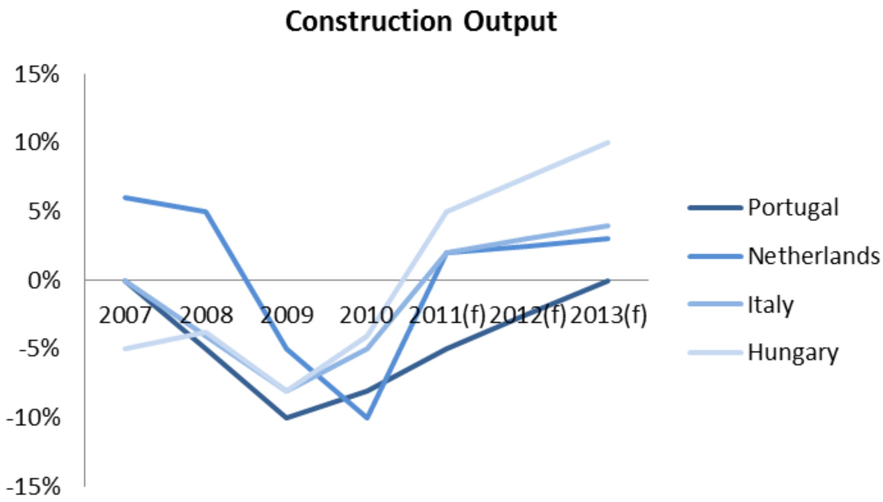
Portugal	2010	2011	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)
GDP evolution	1,4%	-1,5%	-3,3%	0,3%	2,1%	1,9%	1,9%	1,5%
Total investment as % GDP	19,6%	17,7%	16,0%	16,5%	17,1%	17,6%	17,9%	17,8%

Source: IMF, INE, Portuguese National Statistic Institute

The Portuguese market is considered has been defined as a slow recovery market. The low output of the construction aligned with the low levels of GDP growth for the next years, led European institution to consider Portugal as a low speed market.

[5] News: Jornal de Negócios: AECOPS: "Crédito malparado baixaria para metade se o Estado pagasse as dívidas." 10-04-2012

Figure 11: European Countries, low speed Construction Sector recovery



Source: Euroconstruct, 70th Euroconstruct conference

3.2.2 Central Europe

In Central Europe, Mota-Engil exercises activities in 5 different countries: Poland, Czech Republic, Slovakia, Hungary and Romania. However, recently the Romanian, Hungarian and Slovakian operations have been cancelled, due to non-profitable operations. Leaving a real-estate position, and the large Poland operation as the two market approaches in the region.

Central European countries have grown exponentially during the last decade, in some particular years the GDP nearly reached two digit values. The forecast for the next couple of years shows a different perspective of the eastern European countries, particularly the Eurozone.

Table 3: Central Europe GDP forecast 1

Country	2010	2011	2012 (f)	2013 (f)	2014 (f)	2015 (f)	2016 (f)	2017 (f)
Czech Republic	2,7%	1,7%	1,2%	2,1%	3,3%	3,6%	3,6%	3,5%
Hungary	1,3%	1,7%	0,0%	1,8%	2,0%	2,6%	2,2%	2,2%
Poland	3,9%	4,4%	2,6%	3,2%	3,6%	3,9%	3,8%	3,8%
Romania	-1,6%	2,5%	1,5%	3,0%	3,7%	4,0%	4,0%	4,0%
Slovak Republic	4,2%	3,3%	2,4%	3,1%	3,6%	3,9%	3,6%	3,6%

Source: IMF

Poland has been and is expected to be in future, the main focus of Mota-Engil in the Central European market. Macroeconomic figures, such has the GDP growth or public debt make the country a pole of attraction for foreign investment, in comparison with the figures presented by the Eurozone Countries.

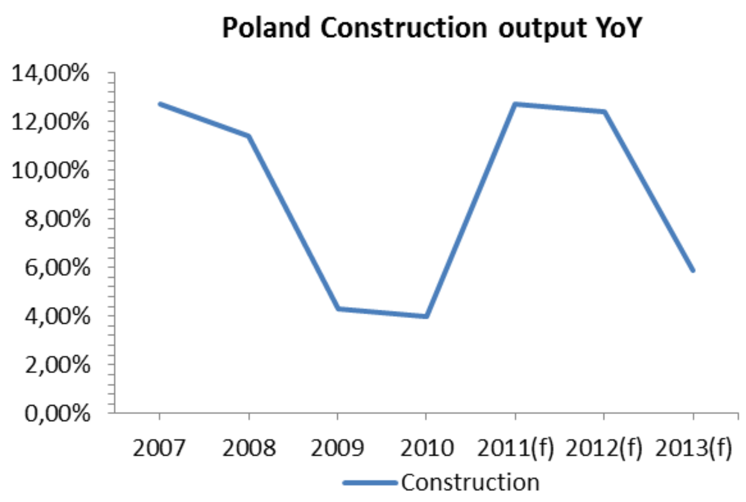
Table 4: Polish macroeconomic figures 1

Subject Descriptor	2010	2011	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)
Total investment	20,95%	21,79%	22,03%	22,10%	22,68%	23,27%	23,91%	24,58%
Inflation	2,51%	4,27%	3,81%	2,67%	2,50%	2,50%	2,50%	2,50%
Unemployment rate	9,62%	9,65%	9,38%	9,11%	8,84%	8,57%	8,30%	8,93%
Public deficit	-7,85%	-5,49%	-3,26%	-2,61%	-2,41%	-1,88%	-1,80%	-1,63%
Public debt	54,89%	55,39%	55,69%	55,17%	53,89%	52,15%	50,46%	48,68%

Source:IMF, Polish Nat.Stat.Office

Besides hosting the football Eurocup in 2012, which is increasing notoriously the construction levels, the country is expected to receive €67.28 million between 2007 and 2013, for investments in infra-structures, particularly highways, which are intended to connect the north and European south known has the Baltic-Adriatic Corridor and the East and West, through Amsterdam, Berlin and Warsaw. As well as railways, mainly the repairment and renewal of important international sections such as the Warsaw-Tallin line or the Warsaw-Poznan-Berlin [6].

Figure 12: Poland Construction output YoY



Source: Euroconstruct, 70th Euroconstruct conference, 03-12-2010

Even though Poland's contruction output is something a part of the Eurozone reality, the possible contagion of the Eurozone crisis, allied with the fierce competition and the low EBITDA margins caused by it, turn the approach on the polish market difficult and cautious by Mota-Engil.

3.2.3 Africa

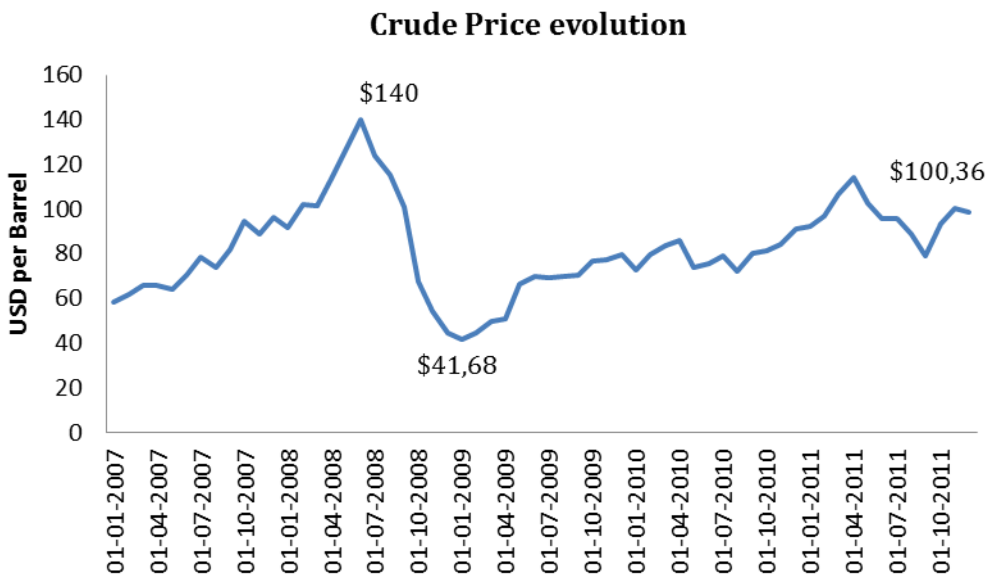
Even before the creation of Mota-Engil SGPS, both Mota & Companhia and Engil, SA, comprehended the importance of developing operations in the African Continent, particularly in the Portuguese speaking countries. Nowadays, Mota-Engil operates in 5 different countries: Angola, Mozambique, Malawi, São Tomé e Príncipe and Cape Verde.

[6] News: Jornal da Construção: Polónia promove sector das infra-estruturas na Tektónica

The intention of Mota-Engil is to turn Africa in the biggest operation of the company. The machinery and employees based in the country are now overtaking the Portugal in the same terms and the future tendency is two increase the gap between both operations.

Angola, is the most profitable operation in Africa, and is expected to become soon the most profitable region for the company. Commodities price, particularly the oil and the consequent demand for it, drives the GDP of the country, as well as the construction sector highly financed by the government.

Figure 13: Oil price evolution (2007-2011)



Source: Bloomberg

From 2002 to 2011, the average GDP growth in Angola was 11%, and even though it reached approximate values of 20% between 2005 and 2007, afterwards the rates declined as a result of the decreasing demand for oil and the consequent decrease of prices. Nowadays, the sustainable increase of the oil price, increased the expectancy regarding the GDP, however IMF is prudent when forecasting future years, particularly due to the crash in the demand for:

Table 5: Angola GDP forecast

Angola	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)
GDP Growth	9,66%	6,75%	6,67%	6,63%	6,06%	6,16%
Investment as % of GPD	10,42%	12,61%	13,26%	13,78%	14,28%	14,77%

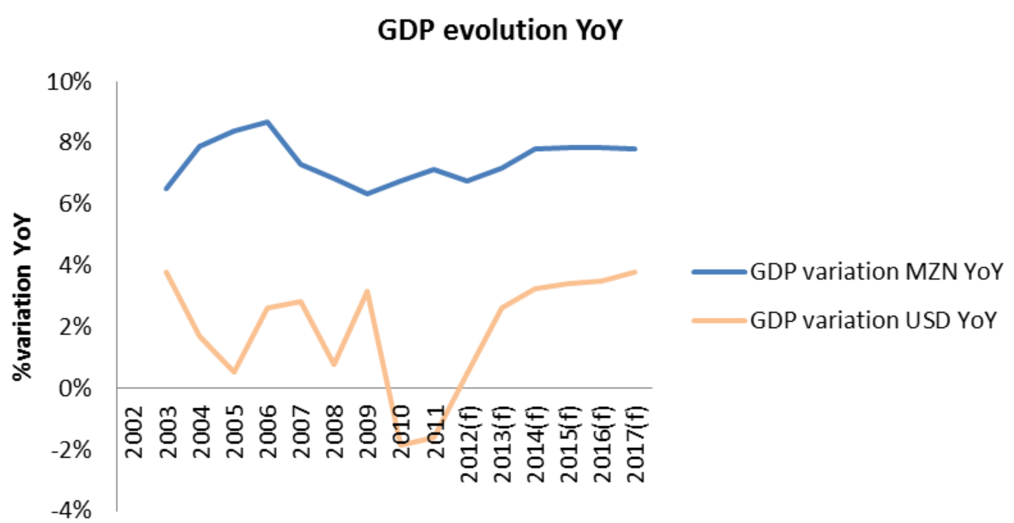
Source: IMF, National Statistic Office

Even though it looks promising for the future, the delayed payments made by the Angola's Government crush the margins obtain by Mota Engil, leading the company to save their presence in continent by investing in other countries.

Mozambique is now facing high GDP growth rates as well. Recent findings of natural gas fields are attracting international oil companies to the country. Although it requires high levels of initial investment, it is expected to provide highly returns in the following years[7]**.** Mota Engil has gained a dominant position in the region, and is now a inevitable reference.

The construction of the Pan-African Games Village in 2011 and Sport infra-structures, highly improved the company's turnover and EBITDA margins in the country, as well as the awarded 145km of railway in Malawi.

Figure 14: MZN/USD GDP comparison



Source: IMF

[7] News: Diário Económico : "Galp faz nova descoberta de gás em Moçambique", 28-10-11

Even though GDP in Mozambique is reaching values near the two digits, the devaluation of the local currency is one of the main supporters of this economic growth. When compared with the USD, the Mozambican economy shows high levels of volatility, particularly due to the close relation with the unstable Malawi economy.

3.2.4 America

Mota-Engil's presence in the American continent, is mainly dependent on the Mexico and Peru operations, although is expected an exponential growth for Colombian, Brazil and US activities for the next years.

Peru assumes the biggest role for Mota-Engil in the Continent. In 2011, the order book amounted for €344 million, an increase of 74% when compared with the previous year. Allied with this figures is the IMF projections of an average growth rate of 6%, between 2012 and 2017.

Table 6: Latin America GDP forecast 1

Country	2010	2011(f)	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)
Bolivia	4,13%	5,09%	5,00%	5,00%	5,00%	5,00%	5,00%	5,00%
Colombia	4,00%	5,93%	4,72%	4,43%	4,48%	4,48%	4,49%	4,50%
Ecuador	3,58%	7,79%	4,45%	3,89%	3,72%	3,55%	3,44%	3,38%
Paraguay	15,05%	3,80%	-1,50%	8,55%	4,60%	4,70%	4,70%	4,70%
Peru	8,79%	6,91%	5,51%	6,03%	6,03%	6,00%	6,00%	6,02%

Source : IMF

The country presents in average, the highest GDP growth rate of Latin America, partly due to the monetary devaluation policies created by the Government. The investment continues to be an important part of the economic development, with a forecast for the 2012-2017 period of a total weight of 25% of the GDP[8].

[8] Source: IMF and Peru's Central Bank

In Mexico, Mota-Engil is working in partnership with Isolux Corsán Groups, in the construction of the €75 million project of the "Perote Y Xalapa" motorway. The program of infrastructure development launched by Felipe Calderón administration between 2006 and 2012, indentifies more than 300 construction projects in different areas such as: Oil and Gas, Energy, Airports, Ports and Harbors, constituting a window of opportunity for Mota-Engil activities in the country.

The company is now seeking a strong entrance in the Brazilian market, although the strong competition constitutes a major threat for the success of the operation, the attractiveness of the infrastructure market in country counter balances the risk. (see more details on the Brazilian market in Appendix 7)

3.3 Competition Overview

It is difficult to find a company operating in the Engineering, environment and concessions sector in the market, which would be a perfect match as a Mota-Engil competitor. However, considering the core Business of the company, Soares da Costa SGPS and Teixeira Duarte S.A are the main competitors of Mota-Engil in Portugal. The three companies were considered in 2010, part of the 50 biggest construction companies in Europe, with a combined turnover exceeding €4.3 million[9].

Table 7: Portuguese main players info

Comparables	Mota Engil	Soares da costa	Teixeira Duarte
Revenues (€ million)	€ 2.176.072	€ 873.500	€ 1.200.270
EBITDA (€million)	€ 295.957	€ 94.1	€ 117.314
EBITDA margin %	13,60%	10,80%	9,80%
Net income (€ million)	€ 33.4	€ 2.4	- € 200.487
PER	7.1	8.4	…
ROE	8,1%	2,1%	-78,3%

Source: Companies Reports & Bloomberg

[9] Source: Deloitte European powers of construction (EPoC)

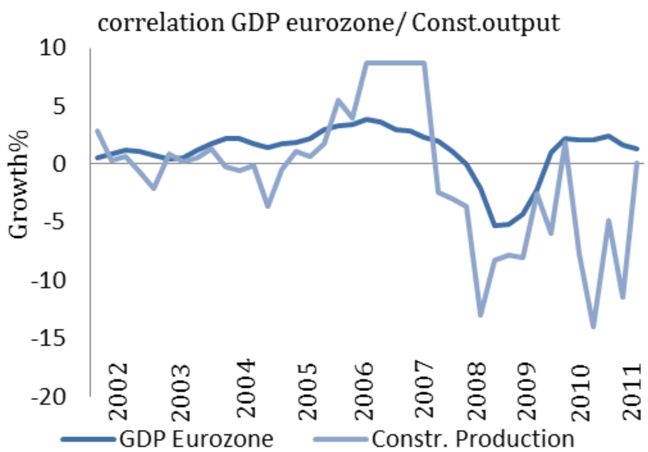
However, other Portuguese companies such as Somague, Lena or Edifer are gaining domestic market status. According to a study elaborated by Deloitte and ANEOP, the 50 biggest companies of the sector in Portugal compose 23% of the total turnover of the sector, highlighting the relevance of small companies.

Internationally, Portuguese companies are in general blocked by large international groups, when entering new markets or developing new projects, turning countries of Portuguese speaking language more desirable. Mota-Engil, although it looks for high growth potential markets, is now looking for more profitable projects both in Angola or Brazil. However some of these countries are now attracting some of the biggest players in the sector, speeding up investments in order to establish solid market positions in these markets.

3.4 Cyclical Industry

The construction activity is known for the correlation between the output of the sector and GDP growth rate. Although it may not be linear as it is supposed to be, the weight of the investment made by the sector as well as the employment generated by it, contribute largely for a country's GDP rate.

Figure 15: Correlation GDP Eurozone/ Construction Output



Source: Eurostat

The data here used regards the Eurozone area, the link between the countries GDP and the construction output is not as linear as we may observe. However in a 10year basis, we may observe that during periods of constant or low GDP growth rates, the construction has a neutral performance, with some positive or negative observable cases. On extremes and particularly, after the 2008 crisis, the sector plummeted. The sovereign debt crisis now lived in Europe and the delicate situation of the financial sector, have conditioned the lending terms offered by banks. Construction outputs are now in very low levels and even with a slightly recovery of the European economies, there are no good future prospects.

If we compare this situation with the Brazilian economy, the relation between both factors is much more direct when compared with the situation in the Eurozone. As it is shown in figure (30), the output figures of the construction sector tend to follow directly the trends of the country's GDP.

We may assume through this that the relationship between both factors may depend on the weight that total investments have on the GDP rate and how relevant is the infrastructure investment for the overall amount.[10]

As it was mentioned in the Brazilian market analysis, over the past decade infrastructure investment totalized 2% of the GDP, while the overall investment reached 17%. During the 1970's, when the investment of the construction sector totalized 5% of the GDP, the total amount invested in the country reached 22%, illustrating the dependence of the national economy on the sector.

4 Valuation of Mota Engil SGPS

As it has been highlighted before, Mota-Engil operates in three major different areas, each of them with different financial characteristics, easier to analyze and develop in valuation terms if computed separately.

This way, through the usage of the DCF (WACC) for the E&C and E&S business areas, and the DCF (FCFE) for Ascendi, it was possible to catch and attribute the appropriate information to the valuation, while the company's position in Martifer (37,5%) was considered through the market value of the shares.

4.1.1.1 Engineering & Construction

The nature of the business in the construction area is now changing more than ever. Mota-Engil, is now seeing the contraction of the Portuguese market which was once the main profitable operations

[10] Source: Morgan Stanley, Morgan Stanley Blue Paper, "Brazil Infrastructure paving the way",

05-05-2010

of the company. The business turnover will decrease largely in the next few years, and the operating margins which were never high will fall to low historical levels and the values verified in 2011 will not be testified in medium-long term.

Poland once one of the most promising markets for the construction sector worldwide, is now starting to slow the growth rhythm which was a common situation in the last few years. The slow increase of the region's order book, allied with the low operating margins created by the severe competition as well as the government's future prudent growth plans do not create high expectations in this market.

However, clockwise, Africa and America represent the biggest bet for the future. The order book in Africa has achieved historical figures, €1.600 million spread between projects in Angola, Mozambique and Malawi. The operating margins are expected to be higher than usual due to the weight of the projects in Mozambique and Malawi, counterbalancing the low margins in the European market. If in middle-long term, Portugal is not expected to achieve business values as high as in 2011, America is not expected to go back as 2011.

Figure 8, demonstrates the figures regarding the forecasted turnover from 2012 to 2020 for each geographical region. (See details on Appendix 8)

Table 8: Turnover Forecast, "2012-2020"

Turnover	**2011**	**2012(f)**	**2013(f)**	**2014(f)**	**2015(f)**	**2016(f)**	**2017(f)**	**...**	**2020(f)**
Portugal	**€ 586,6**	**€ 510,9**	**€ 485,4**	**€ 482,0**	**€ 491,2**	**€ 500,5**	**€ 508,0**	**...**	**€ 531,2**
%variation		-12,90%	-5,00%	-0,70%	1,90%	1,90%	1,50%	...	1,50%
Central Europe	**€ 382,5**	**€ 399,1**	**€ 416,5**	**€ 434,6**	**€ 453,5**	**€ 473,2**	**€ 493,8**	**...**	**€ 552,7**
%variation		4,35%	4,35%	4,35%	4,35%	4,35%	4,35%	...	3,83%
Africa	**€ 614,8**	**€ 823,0**	**€ 961,0**	**€ 1.120,0**	**€ 1.194,6**	**€ 1.270,1**	**€ 1.350,9**	**...**	**€ 1.625,3**
%variation		33,86%	16,76%	16,55%	6,65%	6,33%	6,36%	...	6,36%
America	**€ 163,0**	**€ 210,1**	**€ 218,7**	**€ 235,0**	**€ 243,7**	**€ 257,9**	**€ 273,1**	**...**	**€ 324,6**
%variation		28,92%	4,07%	7,48%	3,70%	5,80%	5,91%	...	5,93%
Total	**€ 1.747**	**€ 1.943**	**€ 2.082**	**€ 2.272**	**€ 2.383**	**€ 2.502**	**€ 2.626**	**...**	**€ 3.034**
%variation		**11,22%**	**7,15%**	**9,13%**	**4,89%**	**4,99%**	**4,96%**	**...**	**4,98%**

Source: ITIC, Mota-Engil SGPS; IMF; "The 2011-2016 World outlook for Construction"

However, even though there is a counterbalance between the different regions in terms of business figures, other issues will influence highly the valuation. The credit concession situation lived in Portugal, which has delayed client's payments during 2011, the constant payment delays of the Angolan government, or the increase in the order book which will imply higher capital expedintures and future depreciations. (see appendix 9 for details)

4.1.1.2 DCF

Taking into consideration the information developed we may compute the Discounted Cash Flow, using also the proper terminal growth rate 4,46%. (see appendix 10)

Tabel 9: Sum of the Parts, Discounted Cash Flow E&C (€ million)

DCF	**2012(f)**	**2013(f)**	**2014(f)**	**2015(f)**	**2016(f)**	**2017(f)**	**2018(f)**	**2019(f)**	**2020(f)**
Turnover	€ 1.943	€ 2.081	€ 2.272	€ 2.383	€ 2.502	€ 2.626	€ 2.754	€ 2.890	€ 3.034
EBITDA	€ 231	€ 258	€ 281	€ 279	€ 274	€ 273	€ 290	€ 306	€ 324
EBIT	€ 132	€ 142	€ 148	€ 148	€ 145	€ 147	€ 151	€ 159	€ 167
(-)Taxes	€ 40	€ 42	€ 44	€ 44	€ 44	€ 44	€ 45	€ 48	€ 50
(+)D&A	€ 56	€ 61	€ 64	€ 68	€ 72	€ 76	€ 80	€ 84	€ 88
(+)Provisions	€ 18	€ 21	€ 23	€ 24	€ 25	€ 25	€ 25	€ 25	€ 25
(-)capex	€ 58	€ 66	€ 70	€ 75	€ 80	€ 84	€ 88	€ 93	€ 97
(-) nwc var	€ 47	€ 79	€ 29	€ 11	€ 12	-€ 1	-€ 2	€ 12	€ 13
FCFF	**€ 62**	**€ 36**	**€ 90**	**€ 109**	**€ 107**	**€ 120**	**€ 124**	**€ 115**	**€ 119**
DCF	**€ 62**	**€ 33**	**€ 75**	**€ 84**	**€ 75**	**€ 77**	**€ 73**	**€ 62**	**€ 58**
PV of CF	€ 598								
Term.Val	€ 2.474								
PV Term. Val	€ 1.211								
Total	€ 1.809								

SOURCE: ITIC, Euroconstruct, IMF, Mota-Engil SGPS

One other DCF approach of the E&C was conducted using merely information provided by the company, particularly in the turnover predictions which differ from the predictions in figure (8) in a more optimistic forecast (see appendix 11)

The E&S business area presents lower business figures than the E&C area, as it is mainly developed in Portugal and is also a more recent operation. However as we may see bellow it has gained a considerable importance for the company

4.1.2.1 E&S

As it has been mentioned before, the E&S business area was created in order to hedge the risk of the E&C operations. Now, more than 10years after its creation it represents 20% of the total turnover of the company, assuming a high relevance for the group.

It is extremely difficult to predict how the market will behave in the future, particularly in the water and waste segment. The regulation in Portugal is outdated, it has been unchanged in years with no positive expectations for the future, leading to slowly increase imrevenues and EBITDA in the upcoming years.

Table 10: Revenues Forecast E&S business area, "2012-2020", € million

E&S revenues	**2011**	**2012(f)**	**2013(f)**	**2014(f)**	**2015(f)**	**2016(f)**	**2017(f)**	**...**	**2020(f)**
Waste	€ 120	€ 126	€ 131	€ 136,3	€ 140,3	€ 144,6	€ 148,9	...	€ 162,7
% variation		5,00%	3,97%	4,05%	2,93%	3,06%	2,97%	...	2,97%
Water	€ 83	€ 86,3	€ 89,8	€ 93,4	€ 96,2	€ 99,1	€ 102,0	...	€ 111,5
% variation		3,98%	4,06%	4,01%	3,00%	3,01%	2,93%	...	3,05%
Logistics	€ 177	€ 183	€ 196,2	€ 213,6	€ 236,1	€ 261,8	€ 280,2	...	€ 327,4
% variation		3,39%	7,21%	8,87%	10,53%	10,89%	7,03%	...	5,00%
Multi-services	€ 58	€ 56,3	€ 56,4	€ 57,6	€ 58,7	€ 59,8	€ 60,7	...	€ 63,5
% variation		-2,93%	0,18%	2,13%	1,91%	1,87%	1,51%	...	1,44%
Total	**€ 435,5**	**€ 449**	**€ 470,7**	**€ 498,3**	**€ 528,3**	**€ 562,1**	**€ 588,5**	**...**	**€ 661,3**
% variation		**3,10%**	**4,83%**	**5,86%**	**6,02%**	**6,40%**	**4,70%**	**...**	**3,81%**

Source: Mota-Engil SGPS, Portuguese Government " Estratégia Orçamental 2012-2016"

As we may observe, the main bet of the company in this business area for the upcoming years, is the logistic operations. The increase of the exportations will have a positive impact in terms of growth rate. The Portuguese Government forecasts of the imports and exports was taking into account as the growth basis until 2016.

Even though capex and depreciations may tend to decrease over the years due to lower levels of investment, the net working capital may increase as a result of the financial crisis lived in Portugal which may cause debt payment delays. (see appendix 12)

4.1.2.2 DCF

Although the company has plans to expand internationally the E&S business sector, the frozen credit market in Portugal and the high level of debt detained by the company, have conditioned the international plans of the company for this sector. Taking this into account the stable growth rate was determined taking into account the GDP forecast (IMF) for the end of this decade, nearly 1,50%.

Table 11: Sum of the Parts, Discounted Cash Flow E&S (€ million)

DCF	**2012(f)**	**2013(f)**	**2014(f)**	**2015(f)**	**2016(f)**	**2017(f)**	**2018(f)**	**2019(f)**	**2020(f)**
Turnover	€ 449	€ 470	€ 498	€ 528	€ 562	€ 588	€ 614	€ 637	€ 661
EBITDA	€ 100	€ 106	€ 113	€ 115	€ 117	€ 121	€ 124	€ 127	€ 132
EBIT	€ 57	€ 59	€ 60	€ 66	€ 70	€ 71	€ 74	€ 76	€ 79
(-)Taxes	€ 17	€ 18	€ 18	€ 20	€ 21	€ 21	€ 22	€ 23	€ 24
(+)D&A	€ 32	€ 33	€ 35	€ 36	€ 29	€ 26	€ 26	€ 26	€ 26
(+)Provisions	€ 2,60	€ 2,80	€ 2,90	€ 3,00	€ 3,20	€ 3,20	€ 3,20	€ 3,20	€ 3,20
(-)capex	€ 68	€ 65	€ 60	€ 50	€ 40	€ 35	€ 35	€ 35	€ 35
(-) nwc var	€ 5.00	€ 5.70	€ 4.40	€ 4.80	€ 0.60	€ 2.50	-€ 0.70	-€ 4.30	€ 2.00
FCFF	**€ 1.30**	**€ 6.30**	**€ 14.90**	**€ 30.60**	**€ 40.40**	**€ 41.40**	**€ 46.70**	**€ 52.30**	**€ 48.10**
DCF	**€ 1.30**	**€ 5.81**	**€ 12.60**	**€ 23.69**	**€ 28,68**	**€ 27,04**	**€ 28,00**	**€ 28.76**	**€ 24.30**
PV of CF	€ 180								
Term.Val	€ 659								
PV Term.Val	€ 333								
Total	€ 513								

Source: Mota-Engil SGPS, IMF, Portuguese Government " Estratégia Orçamental 2012-2016"

4.1.3.1 Ascendi

Ascendi is totally owned by Mota-Engil SGPS and "Banco Espiríto Santo" (60% and 40% respectively). Mota-Engil does not incorporate this position in the consolidated demonstrations of the company.

The valuation was conducted taking into account the information conceded by Mota-Engil, as it is difficult to access financial reports of Ascendi.

The DCF (FCFE) approach was considered for this case, with only five concessions being relevant in cash flow terms: Ascendi Norte; Ascendi Grande Lisboa; Ascendi Grande Porto; Ascendi Costa da Prata; Ascendi Beira Litoral e Alta.

For 2012 the 5 concession are expected to grant € 380 million, which will increase at half of the inflation rate until 2029, when the first concessions will end at a rate of one per year until 2033.

The EBITDA margin it will be constant at a rate of 94% until the end of the concessions, as well as the 5% Capex for each year, with the NWC having no impact on the cash flow calculation.

The D&A was calculated taking into account the 21 years that remain for the concessions. The total assets amount for € 2.600 million and will be depreciated at a constant rate increased by half of the inflation rate.

The total debt amounts for approximately €2.000 euros, which corresponds to 76,92% of the assets. This ratio will continue constant as debt, as debt is being netted at the same pace the assets are being depreciated.

Table 12: Ascendi's Turnover Forecast "2012-2032", million

Ascendi	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	...	2028(f)	2029(f)	2030(f)	2031(f)	2032(f)
Turnover	**€ 380**	**€ 383**	**€ 386**	**€ 388**	**€ 391**	**...**	**€ 427**	**€ 327**	**€ 227**	**€ 127**	**€ 27**
inflation	3,20%	1,40%	1,54%	1,47%	1,47%	...	1,47%	1,47%	1,47%	1,47%	1,47%
%variation	1,60%	0,70%	0,77%	0,73%	0,73%	...	0,73%	0,73%	0,73%	0,73%	0,73%
EBITDA	**€ 357**	**€ 359**	**€ 362**	**€ 365**	**€ 368**	**...**	**€ 401**	**€ 307**	**€ 213**	**€ 119**	**€ 25**
% margin	94%	94%	94%	94%	94%	...	94%	94%	94%	94%	94%

Source: Mota-Engil SGPS

However, the contracts celebrated between Ascendi and the Portuguese Government are under the revision process of the PPP's. A reduction of the 30% of the payments paid by the government was considered in order to guarantee a more realistic scenario.[11] (see appendix 13)

4.1.3.2 DCF

In order to elaborate the DCF model for Ascendi, we need to underline the fact that there is no perpetuity in this case, since the concessions have a limited time life as well as the fact that here we consider the FCFE discounted at the proper cost of equity determined.

Table 13: Sum of the Parts, Discounted Cash Flow E&S (€ million)

DCF	2012(f)	2013(f)	2014(f)	2015(f)	...	2028(f)	2029(f)	2030(f)	2031(f)	2032(f)
Turnover	€ 380	€ 383	€ 386	€ 388	...	€ 427	€ 327	€ 227	€ 127	€ 27
EBITDA	€ 357	€ 359	€ 362	€ 365	...	€ 401	€ 307	€ 213	€ 119	€ 25
D&A	€ 124	€ 124	€ 124	€ 124	...	€ 124	€ 124	€ 124	€ 124	€ 124
EBIT	€ 233	€ 236	€ 239	€ 241	...	€ 148	€ 84	€ 21	-€ 43	-€ 107
(-)Interests	€ 95	€ 86	€ 81	€ 77	...	€ 18	€ 14	€ 9	€ 5	€ 0
(-)Taxes	€ 70	€ 71	€ 72	€ 72	...	€ 83	€ 55	€ 27	€ 1	€ 30
Net income	€ 68	€ 79	€ 86	€ 92	...	€ 83	€ 55	€ 27	-€ 1	-€ 30
(-)capex	€ 19	€ 19	€ 19	€ 19	...	€ 21	€ 16	€ 11	€ 6	€ 1
(-) nwc var	-	-	-	-	...	-	-	-	-	-
(+)Debt change	-€ 95	-€ 95	-€ 95	-€ 95	...	-€ 95	-€ 95	-€ 95	-€ 95	-€ 95
FCFE	€ 23	€ 44	€ 57	€ 69	...	€ 236	€ 118	€ 1	-€ 117	-€ 234
DCF	€ 23	€ 36	€ 38	€ 38	...	€ 10	€ 4	€ 0,02	-€ 3	-€ 4
Sum CF	€ 426									
Minorities	€ 171									
Final value	€ 256									

Source: Mota-Engil SGPS

[11] Source: News, ionline.pt, "Scut. Ascendi e Mota-Engil têm cortes de 30% nas receitas" 24-05-2012

4.1.4 Martifer

The company's position in Martifer's capital was considered by the current market value of the shares, at August 1st. Each share valued €0,57 as closing price in Lisbon Euronext stock exchange, which was then multiplied by Mota-Engil's stake in the company (37,5%) in order to achieve the valuation needed.

Martifer has been highly punished by the market in the last years, particularly due to the Portuguese financial crisis, and the company's negative economic results presented over the last two, having a significant effect in Mota-Engil's valuation and target price.

4.2 Cost of capital

The cost of capital was separately estimated for the different business areas of Mota-Engil. However some of the components are equal for the different operations, and by consequence were estimated only one time.

4.2.1 Risk free rate

The risk free rate used was based on the past 5 year average of the 10year German Bund, in order to minimize the impact of the decreasing price of the Bond in the market caused by the European sovereign crisis, which lead to historical minimal prices for the German Bund.

4.2.2 Country risk premium

In order to estimate the country risk premium as well as the market premium demanded by the market, it was necessary to calculate the credit rate of Mota-Engil. However, the company is not rated by international rating companies. The approach used to estimate the rating was based on the methodology used by Moody's for construction companies[12], in order to achieve a proper rating note. (see appendix 14)

Mota-Engil's faces a B1 rating, which according to Damodaran[13], equals a 4,88% country risk premium, a default spread of 4% and a market premium of 6%

---

[12] Source: Moody's global construction rating methodology, Moody's investors service, 29 november 2010.

[13] Damodaran, Country Default Spreads and Risk Premiums, based upon the Moody's credit rating

4.2.3 Beta estimation

As we are following a “Sum of the Parts” approach, there is the need to estimate a single beta for each business area. For each different operation, it was considered the peer group used in the Relative valuation approach, in order to isolate the specific risk of each area. (see appendix 15)

The beta levered estimated was then converted into the unlevered form, taking into account an average of the past 5 year Debt-to-equity ratios of each company. Being later transformed newly to the levered form, under the debt-to equity ratio of Mota-Engil, leading the calculation to a 17,40% cost of equity.

4.2.4 Cost of debt

The cost of debt was calculated considering 3 different factors. The risk free, and debt spread mentioned above, and a specific premium for Portuguese companies. This last premium was based upon rated Portuguese firms, who regularly issue debt.

EDP, has by late 2011, within the macro-economic Portuguese severe conditions, issued public debt for a 5 year period with a 5,88% coupon. However the credit rate of the company (Ba1) corresponds to a 4,83% coupon, 1,04% less than the issued value. This away a similar premium was considered for Mota-Engil, added to market and country risk premium already estimated.

Table 14: Cost of Equity & Cost of Debt by business area

Ke & Kd	E&C	E&S	Ascendi
Risk free	3,19%	3,19%	3,19%
Country risk premium	6,00%	6,00%	6,00%
Market Premium	6,00%	6,00%	6,00%
Levered Beta	1,249	1,125	1,56
Cost of equity	**18,17%**	**16,69%**	**21,92%**
debt spread	4,00%	4,00%	
Risk free rate	3,19%	3,19%	
Portuguese debt premium	1,04%	1,04%	
cost of debt	8,23%	8,23%	
Tax Rate	30%	30%	
After tax cost of debt	**5,76%**	**5,76%**	
Debt to EV ratio	71%	71%	
Equity to EV ratio	29%	29%	
WACC	**9,33%**	**8,91%**	

Source: Bloomberg; Mota-Engil SGPS; Damodaran default Spread, Fernandez "Market premium

Mota-Engil has currently Debt-to-enterprise value ratio of 91%, clearly high and justified by the expansion policy of the company. However the company's goal is to reduce by 20% this ratio in the medium-long term. This target ratio was then considered when estimating the capital structure of the company for the years to come.

4.3 Sum of the parts

Consider now all the different parts of the company, E&C, E&S, and Investments it is possible to conduct the final valuation. The different components needed have been consider in the DCF estimation and besides that, net debt has been estimated as well as the different minority interests that must be considered.

Table 15: Price target Mota-Engil 2012

E&C (€)	**€ 1.809.201.706**
Minorities (€)	€ 886.508.836
E&S (€)	**€ 513.242.577**
Minorities (€)	€ 197.598.392
Ascendi (€)	**€ 426.262.969**
Minorities (€)	€ 170.505.188
Martifer (€)	**€ 20.229.378**
Enterprise Value (€)	**€ 1.514.324.215**
Net debt (€)	€ 1.121.524.229
Equity value (€)	**€ 392.799.986**
Outstanding Number of Shares	204.635.665
Price Target	**€ 1,92**

Source: Own Data

Comparing the priced target obtained in the sum of the parts approach with the value obtained through the income statement analysis we may observe a small difference, validating the valuation conducted above.

In order to validate the valuation using the sum of the different business sectors of the company, one approach through the income statement was also conducted. Here, special attention was given to the different components need for the DCF methodology, particularly the evolution of the operational costs, since depreciation, capex or net working capital were considered the same as in the sum of the parts. (Appendix 16)

The operational costs were considered as linked with the turnover growth. The main reason behind this assumption is the relation between the E&C business area and the total operational cost. The E&C consists in the majority of the cost structure of the company, particularly machinery and transport expenses. The future growth of the company is going to depend widely in this segment, and the cost structure will grow at a similar pace has the turnover.

If we consider the valuation conducted solely with the information provided by the company (appendix 11) we may once again validate this approach through the income statement method. (see appendix 16)

4.4 Multiples

A relative valuation was conducted in order to realize how Mota-Engil SGPS is under or over-valued when compared with the industry. However it is mandatory to explain a particular situation regarding companies of the construction sector.

Worldwide, the sector is known for having low margins, and highly risk operations due to macro-economic factors. This reality led the companies to invest in other business areas to hedge the risk and increase the margins of the company.

This means that it is difficult or even impossible to find a particular company, which operates in the same three business areas than Mota-Engil. Implying that the relative valuation approach was done by business area, with companies from the construction sector being separated from those of the environment and services or road concessions area. (see appendix 17)

If we consider that in 2010 and 2011 the E&C and E&S business area contributed 80% and 20% respectively and that in 2012 this ratio will change to 77% to 23%. We may compute the relative share price and the enterprise value.

Table 16: Price earnings ratio; 2012 forecast [14], EV/EBITDA; 2012 forecast

PER	2010	2011	2012(f)
Weighted average (1)	**10,16**	**11,37**	**13,11**
Weighted average (2)	**9,74**	**12,61**	**12,25**
EPS	€ 0,19	€ 0,17	€ 0,21
Mota-engil (1)	€ 1,94	€ 1,96	€ 2,39
Mota-Engil (2)	€ 1,86	€ 2,18	€ 2,23

EV/EBITDA	2010	2011	2012(f)
Weigthed average (1)	**6,55**	**10,4**	**11,11**
Weigthed average (2)	**7,23**	**10,4**	**10,83**
EBITDA	€ 237.293.889	€ 295.957.315	€ 330.881.492
Mota-Engil (1)	€ 1.553.220.333	€ 3.077.660.119	€ 3.676.019.845
Mota-Engil (2)	€ 1.715.289.663	€ 3.077.660.119	€ 3.583.907.785

Source: Bloomberg; Mota Engil SGPS

[14] Weighted average (1) does not include Teixeira Duarte and Soares da Costa, while Weighted average (2) uses the entire peer group.

4.5 Net Debt

By the end of 2011 the net debt of Mota-Engil was nearly € 1.005 million, which confirms an effort by the company in the last few years to decrease the large amount of corporate debt. However in 1st trimester of 2012,due to the maintenance of the expansion policy of the company, the net debt increased to €1.042 million. And by the end of the year the forecast reaches €1.122 million (see appendix 18).

For the last two years, bank debt has been approximately 60% of the total amount of the debt. With the remaining part being spread between non-convertible bonds and commercial papper (with a 1year maturity). Bellow it is possible to see the debt cost evolution, which reflects the risk of the Portuguese economy and the increase in the company's risk.

Table 17: Debt cost evolution

Debt costs	2011	2010
Non convertible bonds	5,48%	3,93%
Bank loans	4,80%	3,33%
commercial papper	2,66%	1,63%

Source: Mota-Engil SGPS

4.6 Dividend Discount Model

Traditionally, Mota-Engil SGPS distributes dividends throughout the the shareholders. Usually the payout ratio stays between 50% and 75%, with an average of the past 8years of 54%. It was based upon this average that the DDM was computed, valuing each share by € 1,81. (see details in appendix 19)

4.7 Sensitive analysis

In order to consider some possible variations in company's valuation, the sensitive analysis was conducted considering changes in the cost of capital as well as the stable growth rate. Macroeconomic variations or simply some shifts in the company's operations will have a big impact in the company’s value. However it is difficult to quantify these variations in terms of revenues or EBITDA margins that are extremely important in the construction sector.

The methodology used was then based in a possible rating change of the company, in this particularly a two level increase from B1 to Ba2 or Ba3, or a decrease to B2 or B3. (see appendix 20 for details)

Considering these changes in the cost of capital it is now possible to conduct the sensitive analysis, considering also higher and lower values in terms of stable growth rate.

Table 18: Sensitive analysis, different operational sectors (€ million)

E&C							
WACC/g	**3,1%**	**3,60%**	**4%**	**4,30%**	**4,6%**	**5%**	**5,50%**
8,04%	€ 1.971	€ 2.129	€ 2.284	€ 2.422	€ 2.584	€ 2.850	€ 3.301
8,56%	€ 1.785	€ 1.909	€ 2.028	€ 2.132	€ 2.251	€ 2.442	€ 2.751
9,33%	€ 1.564	€ 1.654	€ 1.737	**€ 1.809**	€ 1.889	€ 2.014	€ 2.207
10,37%	€ 1.344	€ 1.404	€ 1.460	€ 1.506	€ 1.558	€ 1.634	€ 1.749
11,41%	€ 1.178	€ 1.221	€ 1.260	€ 1.292	€ 1.327	€ 1.378	€ 1.451

E&S							
WACC/g	**0,25%**	**0,50%**	**1,00%**	**1,50%**	**2,00%**	**2,50%**	**3,00%**
7,68%	€ 524	€ 563	€ 593	€ 628	€ 668	€ 718	€ 777
8,17%	€ 511	€ 523	€ 548	€ 577	€ 611	€ 651	€ 698
8,91%	€ 462	€ 471	€ 491	**€ 513**	€ 539	€ 569	€ 604
9,89%	€ 408	€ 414	€ 429	€ 446	€ 465	€ 486	€ 510
10,88%	€ 363	€ 369	€ 380	€ 393	€ 407	€ 422	€ 440

Ascendi Ke	**Enterprise value**
19,78%	€ 477
20,95%	€ 448
21,92%	**€ 426**
25,04%	€ 366
27,38%	€ 329

Source: Own data

5. Dissertation Comparison with Millennium Investment bank Valuation

The valuation done by Millennium Investment Bank was also done considering the DCF-WACC approach. Since both valuations were conducted taking into account the sum of the different business operations that compose the company, it is possible to underline the particular differences for each segment

Table 19: Cost of Capital, assumptions comparison

E&C	Millennium Investment Bank	Dissertation
Risk free rate	2,5%	3,19%
Country risk premium	11,50%	4,88%
Market premium	5%	6,50%
Levered beta	1,3	1,25
Cost of equity	24,00%	17,40%
Debt spread	6,50%	4%
Portuguese debt premium	-	1,04%
Cost of debt	9,00%	8,23%
After-tax Cost of Debt	6,39%	5,76%
Leverage	30%	70%
Perpetuity Growth Rate	3,02%	4,30%
WACC	18,7%	9,11%

E&S	Millennium Investment Bank	Dissertation
Risk free rate	2,5%	3,19%
Country risk premium	11,50%	4,88%
Market premium	5%	6,50%
Levered beta	1,3	1,13
Cost of equity	24,00%	15,99%
Debt spread	6,50%	4%
Portuguese debt premium	-	1,04%
Cost of debt	9,00%	8,23%
After-tax Cost of Debt	6,39%	5,76%
Leverage	30%	70%
Perpetuity Growth Rate	3,02%	1,50%
WACC	18,7%	8,71%

Ascendi	Millennium Investment Bank	Dissertation
Risk free rate	2,5%	3,19%
Country risk premium	11,50%	4,88%
Market premium	5%	6,50%
Levered beta	1,3	1,53
Cost of equity	24,00%	20,57%
Debt spread	6,50%	-
Portuguese debt premium	-	-
Cost of debt	9,00%	-
After-tax Cost of Debt	6,39%	-
Leverage	30%	-
Perpetuity Growth Rate	3,02%	-
WACC	18,7%	-

Source Millennium BCP; Own data

The risk free rate used in both valuation is quite similar, with a small difference of 0,19%. The main differences in the cost of capital are at the country risk premium, market premium and levered beta. The bank estimates the country risk premium as the difference between the sovereign Portuguese yield and the German bund, multiplying it by a volatility factor.

In terms of cost of debt , this one was determined has the debt spread (long term issuances) over the German Bund sovereign rate. In terms of dissertation purposes these can be analyzed in section 4.2.4 (Cost of debt).

Regarding the terminal growth rate, the bank uses 3,02% for all the different business areas of Mota-Engil, while in dissertation terms it was considered an average of the GDP growth rate of the countries where the different business areas operate.

Possibly the main advantage of the valuation conducted in the dissertation is expressed on how the cost of capital was considered. The bank although it has conducted the valuation through the "sum of the parts" approach, did not isolate the risks of the different business sectors of the company. E&C and the E&S business forms have clearly two different sets of risks, such has geographical, economical or even in terms of market competition. Meaning that it acceptable to conduct a proper estimation of different capital costs for Mota-Engil different business areas.

Differences such as capex, net working capital in both E&C and E&S business areas may be analyzed in appendix 21

6. Conclusion

The main conclusion achieved through this dissertation is that Firm valuation is a complex and rigorous process. It is difficult to consider all the different components needed for the valuation, and the assumptions made must be based upon real and credible information, in order to validate the valuation itself.

The main goal of this dissertation was to conduct a proper and valuable firm valuation analysis of Mota-Engil SGPS. Creating a more complete and realistic valuation aligned with the macro-economic factors of today.

It is then, essential to use the accurate method to avoid a mis-valuation and the DCF-WACC approach seemed the most appropriate to consider all the different information needed for the valuation. Through the use of the "Sum of the Parts"method it was possible to consider fine details for valuation purposes, as the proper cost of capital, terminal value or stable growth rate.

In terms of specific details some particular issues marked this dissertation. First, gathering information in order to conduct a proper valuation has to be a clearly fundamental process. DCF-WACC is composed by several different sections that must be estimated with valid back up support.

The information gathered through the Investor relations office was essential to compose the valuation model. However even though it is possible to provide the entire information needed for the valuation other sources as empirical or organizational studies must be used in order to guarantee that the collected information is in line with market figures and trends.

Secondly, regarding the assumptions made, particularly in cost of capital estimation it is necessary to highlight the importance of an appropriate estimation of each parameter. A slightly difference in the WACC may lead to huge differences in valuation terms, and the bigger the company the bigger will be the mis-valuation.

It is in this particular point that the comparison between the Investment bank and the dissertation was more relevant. The approach done by the Investment bank considered the same discount rate for the different parts of the company (18,4%).This simplification process done by the company, may not conceive the appropriate discount rate for the different operational parts, has some particular risks may not be considered, as the particular risk that characterizes the Portuguese market nowadays.

It is then difficult to conciliate all the different issues used for valuation purposes. Small details create big differences, so it is mandatory to not despise them.

7. Appendices

7.1 Appendix 1 (Terminal Value)

The year by year cash flow prediction is conducted until the point the company is scheduled to reach a steady state. It is not possible to predict cash flow throughout the infinite of time, mainly to the unpredictability of macroeconomic variables.

The difficulty of prediction increases with time as the validity decreases, at some point into the future the terminal value is estimated, reflecting what the value of the company is at that point of time. If we consider that a company has a perpetual life, the weight of the terminal value will be huge, possibly causing problems to the valuation (Damodaran 2006)

The estimation of the terminal value has been one the most debatable issues on valuation purposes. Here we consider the purposal of Peter A. Hunt, that considers 4 different methods of computing the terminal value.

1. Liquidation value: Is more accurate for companies which are expected to have finite life. This moment occurs by the end of the forecasted period, and the value assumed is the liquidation value of the assets that compose the company. (Hunter 2009)

2. Sales method: The value assumed is based on multiples valuation, particularly sales transaction multiples for comparable firms. It is a more offensive methodology, as it supposes that the premium of the transaction is still valid for that future period in time. (Hunter, 2009)

3. Multiples approach: Here the company is expected to continue its activity throughout the infinite of time. The terminal value may be estimated using several different multiples, although PER and EV/EBITDA may be more commonly used. (Hunter,2009). However, multiples constitute a relative valuation, based on the comparable industry in the market.

This way if the industry is expected to have a bad performance for a certain period of time, the terminal value may be highly adulterated as well as the final result (Damodaran, 2006)

4. Growth in perpetuity method: The company is expected to continue operation infinitely, reinvesting part of the cash flows for this future activity (Damodaran 2011). The main assumption here, since we are taking into account a constant growth rate, is that the macro economic factors will change drastically, with the company's growth rate assuming values within the GDP projections. (Hunt, 2009).

7.2 Appendix 2 (Other valuation approaches)

Excess return model

Excess return model values a firm in a different approach than what we have seen before. Here the basis of valuation are the excess returns that a firm expects to generate from existing projects or assets and future ones, taking into consideration the capital invested currently in the firm.

EVA

The most widely used model used has been the Economic Value Added (EVA), developed by Joel Stern and G. Bennett Stewart (1982). It has been used since then to measure the wealth maximization for the shareholder, innovating on how the profitability is free of direct debt and indirect equity costs. (Grant, 2003).

$$\text{EVA} = (\text{Return on capital} - \text{Cost of capital}) \times (\text{Capital Invested})^{15} \qquad (25)$$

Damodaran states (2012), that analysts should look for the NPV of the EVA. Since EVA represents wealth creation that a given investment may assign to the investor.

$$\text{NPV} = \sum_{t=1}^{t=n} \frac{\text{EVA}_t}{(1+\text{WACC})^t} \qquad (26)$$

Where,

$\text{EVA}_t =$ Economic value added in period t

WACC = Weighted average cost of capital

However, for valuation purposes we need to analyze three distinguished parts. What has already been invested in the company, namely capital. The present Value of the EVA described above and what future investments are projected. (Damodaran 2012)

$$\text{Firm Value} = \text{Capital invested}_{\text{Current assets}} + \text{NPV}_{\text{current assets}} + \sum_{t=1}^{t=\infty} \text{NPV}_{\text{futureprojects}} \qquad (27)$$

Analyzing EVA in terms of wealth maximization for the shareholders, may constitute a powerful tool. A positive EVA indicates that value is being created from the company's capital, increasing by consequence the share's price. Analysts can use EVA in this terms to base their recommendations, and managers may use it to understand what are the profitable projects a company is involved. EVA seems this way not only a valuation method but a management tool (Grant, 2003)

Dynamic ROE

[15] Source: Investment Valuation, Tools and Techniques for Determining the value of Any Asset; Damodaran (2012)

The basis of concept of the Dynamic ROE appears in sequence of the EVA method described before. However, the main difference regards the fact that here the cost of capital considered is the cost of equity.

As it has been mentioned regarding the EVA, the Dynamic Roe can also be useful for managers. If we consider a certain investment project or even the value of a company, where the ROE (return on equity) is higher than cost of equity (ke) demanded for investors for the risk of investment, means the company is creating value for the shareholders.

Limitations on excess returns model

Both EVA and Dynamic ROE have been undeveloped by authors and the main reason behind this is be the limitations that both methods reveal. The method has been comprehended throughout literature has an investment process rather than a firm valuation method. According to Damodaran (2012), if a firm adopts EVA as a measure of value, managers will have the incentive to generate high EVA values in a short-term period. Turning EVA into an approach skewed for the current assets, reiterating the importance of future growth. The method particularly EVA has been considered inappropriate for highly cyclical industries, as well as startups or firms with strong presence in emerging markets. (Young, O' Byrne, 2001)

7.3 Appendix 3 (Other valuation issues)

Cyclical firms

Equity or enterprise valuation methods and particularly the DCF, are based on forward data, which requires a large quantity of predictions regarding the situation of the company as well as macro-economic factors (Steiger, 2008). Considering this predictions, it is wise to say that for mature and stable growth firms, analysts follow the observable trends in their projections (Hooke, 2010).

However, according to Damodaran (2010) cyclical firms, even if considered mature, see their value more dependent on macro-economic factors than specific firm factors. However, it is better to analyze individually a firm than an entire industry, because even inside a considered cyclical sector, as the automobile, there may be exceptional firms.

How to value cyclical firms

Analysing cyclical firms is not as analyzing a snapshot of future earnings or cash flows for the following years. In doing so, we may tamper the valuation of the firm, according to the cyclical stage the company is facing (Damodaran, 2010).

During contractions periods, the majority of analysts and Investment bank notes give neutral or negative rating to cyclical firms, contrasting with expansion periods, where "buy" recommendations are most given. The valuation process loses value, as analysts according the cycle stage, tend to give a positive feedback of the company, extending the period of analysis during contraction phases, in order to catch up positive flows from expansion periods, and the opposite while the firms presence a high growth periods.

Emerging markets & Cross Boarder valuation

Now more than ever, international companies are interested in developing operations in emerging markets, particularly in South America, Eastern Asia or Africa.

When valuing emerging markets there are particular questions that must be consider, so that severe valuation mistakes are avoid. International Finance is a complex theme, which involves sensitive questions, foreign currency account receivables or payments, taxation, inflation or simply political risk (Koller, Goedhart, Wessels, 2005). In summary, the challenges behind valuing companies on emerging markets go way beyond valuations in the developed market (damodaran, 2010)

According to Gatignon, Kimberly and Gunther, (2004) each country has a risk associated, and it is difficult to find a correlation between the risks of different countries. The main source of this risk is how the business activity of a certain country will behave throughout time.

According to the same author, considering different risks for different countries, the usage of CAPM may not be well applied. In order to reach the proper discount rate, CAPM takes into account an equity premium over the risk free rate. However, the premium differs from country to country, and use of a global premium may tamper the valuation.

Companies dealing with foreign currency cash flows, look for diversified ways of hedging their risk, using options, forward or future contracts. However in valuation terms, the common theory states that this cash should match the discount rate used. Meaning that currency of the cash flows must be equivalent to the cost of capital currency. (Pratt, Grabowski, 2010)

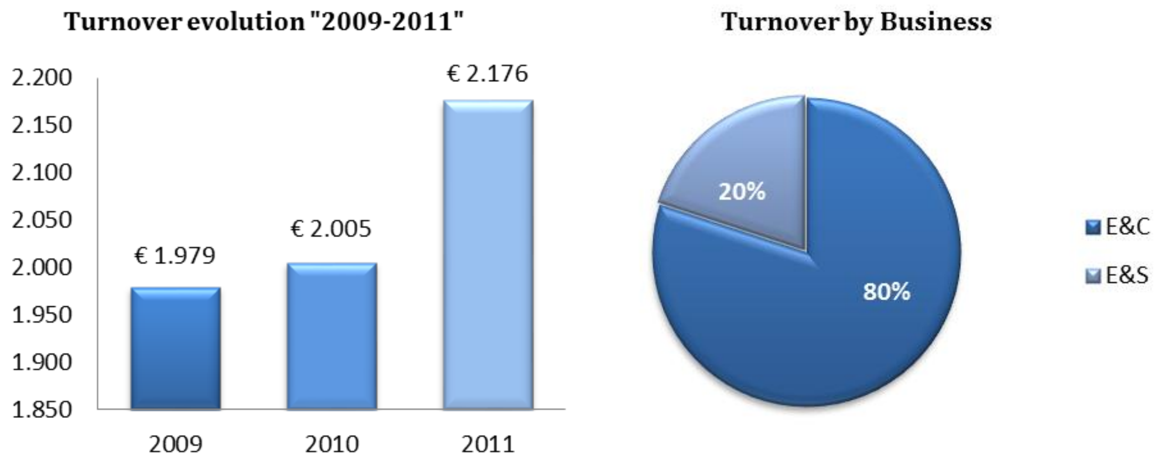
Finding the appropriate tax rate is as an important part of a valuation process. Experts believe tax risks, as multijurisdictional constraints may have a big impact in the valuation. And one of the main risks is how the tax, and accounting regime enable the transfer of cash flows. (Baker, KIymaz, 2011)

7.4 Appendix 4 (General Economic Review of Mota Engil SGPS)

Before doing a detailed analysis of Mota-Engil different business areas we may start by presenting some general figures regarding the company's performance during the last years.

Mota-Engil's turnover related with the projects and services provided by the company has increased approximately 10% in the last 2 years, exceeding now more than €2000 million.

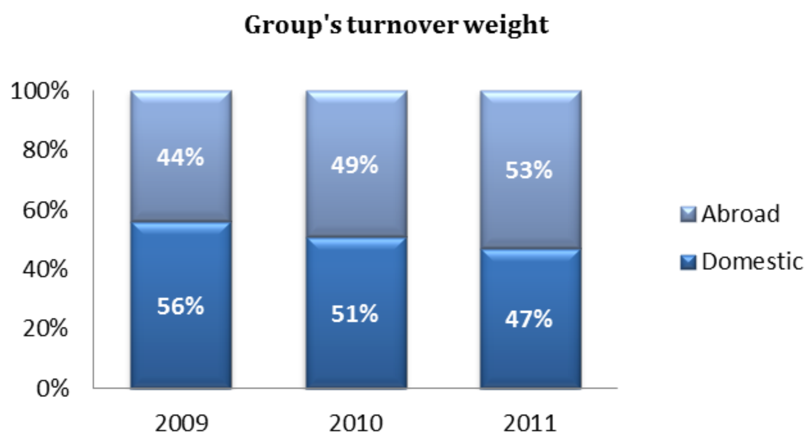
Figure 16: Turnover performance "2009-2011"; Turnover Business weight



Source: Mota-Engil, Report & Accounts

Even though it is not the core business of the group, Environment & Services is gaining importance for the company's performance. Although it is expected to increase for the next years it is not expected to reach the values presented by the Engineering & Construction sector, since this last one is the booster of the international operations.

Figure 17: Turnover weight (abroad vs domestic operations)

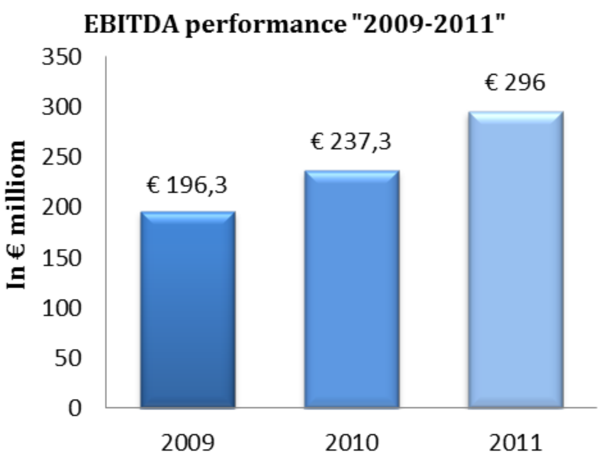


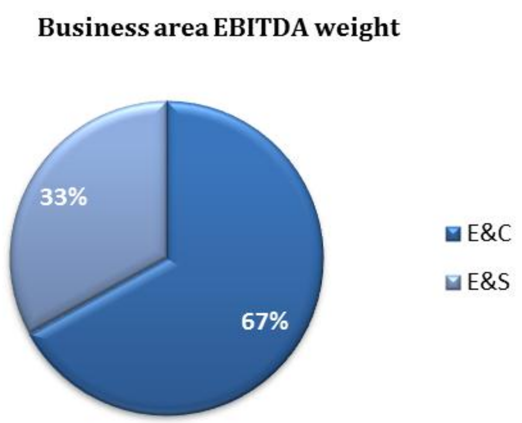
Source: Mota-Engil Report & Accounts

By the end of 2012 it is expected that 60% of the turnover is generated by external operations. Since the order book of the company is now aimed for the operations abroad.

In terms of operating profit, Mota-Engil's intention of increasing the EBITDA's weight has been successfully achieved. The increase of 50% of the EBITDA, is clearly a result of the efficiency police of company.

Figure 18: EBITDA performance "2009-2011"; Business area EBITDA weight

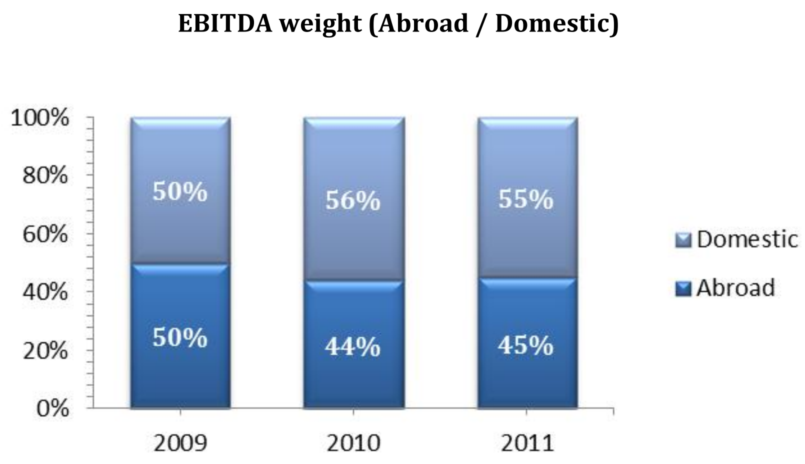




Source: Mota-Engil, Report & Accounts

The increase of the EBITDA margins in the E&C area, particularly in latin America and Angola. As well as the importance of E&S business as hedging tool of the core business of Mota-Engil by providing high EBITDA margins are the main reasons of the EBITDA's improvement of the last 2 years. Once again, like in the turnover analysis, the contribute of the foreign operation is larger than the contribution of the domestic market.

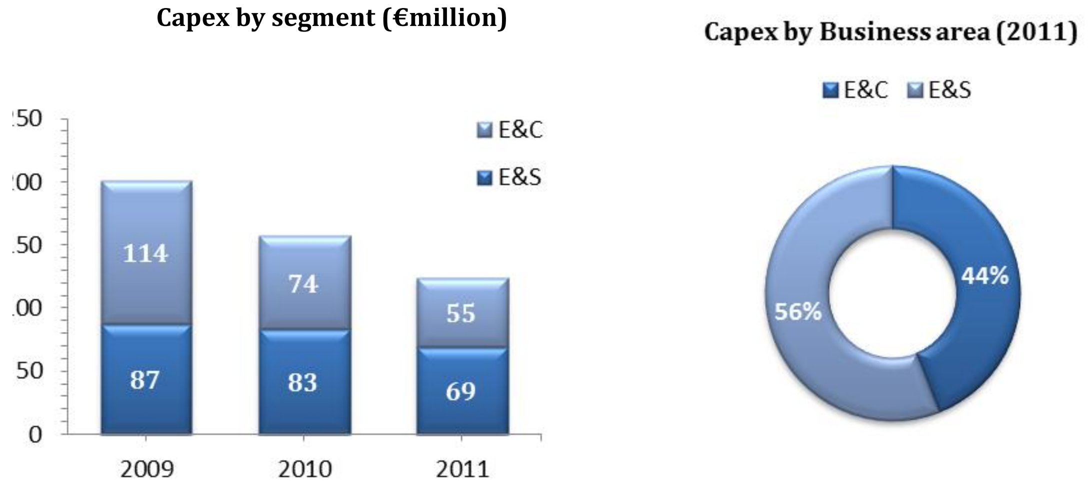
Figure 19: EBITDA Weight, Abroad vs Domestic



Source: Mota-Engil, Report & Accounts

The capital investment made by company, has decreased 39% since 2009. Even though in 2011 it is almost equally divided by the two business areas, E&S totalizes the majority of the investment, due to the existence of new concessions in Water sector in Portugal.

Figure 20: Capex distribuition by Business area

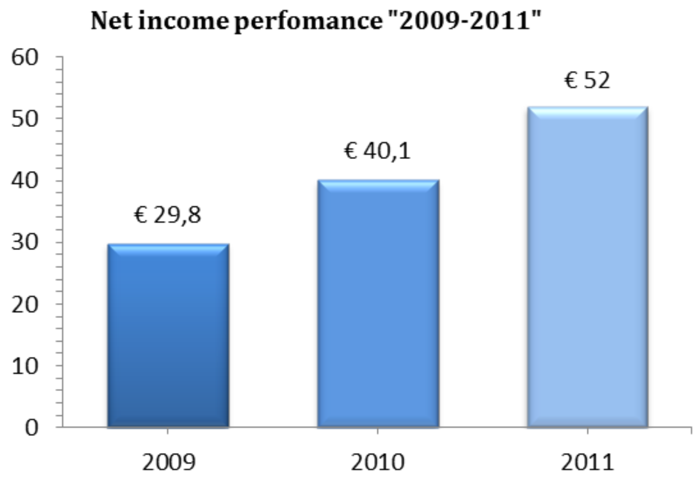


Source: Mota-Engil SGPS

E&C capital investment was mainly justified by large investments in Peru and central Europe, where new projects and risk of delay costs of some operations required large investments.

The financial costs supported by the company have, during the last few years crushed the net income of the company. The expansionary vision of Mota-Engil aligned with the “non-selling “police, have been responsible for high debt level that led to huge interest payments. However the net income increased nearly 75% since 2009.

Figure 21: Mota-Engil net income figures “2009-2011”



Source: Mota-Engil Report & Accounts

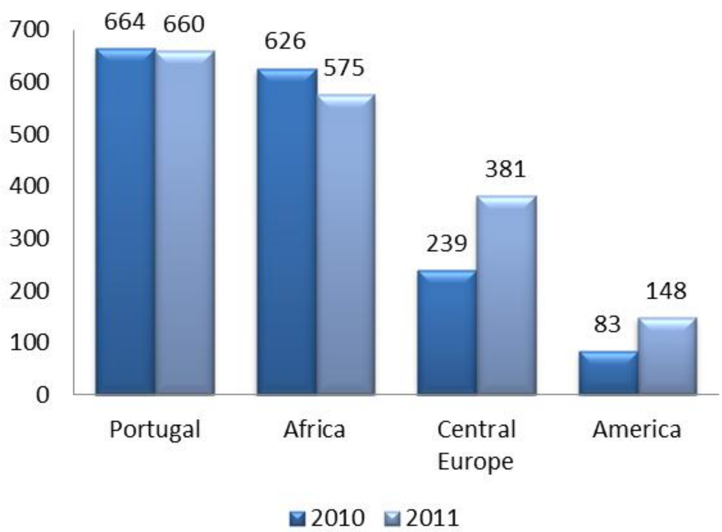
Since the net income is being highly conditioned by the debt position of the company, a simple analysis of this situation is conducted in appendix in order to better understand the impact of such debt in the company's financial figures.[16]

Engineering & construction

Enginnering & construction has been since the creation of Mota-Engil the main sector of activity. For the last years, the main focus in the sector occurred with more intensity in Portugal and Angola, however recently, due to macroeconomic factors, specifically in the Portuguese economy, the process of internationalization is gaining more relevance than ever.

In 2011, the turnover generated by E&C area reached € 1.747 billion, which represents an increase of 9,2% in comparison with the previous year. The Contribution of Central Europe and America segments, was the main reason behind this performance, as together both areas represented an increase of €207 million or 13% of the E&C turnover, while Portugal and Africa a decrease of 4% or €55,6 million.

Figue 22: E&C turnover by region



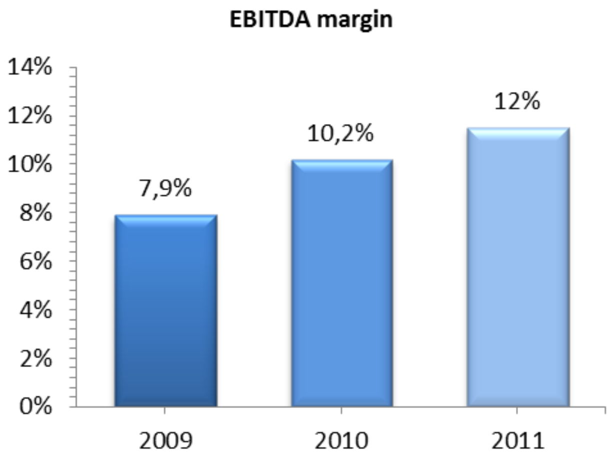
Source: Mota-Engil, Report & Accounts

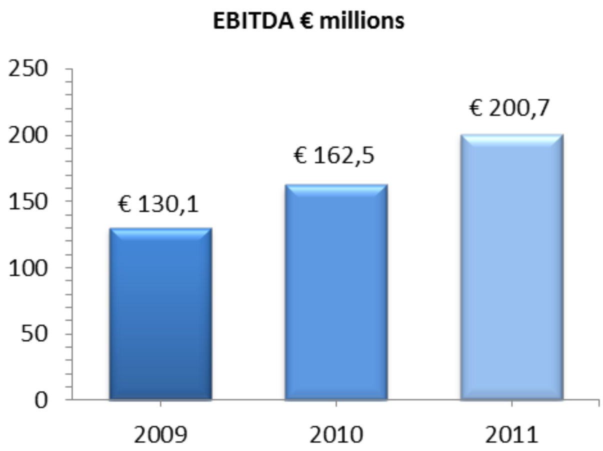
[16] Appendix x

We may believe, through these figures that the company's operational paradigm is changing with Europe and America promising future positive investments. The weight of the Portuguese market is falling down, representing in 2011, 37% of the total turnover of the business area (2010 : 40%). The excess capacity, reduced margins, weak demand and the economic environment, do not grant the domestic market positive future prospects.

If we consider the area's operating profit, we need to highlight the positive evolution of the EBITDA, which for the last two years has increased approximately 54%. Following this EBITDA growth is the EBITDA margin which has increased from 7,9% in 2009 to 11,5% in 2011.

Figure 23: E&C sector, EBITDA & EBITDA margins



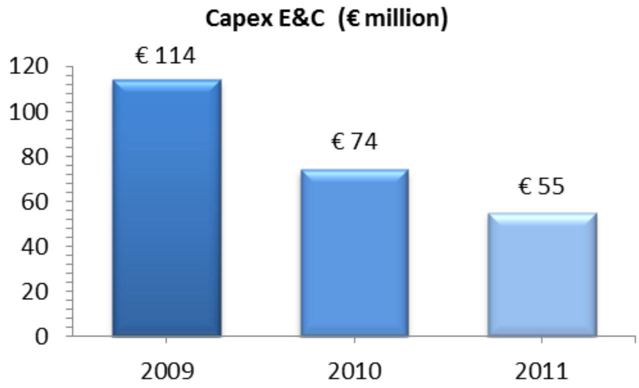


Source Mota-Engil Reports & Accounts

Africa contributes largely for the EBITDA margin, has more than 50% of the total EBITDA comes from this region. Mainly due to the contribution of some highly profitable markets, especially Mozambique, which covers up for the delays experienced in the projects in progress in Angola preventing the margin from being higher.

The Capex has been decreasing for the last two years, totalizing €55 million in 2011, a decrease of 51, 7% since 2009. With the Central European (Poland) market and Latin America, particularly Peru being responsible for 60% of this amount, due to the increase in the number of projects and capacity.

Figure 24: Capex E&S



Source: Mota-Engil Report & Accounts

The working capital is now facing a new paradigm in the company. Traditionally, construction companies in Portugal face delayed payments regarding the projects where their involved. However in other markets, with high relevance for Mota-Engil such as Poland or Mozambique, payments are done in pre-defined scheduled dates, usually at the beginning of a project, improving the company's figures.

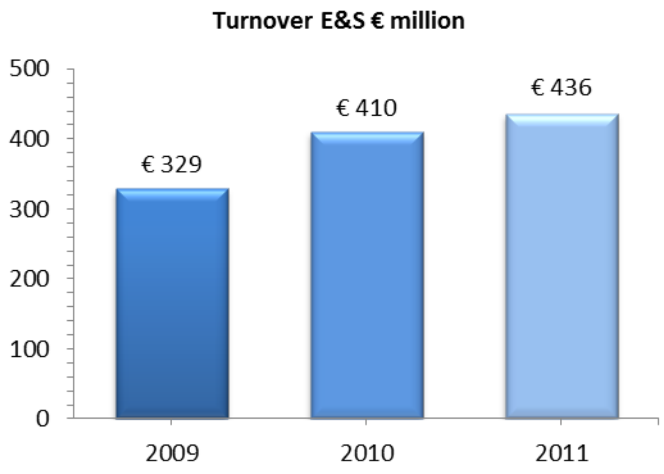
Environement & Services

In order to avoid the impact of the macroeconomic variables in the company's operations, particularly negative effects, Mota-Engil followed the trend of some European competitors, and invested in other sectors of activity, namely Environment & Services, composed by five different activities ,Waste, Water, Logistic and Ports, and Multi-services.

The higher and more stable EBITDA margins obtain in this sector constitute a good opportunity to cover up the riskier operations related with Engineering & Construction industry, increasing however the investment needs of the company and by consequence the leverage degree.

Although it is still far from the amounts generated by the E&C business, environment and services have totalized in 2011, € 436 million turnover, which represents a total increase of 6% when compared with the previous year, and approximately 33% in comparison with 2009.

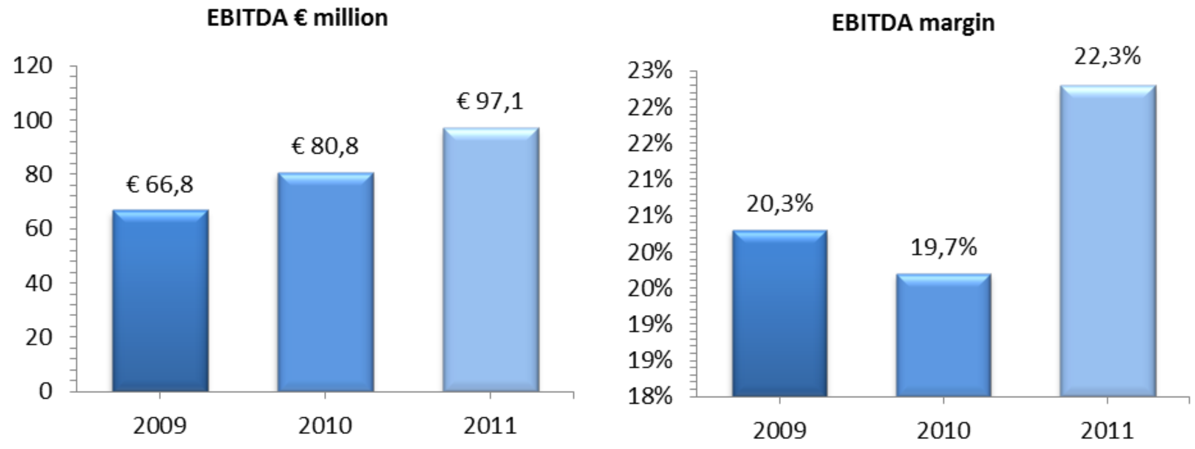
Figure 25: E&S turnover €million



Source:Mota-Engil, Report & Accounts

The EBITDA margins generated by this area are significantly larger when compared with the E&C core business area. This means that the main goal of increasing the company's margins is being built. Has we may see bellow, the margins are growing has the turnover increases, however the increase is exponential, and the margins are increasing year after year, reaching in 2011 22,3%

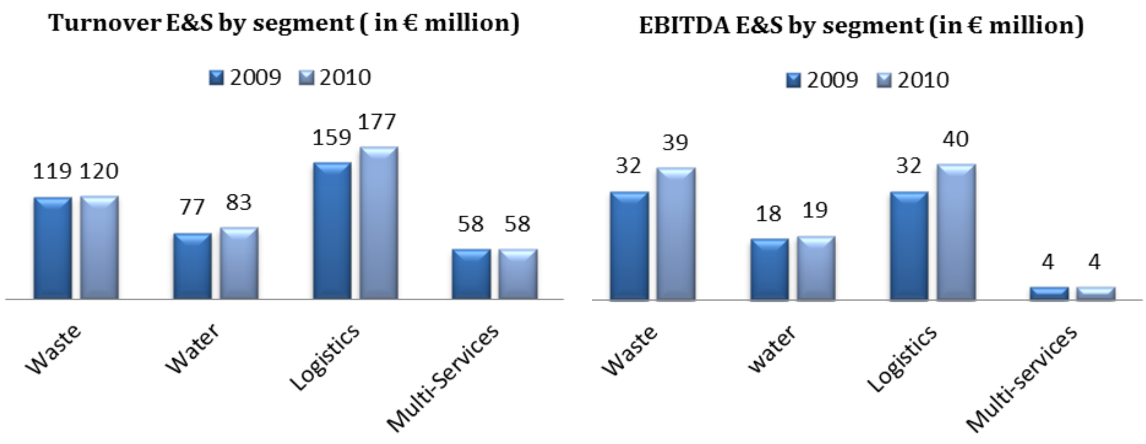
Figure 26: EBITDA & EBITDA margins E&S sector



Source: Mota-Engil SGPS

Environment & Services, have been part of the companies activities for more than 15years, developing a wide range of activities. Although it is mainly present in Portugal, the different segments that compose this Business area contribute differently in terms of figures. The Logistics and Waste sector combined almost 70% of the total turnover of the business in 2011, and 81% in terms of operating profitability measured in EBITDA terms.

Figure 27: Turnover and EBITDA E&S different segments (In € million)



Source: Mota-Engil, Report & Accounts

The Waste segment of the business is expected to have reached its maturity in the Portuguese market, meaning that internalization is the way to grow. The international weight in the segment then expected to increase in the following years, particularly in Poland, Angola and Brazil.

The water segment is now facing the same state as the waste segment in Portugal, with Peru and Brazil being considered as alternative markets due to their macroeconomic environment, deficient water infra-structures as well as Mota-Engil's business experience in both countries.

The main reason behind the weight of the Logistics segment is the solid positions the company manages worldwide. Through its subsidiary Tertir, Mota-Engil is the main leader in the Portuguese market that despite the economic crisis, has seen an increase in exports which allied with the stable imports projects good future expectations. Adding to this solid domestic position, there is the need to highlight the strong international presence, with a strong concession operation in Peru (Puerto Paita) and Angola as well as the participation in Transitex, which acts in competitive markets such as Spain, Venezuela or Mexico.

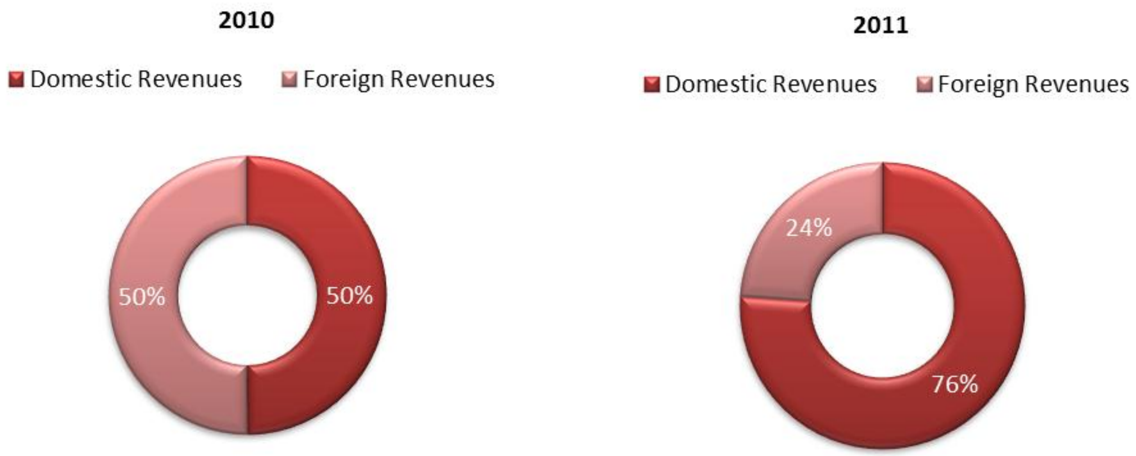
The Multi-Services segment involves several activities from industrial and buldings management to car-Park concessions. However, even though it is widespread throughout different activities as we may draft from the figures, it is the least profitable segment, generating low volumes of turnover and operating profitability.

7.5 Appendix 5 (Martifer Financial Info)

The impact of the macroeconomic factors and the pessimism of the investors has had a big impact in Martifer's shares, with a total downfall of 72% over the past 2 years. This figure had a high impact on Mota-Engil, leading to huge financial losses.

In 2011, the revenues decreased by 7%, to €550,1 million, with 44% of this amount coming from the metallic construction activity, and more than 50% from solar segment which has witnessed a high increase in the companies revenues in the last years. During the last few years the revenues have been divided 50/50, between the Iberian market and the rest of the international presence. However, in 2011, this ratio turned to 75/25, favourable to other international markets. The deep financial crisis in Portugal and the attractiveeness of the foreign market will tend to increase this ratio, favourably for the international business.

Figure 28: E&S turnover €million



Source: Martifer Report & Accounts

However, even with a more focused international activity, there was no improvement in the company's results, as the EBITDA register a decrement of 84, 2 % to €8,9 million and the net profit amounted for a negative €49,6 million.

Table 20: Martifer's Profit & losses (2010 / 2011)

Martifer	2011	2010
Revenues	550,1	591,6
EBITDA	8,9	56,6
Mg%	1,60%	9,60%
EBIT	-20,8	-21,7
Financial Results	-26,4	-20,2
profit before taxes	-47,1	-41,9
income tax	0,4	10,4
consolidated net profit (to shareholders)	-49,6	-54,8

Source : Martifer Report & Accounts

The main reason behind the decrease of the EBITDA, is linked with the negative margins in metallic constructions and the lower solar margins linked with the internationalization effort. As well as the increase of the steel price by 16,8% in the European steel index market, making this material less competitive in comparison with other construction materials**.**

7.6 Appendix 6 (Ascendi concessions)

Table 21: Concessionaire details

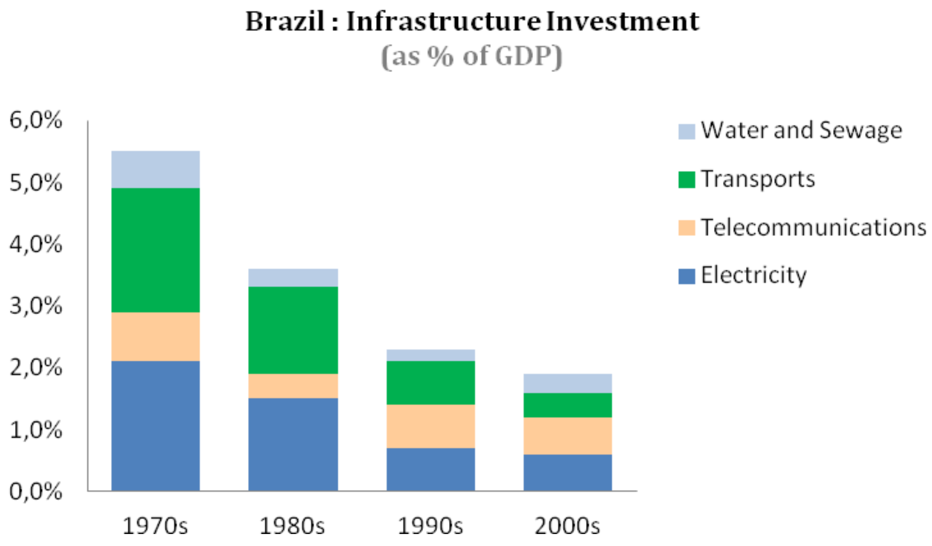
Concessionaire	Present Holding	Planned Holding	Km	Ending	Invest. (€mn)
Madeira	4,75%	4,75%	44,2	2025	390
Pinhal Interior	8,09%	79,99%	520,3	2040	1429
Douro Interior	8,85%	80,75%	242,3	2038	931
Travessia Tejo	38,02%	38,02%	19,5	2030	897
Norte	74,87%	74,87%	175	2029	1272
Costa de Prata	80,20%	80,20%	109,6	2030	499
Beiras Litoral e Alta	80,20%	80,20%	172,5	2031	1130
Grande Porto	80,20%	80,20%	55,5	2032	841
Beira Interior	...	22,23%	178	2029	812
Grande Lisboa	...	80,20%	91,1	2036	290
Total Portugal			**1.608**		**8.491**
Spain					
Autopista Madrid – Toledo	...	15%	81	2040	600
Autovía de los Viñedos	...	50%	75	2033	210
Total Spain			**156**		**810**
Latin America					
Autopista Perote – Xalapa	30%	50%	60	2038	389
Rodovias do Tietê	40%	50%	415	2039	470
Total Latin America			**475**		**859**
Africa					
Nova Ponte de Tete	40%	40%	701	2039	151
Total Africa			**701**		**151**
Railways Concessions					
MTS- Metro, Transportes do Sul	18,09%	24,89%	20	2032	338
TOTAL			**3.046**		**10.854**

Source: Mota-Engil SGPS

7.7 Appendix 7 (Brazilian market analysis)

It is important for further analysis, to understand the potential and importance of Infra-structures for the Brazilian market. Since 1970, the weight of infra-structures in the Brazilian GDP has been decreasing, from nearly 5,5% to 2%[17].

Figure 29 : % infra.investment in GDP



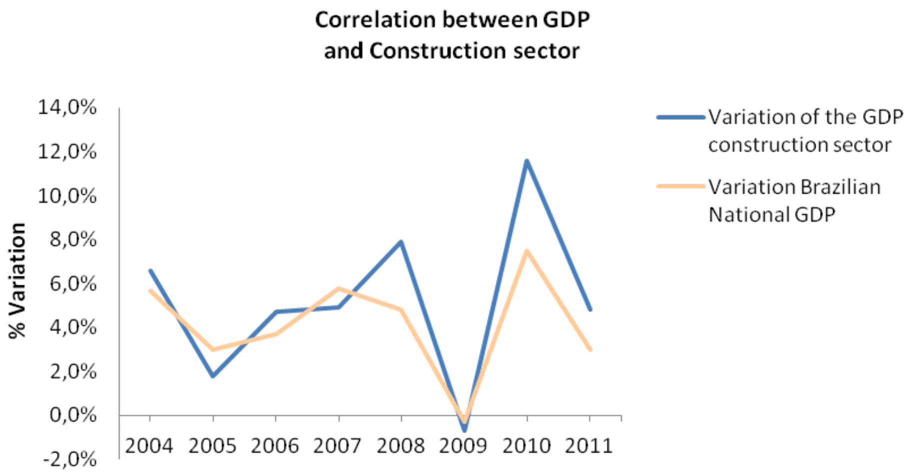
Source: World Bank, IPEA, BNDES

However, the relationship between the country's GDP and the construction sector is notorious, as we may see in Figure (30). The potential of the market has been realized by numerous market players, in a World Economic forum Survey, Brazil ranks as the 10th global market in terms of market size, and among infrastructures it is only ranked in 74th**,** giving the market a huge potential[18]

[17] Morgan Stanley: Morgan Stanley Blue Paper, " Brazil Infrastructure paving the way", May 5th,2010

[18] Morgan Stanley: Morgan Stanley Blue Paper, " Brazil Infrastructure paving the way", May 5th,2010

Figure 30: Correlation, GDP and construction sector



Source: Banco de dados do Brasil, 2011

If Brazil desires to grow 5% in GDP terms for the following years and maintain its pace in the BRIC group in needs to double the investment in the construction sector to 4% of the GDP.

Investment is increasing, mostly due to the Football World Cup organization in 2014 and the 2016 Olympic Games in Rio de Janeiro. According to BNDES[19], Brazil intends to invest R$ 275 billion, approximately €109 billion, between 2010-2013, however if consider the period from 2007 to 2014, the total investment in infrastructures was US$ 860 billion[20].

Table 22: infra.str invest 2010-2013

Sectors	Critical Factors	Investment 2010-2013
Telecommunication	Competition	R$67 billion
Ports and Highways	Regulation – Concession	R$47 billion
Electrical Energy	Licenses	R$92 billion
Railways and Sanitation	Federal Budget	R$69 billion

Source : APE/BNDES

[19] Morgan Stanley: : Morgan Stanley Blue Paper, " Brazil Infrastructure paving the way", May 5th,2010 APE/BNDES, Banco nacional de desenvolvimento

[20] Fundamental Equity Market Insights, " The Case for Brazil – Emerging Opportunities", Goldman Sachs, October 2010

Some studies point to a speculative bubble around Brazil, expecting a downturn in the economy after 2016. However, in order to grow 5% in GDP terms for the following years and maintain its pace in the BRIC group, Brazil needs to double the investment in the construction sector to 4%, with the key drivers to do so, the world sport events schedule for 2014 and 2016, oil exploration and the growth acceleration program (PAC).

Table 23: GDP forecast Brazil 1

Years	2011	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)
GDP Growth YoY	2,73%	3,03%	4,15%	4,00%	4,12%	4,07%	4,08%
GDP Local Currency	1.500	1.545	1.610	1.674	1.743	1.814	1.888

source: IMF

Although we may correlate the forecasted Brazilian economic growth with the big sports events of 2014 and 2016, the country sustainable growth is easily seen as the figure below shows, with a forecasted 77% increase in GDP terms in 15years.

Figure 31: Brazilian GDP "2002-2017"

Source: Brazilian GDP, IMF

7.8 Appendix 8 (E&C Turnover Sources)

E&C Sources

In Portugal the financial crisis, has had a tremendous impact in terms of GDP and foreign investment in the country. The construction sector is one of the engines of the economy beingalso one of the most affected. ITIC ("Instituto Técnico para a Indústria da Construção"), forecasts the following values for the general output of the construction sector in the country.

Table 24: Construction output Forecasts, Portugal "2012-2014"

Construction output	2008	2009	2010	2011	2012(f)	2013(f)	2014(f)
Portugal	-4,80%	-9,90%	-6,20%	-10%	-12,90%	-5%	-0,70%
EuroConstruct 19	-3,70%	-8,60%	-3,60%	-0,60%	-0,30%	1,80%	2%

Source: ITIC, " Instituto Técnico para a Indústria da Construção"; Euroconstruct

From 2014 forwards, the variation is equal to the GDP growth forecasted by the IMF, due to the importance of the sector for the economy's welfare.

Considering Africa, the turnover was estimated taking into account to different assumptions. First, according to the company's data the order book at the end of 2012 is expected to last for approximately 2years (1,94 years). With this information the value of the turnover for 2012 was achieved as a function of the order book at the end of 2011.

From there on the turnover was estimated as weighted average between the investment levels as percentage of GDP of Angola, Mozambique and Malawi and the correspondent share in the evolution of the order book in the following years.

Table 25: Forecasted percentage order book, Africa "2012-2020"

Order Book	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	2018(f)	2019(f)	2020(f)
Angola	46%	48%	50%	52%	53%	54%	56%	58%	60%
Mozambique	12%	13%	14%	15%	15%	15%	16%	18%	20%
Malawi	42%	39%	36%	34%	32%	31%	28%	24%	20%

GDP forecast	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	2018(f)	2019(f)	2020(f)
Angola	9,66%	6,75%	6,67%	6,63%	6,06%	6,16%	6,16%	6,16%	6,16%
Mozamique	6,75%	7,18%	7,79%	7,85%	7,82%	7,78%	7,78%	7,78%	7,78%
Malawi	4,27%	4,14%	4,13%	4,06%	4,05%	4,12%	4,12%	4,12%	4,12%

Source: Mota-Engil SGPS; IMF

For central Europe, the company's consideration in low growth rates was considered. This output forecasted for Poland until 2016 by the "world Outlook for Construction" was considered, and from 2016 on, the growth rate was indexed to the country's GDP forecast by IMF.

Table 26: Construction Output Forecast, "2012-2016"

Construction output	2011	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)
$ million USD	$ 44.890	$ 46.843	$ 48.881	$ 51.007	$ 53.226	$ 55.541
%variation	4,35%	4,35%	4,35%	4,35%	4,35%	4,35%

Source: "The 2011-2016 World outlook for Construction"

Relatively to the American operations and particularly Peru, which is the only country in the continent which contributes significantly for the cash flows, the approach used was based in the order book of the company and the relationship between the investment in the country as a proportion of the GDP and construction outputs.

Table 27: Order Book and turnover forecast "2012-2020"

Order book	**2011**	**2012(f)**	**2013(f)**	**2014(f)**	**2015(f)**	**2016(f)**	**2017(f)**	**...**	**2020(f)**
Order book	€ 417,70	€ 434,72	€ 467,24	€ 484,55	€ 512,64	€ 542,95	€ 575,15	...	€ 683,66
Turnover	€ 208,85	€ 217,36	€ 233,62	€ 242,27	€ 256,32	€ 271,48	€ 287,58	...	€ 341,83
% variation		4,07%	7,48%	3,70%	5,80%	5,91%	5,93%	...	5,93%

Source: Mota-Engil SGPS, IMF

The order book at the end of 2011, contemplates 2 years of projects in the South American country. This was considered as an average for the upcoming years, with the order book growing at the pace of the investment in the Peruvian Economy.

7.9 Appendix 9 (E&C Capex, Nwc, Depreciation info.)

This increasing tendency is expected to last until 2014, at least until the end of the financial assistance program imposed in Portugal. From there on, it was considered that the NWC will tend to 5% of the revenues in long-term.

Table 28: Net Working Capital evolution (2012-2020), € million

NWC	**2011**	**2012(f)**	**2013(f)**	**2014(f)**	**2015(f)**	**2016(f)**	**2017(f)**	**...**	**2020(f)**
NWC	€ 118	€ 165	€ 198	€ 227	€ 238	€ 250	€ 249	...	€ 273
% variation		39,83%	20,00%	14,65%	4,85%	5,04%	-0,40%	...	5,00%
%revenues		8,5%	9,50%	10,00%	10,00%	10,00%	9,50%	...	9,00%

Source: Mota-Egil SGPS

Capex

The Capex situation is complex, even though the company has a high capacity level installed in the sub-Saharan Africa, the increase of more than 70% of the order book for the region and the expectancy of new future contracts for 2012 (already shown in the 2012 1st trimmest report) and 2013 will require the need for new investments in construction machineries.

The Capex in expansion is then expected to increase highly in 2012, and besides decreasing in 2013, only after 2014 the equilibrium between maintenance and expansion Capex will occur again.

Table 29: Capex evolution (2012-2020), € million

Capex	2011	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	...	2020(f)
Maintenance	**€ 27**	**€ 26,50**	**€ 28,50**	**€ 29,80**	**€ 31,70**	**€ 33,90**	**€ 35,60**	**...**	**€ 41,20**
% variation		-1,85%	7,55%	4,56%	6,38%	7%	5,01%	...	4,83%
Expansion	**€ 28**	**€ 31,10**	**€ 37,10**	**€ 40,50**	**€ 43,10**	**€ 46**	**€ 48,50**	**...**	**€ 55,90**
% variation		11,07%	19,29%	9,16%	6,42%	6,73%	5,43%	...	4,92%
Total	**€ 55**	**€ 57,60**	**€ 65,60**	**€ 70,30**	**€ 74,80**	**€ 79,90**	**€ 84,10**	**...**	**€ 97,10**
%variation		**4,73%**	**13,89%**	**7,16%**	**6,40%**	**6,82%**	**5,26%**	**...**	**4,99%**

Source: Mota-Engil SGPS

Considering the operational profitability, in long term the margins will tend to approximately 9,55%, lower than the 11,49% of 2011. However, even aligned with the margins of the sector, the decrease is explained by the margins obtain in different regions. Portugal and Poland, will difficulty exceed margins above 5%. And even Africa and America will tend to decrease their double digit margins, as the markets will become more mature, particularly in America, where the infrastructure business is only now starting.

Depreciation

Depreciation was considered taking into account the forecasted Capex, because as it was mentioned before, the order book of the company has grown exponentially due to new projects in Africa. Even though it is possible to transfer means from other less active regions, it would imply high logistic costs and could weaken the company’s position in some countries.

The relationship between the maintenance Capex and depreciation in the long term was then considered as the development element, for forecasting future depreciations.

Table 30: Depreciation Forecast, "2012-2020"

	2011	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	...	2020(f)
Maintenance Capex	**€ 27**	**€ 26,5**	**€ 28,5**	**€ 29,8**	**€ 31,7**	**€ 33,9**	**€ 35,6**	**...**	**€ 41,2**
% variation		-1,85%	7,55%	4,56%	6,38%	7%	5,01%	...	4,83%
Depreciation	**€ 57,0**	**€ 56,4**	**€ 60,8**	**€ 63,5**	**€ 67,5**	**€ 72,1**	**€ 76,0**	**...**	**€ 87,7**

Source: Mota-Engil SGPS, Maintenance Capex forecast, "2012-2020"

7.10 Appendix 10 (Terminal Value Stable Growth Rate)

Since the valuation was computed summing the different business parts of Mota-Engil SGPS, both E&C and E&S segments have different terminal values, mainly due to the geographic position of each one.

Table 31: Stable growth rate, based on GDP average growth rate (2008/2017)

Country	Turnover	Weight	Average GDP growth
Portugal	€ 531.193.452	17,51%	0,46%
Poland	€ 552.725.462	53,57%	5,85%
Africa	€ 1.625.359.265	18,22%	3,43%
Peru	€ 324.618.543	10,70%	5,79%
stable growth rate			**4,46%**

Source: IMF

The stable growth rate for the E&C sector was determined through the geometric average between the GDP of the different countries that compose the E&C operation and the weight of the forecasted turnover of each this countries and the total turnover amount of the sector.

7.11 Appendix 11 (sum of the parts DCF, company's info.)

Valuation considering information fully provided by the company

It is considered here one valuation using only information conceded by the company. Particularly information related with turnover forecasts, EBITDA and EBIT margins. Capex, depreciations and Net working capital used are the same before, as well as the information and valuation regarding Ascendi and Martifer.

The main differences here presented are related with E&C area and the differences in the final valuation will come from here.

Table 32: Turnover evolution forecast; "2012-2020"

Turnover	**2011**	**2012(f)**	**2013(f)**	**2014(f)**	**2015(f)**	**2016(f)**	**2017(f)**	**...**	**2020(f)**
Portugal	**€ 587**	**€ 499**	**€ 424**	**€ 381**	**€ 383**	**€ 387**	**€ 392**	**...**	**€ 422**
%variation		-15,00%	-15,00%	-10,00%	0,50%	1,02%	1,24%	...	4,48%
Central Europe	**€ 383**	**€ 394**	**€ 406**	**€ 420**	**€ 435**	**€ 452**	**€ 470**	**...**	**€ 529**
%variation		2,98%	3,02%	3,50%	3,50%	3,98%	4,00%	...	3,99%
Africa	**€ 615**	**€ 799**	**€ 999**	**€ 1.139**	**€ 1.310**	**€ 1.389**	**€ 1.475**	**...**	**€ 1.757**
%variation		30,01%	25,00%	14,00%	15,00%	6,06%	6,16%	...	6,00%
America	**€ 163**	**€ 212**	**€ 265**	**€ 318**	**€ 353**	**€ 385**	**€ 415**	**...**	**€ 499**
%variation		30,00%	24,96%	20,02%	10,98%	9,02%	7,98%	...	5,99%
Total	**€ 1.747**	**€ 1.904**	**€ 2.094**	**€ 2.258**	**€ 2.481**	**€ 2.613**	**€ 2.752**	**...**	**€ 3.207**
%variation		**8,98%**	**9,97%**	**7,87%**	**9,84%**	**5,34%**	**5,33%**	**...**	**5,46%**

Source: Mota-Engil SGPS

It is possible to observe some significant differences in the company's forecasted revenues and the valuation conducted before. Although Mota-Engil expects a sharper drop in the expected turnover for Portugal until 2014, it does also expect a much fast recovery in the domestic market after that.

In Poland the differences are not significant, the sources used before and company seem to be in agreement, since the highly competitive Polish market may strangle the company's growth in the market.

Mota-Engil does also have more positive expectations regarding the African market until 2015,since the order book is growing exponentially in the continent. However the fear of the political risk leads the company to be more contained in the predictions after 2015.

Once again, in Latin America the company is more optimistic as it expects to become soon the 2nd largest market for the company due to the new operations in the E&C sector in Peru.

Table 33: Sum of the Parts, Discounted Cash Flow E&C (€ million)

DCF	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	2018(f)	2019(f)	2020(f)
Turnover	€ 1.903	€ 2.093	€ 2.258	€ 2.480	€ 2.613	€ 2.752	€ 2.894	€ 3.040	€ 3.207
EBITDA	€ 225	€ 256	€ 268	€ 282	€ 282	€ 300	€ 318	€ 336	€ 355
EBIT	€ 129	€ 136	€ 140	€ 144	€ 146	€ 151	€ 159	€ 167	€ 176
(-)Taxes	€ 38	€ 39	€ 41	€ 42	€ 42	€ 44	€ 46	€ 48	€ 51
(+)D&A	€ 56	€ 61	€ 64	€ 68	€ 72	€ 76	€ 80	€ 84	€ 88
(+)Provisions	€ 17	€ 19	€ 21	€ 23	€ 23	€ 24	€ 24	€ 24	€ 25
(-)capex	€ 58	€ 66	€ 70	€ 74	€ 78	€ 82	€ 87	€ 91	€ 95
(-) nwc var	€ 10	€ 13	€ 5	€ 2,10	€ 1,40	€ 1,10	€ 0,60	€ 8	€ 0,70
FCFF	**€ 98**	**€ 98**	**€ 108**	**€ 116**	**€ 119**	**€ 123**	**€ 130**	**€ 128**	**€ 142**
DCF	**€ 98**	**€ 90**	**€ 90**	**€ 89**	**€ 84**	**€ 79**	**€ 76**	**€ 69**	**€ 69**
PV of CF	€ 743								
Term.Val	€ 2.935								
PV Term.Val	€ 1.437								
Total	€ 2.180								

Source: Mota-Engil SGPS

With this information it is possible to conduct one other valuation, which will differ from the previous one and will reflect the expectancy of the company, particularly regarding the biggest sector of activity, Engineering and Construction.

Table 34: Price Target Mota-Engil SGPS 2012

E&C (€)	**€ 2.179.963.532**
Minorities (€)	€ 1.068.182.131
E&S (€)	**€ 513.242.577**
Minorities (€)	€ 197.598.392
Ascendi (€)	**€ 426.262.969**
Minorities (€)	€ 170.505.188
Martifer (€)	**€ 20.229.378**
Enterprise Value (€)	**€ 1.703.412.746**
Net debt (€)	€ 1.121.524.229
Equity value (€)	**€ 583.663.024**
Outstanding Number of Shares	204.635.665
Price Target	**€ 2,84**

Source: Mota-Engil SGPS

The value reached here, exceeds in € 0,92 the valuation done before, which represents almost €188 million in market capitalization. The reason behind this are the more optimistic data provided by Mota-Engil SGPS particularly regarding the turnover for the next years of activity. Once again, in order to validate this valuation an income statement approach was considered in order to avoid big lags in the company's final value.

7.12 Appendix 12 (E&S Capex, Nwc, Depreciation, info.)

Table 35: Capex Evolution, "2012-2020", (€ million)

Capex	2011	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	...	2020(f)
Total Amount	**€ 68**	**€ 68**	**€ 65**	**€ 60**	**€ 50**	**€ 40**	**€ 35**	**...**	**€ 35**
Maintenance	€ 21	€ 21	€ 22	€ 23	€ 24	€ 19	€ 18	...	€ 18
Expansion	€ 47	€ 47	€ 43	€ 37	€ 26	€ 21	€ 18	...	€ 18

Source: Mota-Engil SGPS

The E&S business area has an implied risk, related with the geographic position. The company acts mainly in Portugal, being subject to the credit risks awakened by the sovereign debt crisis. Some of Mota-Engil's clients, include government organizations and the risk of delays in payments will tend to increase the NWC in the near future, particularly until 2015, decreasing after but difficulty bellow the values witnessed nowadays.

Table 36: Net Working Capital evolution forecast, "2012-2020" (€ million)

NWC	2011	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	...	2020(f)
Total amount	**€ 33**	**€ 38**	**€ 43,6**	**€ 48**	**€ 52,8**	**€ 56,2**	**€ 58,8**	**...**	**€ 66,1**
% variation		15,15%	14,74%	10,09%	10,00%	6,44%	4,63%	...	3,77%
% of revenues		8,46%	9,26%	9,63%	10,00%	9,50%	9,50%	...	8,00%

Source: Mota-Engil SGPS

Depreciation was once more, taking into consideration being related with the maintenance Capex evolution. In this case the future expectations differ from the E&C sector, as depreciation may decrease over time.

Table 37: Depreciation evolution forecast, “2012-2020” (€ million)

Capex	2011	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	...	2020(f)
Maintenance Capex	€ 21	€ 21	€ 22	€ 23	€ 24	€ 19	€ 18	...	€ 18
% variation		0%	5%	5%	4%	-21%	-5%	...	0%
Depreciation	€ 31,6	€ 31,6	€ 33,1	€ 34,6	€ 36,1	€ 28,6	€ 26,3	...	€ 26,3

Source: Mota-Engil SGPS, Maintenance Capex evolution, “2012-2020”

EBITDA margins are clearly higher in this business with the average profitability being 22%, which will tend to decrease to 18%/20% with the market becoming more mature, the possibility of new regulatory legislation and more competition.

7.13 Appendix 13 (Ascendi’s PPP revaluation)

The contracts celebrated between Ascendi and the Portuguese Government are under the revision process of the PPP’s (Parceria público-privada). A reduction of the 30% of the payments paid by the government was considered in order to guarantee a more realistic scenario.[21]

Table 38: PPP revaluation process (-30%), Ascendi Turnover Forecast, “2012-2020” (€ million)

Ascendi	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	...	2028(f)	2029(f)	2030(f)	2031(f)	2032(f)
Turnover	**€ 266**	**€ 268**	**€ 270**	**€ 272**	**€ 274**	**...**	**€ 299**	**€ 229**	**€ 159**	**€ 89**	**€ 19**
Inflation	3,20%	1,40%	1,54%	1,47%	1,47%	...	1,47%	1,47%	1,47%	1,47%	1,47%
%variation	1,60%	0,70%	0,77%	0,73%	0,73%	...	0,73%	0,73%	0,73%	0,73%	0,73%
EBITDA	**€ 243**	**€ 244**	**€ 246**	**€ 247**	**€ 249**	**...**	**€ 272**	**€ 208**	**€ 145**	**€ 81**	**€ 17**
% margin	91%	91%	91%	91%	91%	...	91%	91%	91%	91%	91%

[21] Source: News, ionline.pt, “Scut. Ascendi e Mota-Engil têm cortes de 30% nas receitas” 24-05-2012

Source: Mota-Engil SGPS, News, ionline.pt

If we consider this situation regarding future cash flows of Ascendi we may deduce a considerable difference in the value of the company. Due to the high levels of debt of ascendi and the way debt is being reimbursed the cash flows will assume negative values, so even though some information points out to this 30% reduction, it expectable that ascendi will negotiate a different deal so it won't be highly penalized.

7.14 Appendix 14 (Rating Methodology, Moody's)

Table 39: Moody's Rating Methodology, Global Construction Methodology

Scale and Profitability	**Rating**	**Sub-factor weighing**	**Total**
Total Revenue	B	12,50%	1,875
EBITDA	Ba	12,50%	1,5
Business Profile		**35,00%**	
Geographic	A	11,67%	0,7002
Segment Diversity	B	11,67%	1,7505
Order Backlog / Revenue	Ba	11,67%	1,4004
Financial Policy	B	**15%**	**2,25**
Financial Strength		**25,00%**	
Debt / EBITDA	Caa	6,25%	1,125
Cash & Mkt. Securities/ Debt	Ca	6,25%	1,25
EBITDA / Interest expense	Ba	6,25%	0,75
FFO/DEBT	Ca	6,25%	1,25
Total			**13,85**
Final Rating			**B1**

Source: Moody's Investors service, Global Corporate Finance, 29 May 2010

7.15 Appendix 15 (Beta Estimation)

Table 40: Average Industry Unlevered Beta

E&C	**Raw beta**	**adjusted beta**	**D/E**	**Unlevered beta**
Soares da costa	1,071	1,047	4,716	0,227
Ferrovial (IBEX 35)	1,017	1,011	3,013	0,302
Vinci (cac 40)	1,147	1,098	1,073	0,622
Hochtief (Dax)	1,207	1,138	0,804	0,739
FCC (IBEX 35)	0,937	0,958	3,006	0,278
EIFFAGE (cac 40)	0,965	0,977	3,904	0,237
Average				**0,401**

E&S	**Raw beta**	**adjusted beta**	**D/E**	**Unlevered beta**
Suez Environment (cac 40)	0,794	0,863	1,575	0,355
Veolia Environment (cac 40)	1,107	1,071	1,778	0,461
Severn Trent PLC (footsie 100)	0,668	0,778	1,248	0,337
Average				**0,384**

Transport Concessions	**Raw beta**	**adjusted beta**	**D/E**	**Unlevered beta**
abertis (ibex 35)	0,845	0,897	1,457	0,418
Atlantia	0,725	0,817	1,218	0,391
societe des autoroutes (cac 40)	0,369	0,579	1,208	0,200
Average				**0,337**

Source: Bloomberg

7.16 Appendix 16 (Income statement DCF, Company's info. And own info.)

Income Statement Approach (own Info.)

Table 41: Price Target Mota-Engil 2012

Income statement cons. (€)	**€ 2.607.998.083**
Minorities (€)	€ 1.330.079.022
Ascendi (€)	**€ 426.262.969**
Minorities (€)	€ 170.505.188
Martifer (€)	**€ 20.229.378**
Total (€)	**€ 1.553.906.221**
Net debt (€)	€ 1.121.524.229
Equity Value (€)	**€ 432.381.992**
Outstanding Shares	204.635.665
Price Target	**€ 2,11**

Source: Own data

Cost Structure (own information)

Table 42: Cost structure (€ million)

Op. costs	**2012(f)**	**2013(f)**	**2014(f)**	**2015(f)**	**2016(f)**	**2017(f)**	**2018(f)**	**2019(f)**	**2020(f)**
Purchases	530 €	566 €	615 €	646 €	680 €	713 €	747 €	782 €	820 €
Closing stocks	-105 €	-113 €	-122 €	-128 €	-135 €	-142 €	-148 €	-156 €	-163 €
Subcontracts	831 €	886 €	9.620 €	1.011 €	1.064 €	1.116 €	1.169 €	1.225 €	1.283 €
Total	1.353 €	1.443 €	1.566 €	1.646 €	1.732 €	1.817 €	1.905 €	1.995 €	2.090 €
Third-Par S&S									
Leases & rents	201 €	215 €	233 €	245 €	258 €	270 €	283 €	297 €	311 €
Spec.works	69 €	74 €	80 €	84 €	89 €	93 €	98 €	102 €	107 €
Transport	46 €	49 €	53 €	56 €	59 €	62 €	65 €	68 €	71 €
Maint&repairs	43 €	46 €	50 €	52 €	55 €	58 €	61 €	63 €	66 €
Fuel	31 €	33 €	36 €	38 €	40 €	42 €	44 €	46 €	48 €
Insurance	12 €	12 €	13 €	14 €	15 €	16 €	16 €	17 €	18 €
Com&fees	7 €	8 €	9 €	9 €	9 €	10 €	10 €	11 €	11 €
Wat& electr	12 €	12 €	13 €	14 €	15 €	15 €	16 €	17 €	18 €
Uten&equipment	8 €	9 €	10 €	10 €	11 €	11 €	12 €	12 €	13 €
Vig&security	9 €	10 €	11 €	12 €	12 €	13 €	13 €	14 €	15 €
Communications	6 €	7 €	7 €	8 €	8 €	9 €	9 €	10 €	10 €
Advert&publicity	3 €	3 €	3 €	3 €	3 €	4 €	4 €	4 €	4 €
Other s&s	30 €	32 €	35 €	37 €	39 €	41 €	43 €	45 €	47 €
Total	**477 €**	**510 €**	**553 €**	**582 €**	**613 €**	**644 €**	**674 €**	**706 €**	**739 €**

Wages	**2012(f)**	**2013(f)**	**2014(f)**	**2015(f)**	**2016(f)**	**2017(f)**	**2018(f)**	**2019(f)**	**2020(f)**
Remuneration	334 €	367 €	399 €	437 €	470 €	504 €	540 €	578 €	620 €
Social security charges:									
Pensions & other	3 €	4 €	4 €	4 €	5 €	5 €	5 €	6 €	6 €
Other	81 €	86 €	90 €	94 €	99 €	103 €	108 €	113 €	118 €
Total Wages	**418 €**	**456 €**	**493 €**	**536 €**	**573 €**	**612 €**	**653 €**	**696 €**	**743 €**

Income Statement Approach (Information fully provided by the company)

In comparison with the income statement approach done before, we may see a diference of € 0,63, which is considered a large difference taking into account that it represents almost variation of € 129 million euros in terms of equity value.

Table 43: Price Target Mota-Engil SGPS 2012

Income statement cons. (€)	**€ 2.867.395.611**
Minorities (€)	€ 1.462.371.761
Ascendi (€)	**€ 426.262.969**
Minorities (€)	€ 170.505.188
Martifer (€)	**€ 20.229.378**
Total (€)	**€ 1.681.011.009**
Net debt (€)	€ 1.121.524.229
Equity Value (€)	**€ 559.486.780**
Outstanding Shares	204.635.665
Price Target	**€ 2,74**

Source: Mota-Engil SGPS

Table 44: DCF information fully provided by the company

DCF	**2012(f)**	**2013(f)**	**2014(f)**	**2015(f)**	**2016(f)**	**2017(f)**	**2018(f)**	**2019(f)**	**2020(f)**
Turnover	€ 2.453	€ 2.670	€ 2.868	€ 3.126	€ 3.298	€ 3.469	€ 3.643	€ 3.819	€ 4.016
EBITDA	€ 322	€ 342	€ 358	€ 383	€ 393	€ 401	€ 409	€ 416	€ 423
EBIT	€ 176	€ 186	€ 195	€ 213	€ 225	€ 232	€ 236	€ 239	€ 242
(-)Taxes	€ 53	€ 56	€ 59	€ 64	€ 68	€ 70	€ 71	€ 72	€ 73
(+)D&A	€ 109	€ 116	€ 120	€ 126	€ 123	€ 124	€ 128	€ 132	€ 136
(+)Provisions	€ 37	€ 41	€ 43	€ 44	€ 45	€ 45	€ 45	€ 45	€ 45
(-)capex	€ 125	€ 131	€ 130	€ 125	€ 120	€ 119	€ 123	€ 128	€ 132
(-) nwc var	€ 51	€ 85	€ 34	€ 16	€ 12	€ 1,8	-€ 2,2	€ 8	€ 14
FCFF	€ 92	€ 70	€ 135	€ 178	€ 193	€ 211	€ 217	€ 208	€ 204

DCF	€ 92	€ 64	€ 113	€ 136	€ 135	€ 135	€ 127	€ 112	€ 100
PV of CF	€ 1.014								
Term.Val	€ 3.784								
PV Term.Val	€ 1.853								
Total	€ 2.687								

Source: Mota-Engil SGPS

The main reason behind this is the difference in the EBITDA margins estimated as well as the difference in the stable growth rate used which has increased significantly the PV of the terminal value used.

7.17 Appendix 17 (Multiples, PER, EV/EBITDA)

Table 45: Multiples Approach, PER and EV/EBITDA

E&C	PER			EV/EBITDA		
Portugal	2010	2011	2012(f)	2010	2011	2012(f)
Teixeira Duarte	5,62	...	4	11,95	...	8,24
Soares da costa	5,57	24,67	...	9,73	...	11,85
Average	5,595	...	...	10,84	...	10,045
Foreign						
Ferrovial	2,07	16,1	34,37	6,86	10,85	14,41
Vinci	12,14	9,59	9,57	7,01	5,93	5,97
Hochtief	14,74	...	14,41	3,92	3,55	4,94
FCC	7,49	19,16	6,47	8,16	7,62	7,98
EIFFAGE	12,36	8,2	9,41	9,11	-	8,17
Sacyr	6,82	9,02		2,68	23,06	25,78
Elecnor	6,86	7,54	7,09	7,44	7,61	7,3
Sacyr	6,82	9,02		2,68	23,06	25,78
Elecnor	6,86	7,54	7,09	7,44	7,61	7,3
average (1)	8,46	10,77	12,63	6,14	11,16	11,96
average (2)	7,94	12,32	11,55	7	11,16	11,61

E&S	PER			EV/EBITDA		
	2010	2011	2012(f)	2010	2011	2012
Suez Environment	13,43	14,84	11,14	8,47	6,71	5,54
Veolia Environment	20,44	...	14,44	7,91	5,89	7,76
Severn Trent PLC	11,32	12,69	19,53	8,07	9,45	9,84
Average	16,94	13,77	15,04	8,15	7,35	7,71

Source: Bloomberg

In average (1), Teixeira Duarte and Soares da Costa were not used in the calculations in order to avoid particular risks of the Portuguese market, mainly in the past 2 years, while in the second approach (average (2)), this risk was included and the entire peer group was used.

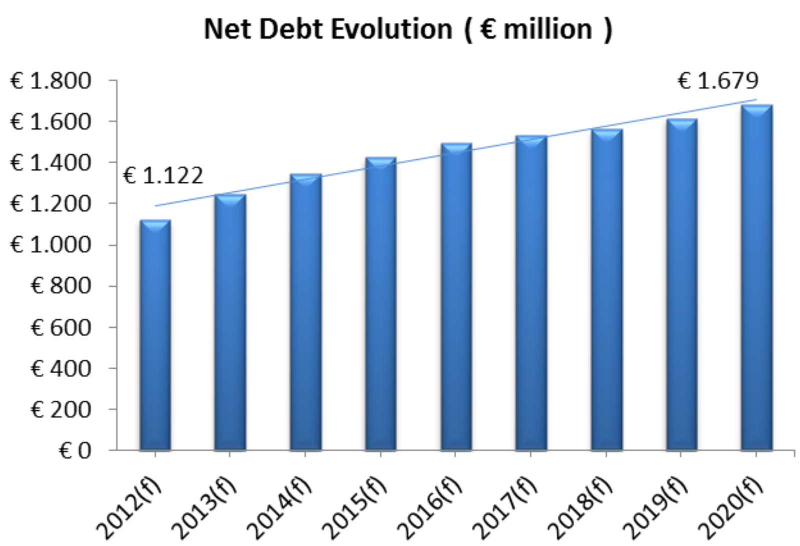
The assumptions behind the choice of these companies were different for each of the two business areas. For the E&C sector three different criteria were taken into account: (1) the integration of two major Portuguese competitors, Soares da Costa and Teixeira Duarte. (2) Comparison with companies which operate in a same significant market as Mota-Engil (Poland), with special attention granted to European companies. (3) And companies, with a similar market capitalization to counter balance the impact of some of the major players in Europe used.

The assumptions made for the E&S sector were different, it is difficult to find a company which provides the same services in Portugal, and internationally competitors have a wider experience when compared with Mota-Engil, accumulating a high market value throughout the years. The criteria was then, to use companies which develop at least to similar activities as the E&S area, namely Water concession, Waste treatment or Logistics.

7.18 Appendix 18 (Net Debt)

Although the company aims to diminish the amount of debt it needs to operate, it is not expected to be real in the near future. The expansion in the African and Latin American markets will lead to a high financial effort by the company and by consequence an increase in terms of net debt

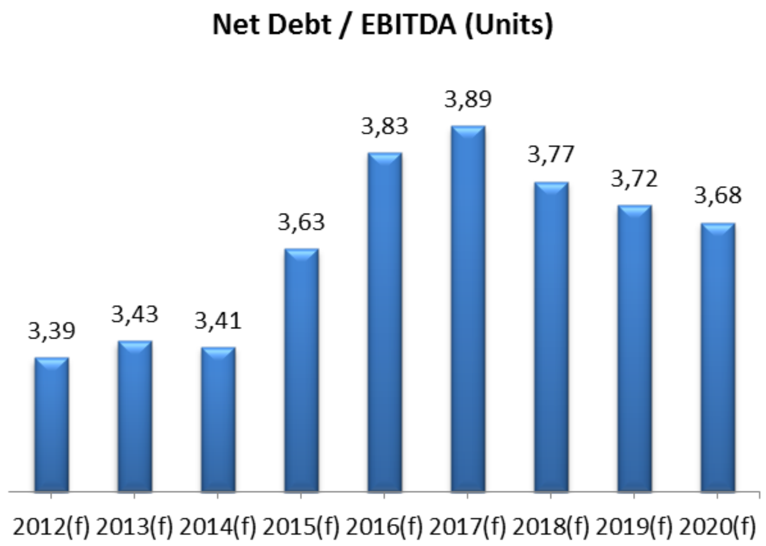
Figure 33: Net Debt Evolution; “2012-2020”



Source: Mota-Engil SGPS

Almost 45% of the company's debt is due in less than one year time, with the remaining part in longer period terms, turning the company highly subjected to financial constraints. We must then consider on of the most important ratios for the construction sector, the Net debt to EBITDA.

Figure 34: Net Debt to EBITDA evolution; "2012-2020"



Source: Mota-Engil SGPS

We may believe that the net debt is going to increase in comparison with the EBITDA in the upcoming years. However this will not last forever, as the markets will tend to mature the need of investments will also decrease leaving space for a sustanaible reduction of the debt amount.

7.19 Appendix 19 (Dividend Discount Model Data)

Table 46: Dividend Discount Model approach

	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	2018(f)	2019(f)	2020(f)
EPS	€ 0,1994	€ 0,1977	€ 0,1863	€ 0,1734	€ 0,1902	€ 0,1979	€ 0,2010	€ 0,2030	€ 0,2022
DPS	€ 0,1084	€ 0,1075	€ 0,1013	€ 0,0943	€ 0,1034	€ 0,1076	€ 0,1093	€ 0,1104	€ 0,1099
G		-0,81%	-5,81%	-6,90%	9,69%	4,03%	1,58%	0,97%	-0,39%
Disc.Div	€ 0,099	€ 0,090	€ 0,078	€ 0,066	€ 0,066	€ 0,063	€ 0,059	€ 0,054	€ 0,049
Perpetuity	€ 1,22								
PV	€ 1,19								
Total	€ 1,81								

Source: Mota-Engil SGPS

7.20 Appendix 20 (Sensitive analysis, rating effect)

Table 47: Rating effect on cost of capital

Cost of capital E&C	**B1**	**B3**	**B2**	**BA2**	**BA3**
Risk free rate	3,19%	3,19%	3,19%	3,19%	3,19%
Country risk premium	6,00%	9,00%	7,5%	4,13%	4,88%
Market premium	6,00%	6,00%	6,00%	6,00%	6,00%
Levered beta	1,25	1,25	1,25	1,25	1,25
Cost of equity	**18,17%**	**21,92%**	**20,04%**	**15,83%**	**16,77%**
Debt spread	4,00%	6,00%	5,00%	2,75%	3,25%
Risk free rate	3,19%	3,19%	3,19%	3,19%	3,19%
Portuguese debt premium	1,04%	1,04%	1,04%	1,04%	1,04%
Cost of debt	8,23%	10,23%	9,23%	6,98%	7,48%
After tax cost of debt	**5,76%**	**7,16%**	**6,46%**	**4,89%**	**5,24%**
WACC	**9,33%**	**11,41%**	**10,37%**	**8,04%**	**8,56%**

Cost of capital E&S	B1	B3	B2	BA2	BA3
Risk free rate	3,19%	3,19%	3,19%	3,19%	3,19%
Country risk premium	6,00%	9,00%	7,5%	4,13%	4,88%
Market premium	6,00%	6,00%	6,00%	6,00%	6,00%
Levered beta	1,13	1,13	1,13	1,13	1,13
Cost of equity	**16,69%**	**20,07%**	**18,38%**	**14,59%**	**15,43%**
Debt spread	4,00%	6,00%	5,00%	2,75%	3,25%
Risk free rate	3,19%	3,19%	3,19%	3,19%	3,19%
Portuguese debt premium	1,04%	1,04%	1,04%	1,04%	1,04%
Cost of debt	8,23%	10,23%	9,23%	6,98%	7,48%
After tax cost of debt	**5,76%**	**7,16%**	**6,46%**	**4,88%**	**5,23%**
WACC	**8,91%**	**10,88%**	**9,89%**	**7,68%**	**8,17%**

Ascendi	B1	B3	B2	BA2	BA3
risk free rate	3,19%	3,19%	3,19%	3,19%	3,19%
country risk premium	6,00%	9,00%	7,5%	4,13%	4,88%
Market premium	6,00%	6,00%	6,00%	6,00%	6,00%
levered beta	1,56	1,56	1,56	1,56	1,56
cost of equity	**21,92%**	**34,41%**	**31,16%**	**23,85%**	**25,48%**

Source: Own data; Moody's; Damodaran

7.21 Appendix 21 (Capex, NWC, Depreciation; Bank Info.)

When compared in Capex terms, it was considered a higher increase for the E&C area, mainly due to the exponential increase in the order book of the segment. For the E&S area both valuation are riding in the same direction, due to the deceleration of the Portuguese market where the operations are mainly focused

Table 48: Capex & Nwc variation forecast, Millennium Investment Bank "2012-2020" (€ million)

Millennium BCP	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	2018(f)	2019(f)	2020(f)
Capex (E&C)	€ 60	€ 64	€ 70	€ 75	€ 81	€ 83	€ 87	€ 90	€ 93
Nwc var. (E&C)	€ 73	€ 55	€ 21	-€ 3	€ 19	-€ 11	€ 14	€ 11	€ 9
PV of CF	€ 483								
Terminal value	€ 517								
EV	€ 1000								

Millennium BCP	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	2018(f)	2019(f)	2020(f)
Capex (E&S)	€ 57	€ 22	€ 19	€ 14	€ 12	€ 12	€ 13	€ 14	€ 14
Nwc var. (E&S)	-€ 6	-€ 4	-€ 4	€ 1	-€ 1	€ 1	€ 1	-€ 5	-€ 5
PV of CF	€ 392								
Terminal value	€ 162								
EV	€ 554								

Source: Millennium Investment Bank

For Ascendi some figures are similar as the information was fully provided by Mota-Engil, mainly in turnover, EBITDA, Capex and debt terms.

Table 49: Ascendi data, Millennium Investment Bank (€ million)

Millennium BCP	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	...	2030(f)	2031(f)	2032(f)
Depreciations	€ 154	€ 155	€ 156	€ 157	€ 158	...	€ 236	€ 26	€ 0
Capex (Ascendi)	€ 19	€ 19	€ 20	€ 20	€ 20	...	€ 26	€ 0	€ 0
Nwc var. (Ascendi)	€ 0	€ 0	€ 0	€ 0	€ 0	...	€ 0	€ 0	€ 0
Debt Change	-€ 100	-€ 100	-€ 97	-€ 93	-€ 69	...	-€ 191	-€ 26	€ 0
PV of CF	€ 355								
Equity Value	€ 355								

Source: Millennium Investment Bank

7.22 Appendix 22 (Balance Sheet Info.)

Table 48: Balance sheet General figures (€ million)

	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	2018(f)	2019(f)	2020(f)
Assets									
Intagible Assets	€ 320	€ 364	€ 390	€ 415	€ 443	€ 466	€ 489	€ 513	€ 538
Tangible assets	€ 587	€ 668	€ 716	€ 762	€ 813	€ 856	€ 898	€ 942	€ 989
Other non-current	€ 774	€ 741	€ 747	€ 755	€ 757	€ 756	€ 752	€ 754	€ 754
Total non current	**€ 1.681**	**€ 1.773**	**€ 1.853**	**€ 1.932**	**€ 2.013**	**€ 2.078**	**€ 2.139**	**€ 2.209**	**€ 2.281**
Costumers	€ 1.061	€ 1.132	€ 1.229	€ 1.292	€ 1.359	€ 1.426	€ 1.494	€ 1.565	€ 1.640
Iventories	€ 238	€ 256	€ 268	€ 285	€ 304	€ 320	€ 337	€ 355	€ 374
Other current	€ 866	€ 913	€ 974	€ 1.015	€ 1.060	€ 1.103	€ 1.148	€ 1.193	€ 1.241
Total Current	**€ 2.165**	**€ 2.301**	**€ 2.471**	**€ 2.592**	**€ 2.723**	**€ 2.849**	**€ 2.979**	**€ 3.113**	**€ 3.255**
Total	**€ 3.846**	**€ 4.074**	**€ 4.324**	**€ 4.524**	**€ 4.736**	**€ 4.927**	**€ 5.118**	**€ 5.322**	**€ 5.536**
Liabilities									
Debt without recourse	€ 129	€ 129	€ 129	€ 129	€ 129	€ 129	€ 129	€ 129	€ 129
Debt with recourse	€ 560	€ 687	€ 723	€ 759	€ 798	€ 832	€ 864	€ 898	€ 934
Other non-current	€ 432	€ 456	€ 491	€ 512	€ 537	€ 560	€ 585	€ 610	€ 636
Total Non Current	**€ 1.121**	**€ 1.272**	**€ 1.343**	**€ 1.400**	**€ 1.464**	**€ 1.521**	**€ 1.578**	**€ 1.637**	**€ 1.699**
Debt with recourse	€ 700	€ 717	€ 803	€ 864	€ 911	€ 933	€ 946	€ 983	€ 1.031
Suppliers	€ 513	€ 532	€ 562	€ 587	€ 618	€ 653	€ 691	€ 725	€ 757
other current debt	€ 1.085	€ 1.122	€ 1.184	€ 1.238	€ 1.300	€ 1.372	€ 1.449	€ 1.519	€ 1.586
Current	**€ 2.298**	**€ 2.371**	**€ 2.549**	**€ 2.689**	**€ 2.829**	**€ 2.958**	**€ 3.086**	**€ 3.227**	**€ 3.374**
Total	**€ 3.419**	**€ 3.643**	**€ 3.892**	**€ 4.089**	**€ 4.293**	**€ 4.479**	**€ 4.664**	**€ 4.864**	**€ 5.073**
Shareholders equity	€ 427	€ 431	€ 432	€ 435	€ 443	€ 448	€ 454	€ 458	€ 463
Liabil+Shareh.eq	**€ 3.846**	**€ 4.074**	**€ 4.324**	**€ 4.524**	**€ 4.736**	**€ 4.927**	**€ 5.118**	**€ 5.322**	**€ 5.536**

7.23 Appendix 23 (Income Statement Info.)

Table 49: Income Statement Data (€ million)

	2012(f)	2013(f)	2014(f)	2015(f)	2016(f)	2017(f)	2018(f)	2019(f)	2020(f)
Turnover	€ 2.499	€ 2.664	€ 2.888	€ 3.035	€ 3.193	€ 3.349	€ 3.509	€ 3.675	€ 3.850
EBITDA	€ 333	€ 341	€ 362	€ 361	€ 368	€ 373	€ 378	€ 382	€ 384
Dep/provisions	€ 147	€ 156	€ 163	€ 170	€ 168	€ 169	€ 173	€ 177	€ 181
EBIT	€ 186	€ 185	€ 200	€ 192	€ 200	€ 204	€ 205	€ 205	€ 203
Net financials	-€ 78	-€ 78	-€ 77	-€ 76	-€ 76	-€ 75	-€ 74	-€ 74	-€ 73
Gains&losses ass.comp	€ 11	€ 11	€ 11	€ 11	€ 11	€ 11	€ 11	€ 11	€ 11
Taxes	-€ 40	-€ 39	-€ 60	-€ 58	-€ 60	-€ 61	-€ 61	-€ 61	-€ 61
Net Income	€ 79	€ 79	€ 74	€ 69	€ 76	€ 79	€ 80	€ 81	€ 80
Minority Interests	€ 42	€ 38	€ 36	€ 33	€ 37	€ 38	€ 39	€ 39	€ 39
Net Income Group	€ 37	€ 41	€ 38	€ 36	€ 38	€ 41	€ 41	€ 42	€ 41

8. Bibliography

8.1 Literature

(CONSISTENT VALUATION AND COST OF CAPITAL EXPRESSIONS WITH CORPORATE AND PERSONAL TAXES Robert A. Taggart, Jr.1989)

Armitage, S. (2005) " The cost of capital, intermediate theory" Cambridge University Press

Baker, H., Klymaz, H., (2011) "The Art of Capital Restructuring, Creating Shareholder Value Through Mergers and Acquisitions" Kolb Series in Finance, Essential Perspectives, John Wiley & Sons, Inc

Bierman, H. (2010) "An introduction to Accounting and Managerial Finance: A Merger of Equals" World Scientific Publishing Co. Pte Ltd

Brealey, R. A., Myers, S. C., & Allen, F. (2006). Principles of Corporate Finance (8th Edition ed.). McGraw-Hill.

Brigham, E., Ehrhardt, M. (2010) "Financial Management, Theory and Practice" South-Western Cengage Learning, Inc

Brigham, E., Houston, J. (2011) " Fundamentals of Financial Management" 7th edition, South-Western Cengane Learning

Clayman, M., Fridson, M., Troughton, G. (2012) "Corporate Finance : A Pratical Approach" John Wiley & Sons, Inc

Damodaran, A. (2006) "*Security Analysis For Investment and Corporate Finance"*. Published by John Wiley & Sons, Inc., Hoboken, New jersey)

Damodaran, A. (2010) "The Dark Side if Valuation, Valuing Young, Distressed, and Complex Businesses" Pearson Education, Inc

Damodaran, A. (2012) " Investment Valuation, Tools and Techniques for Determining the value of any Asset" 3rd edition, John Wiley & Sons, Inc.

DePamphilis, D. (2010) "Mergers, Acquisitions, and Other Restructuring Activities" 6th edition, Elsevier inc

Excellence in Financial Management(Matt H. Evans, CPA, CMA, CFM, 2000)

Fabozzi, F., Drake, P., Polimeni, R., (2008) "The Complete CFO Handbook, From Accounting to Accountability" John Wiley & Sons, Inc

Fabozzi, F. (2009) “Institutional Investment Management, Equity and Bond Portfolio Strategies and Applications”, John Wiley & Sons, Inc

Gatignon, H., Kimberly, J., Gunther, R. (2004)“The Insead-Wharton Alliance on Globalizing: Strategies for Building Successful Global Business” University Press, Cambridge

Goetzmann, W., Ibbotson, R. (2006)“The Equity Risk Premium, Essays and Explorations” Oxford University Press, Inc

Grant, J. (2003) “Foundations of Economic value Added” 2nd edition, John Wiley & Sons, Inc

Greer, G., Kolbe, P. (2003) “Investment Analysis for Real Estate Decisions” Dearborn Financial Publishing, Inc

Hooke, J. (2010) “Security Analysis and Business Valuation on Wall Street, A Comprehensive Guide to Today’s Valuation Methods” John Wiley & Sons, Inc)

Hunt, P. (2009) “Structuring Mergers & Acquisitions: A Guide to Creating Shareholder Value”,Aspen Publishers

Koller, T., Goedhart, M., Wessels, D. (2005) “Valuation, Measuring and Managing the Value of Companies” 4th edition, Mckinsey Company, Inc, published by John Wiley & Sons, Inc

Luerhman, T. (1997), “ What’s it worth?-A General Manager’s Guide to valuation”, Harvard Business Review, May-June

Oded, J., Michel, A., (2007) “Reconciling DCF Valuation Methodologies”, Journal of Applied Finance 2007

Madura, J. (2010) “Financial Markets and Institutions”, 10th edition, South-Western Cengage Learning

Meyer, T., Mathonet, P. (2005) “Beyond the Curve, Managing a Portfolio of Venture Capital and Private Equity Funds” John Wiley & Sons Ltd

Palepu, K., Healy, P. (2008)” Business Analysis & Valuation, Using Financial Statements” 4th edition, Thomson Learning, Inc)

Pinto, J., Henry, E., Robinson, T., Stowe, J. (2010)“Equity Asset valuation” 2nd edition, CFA Institute, John Wiley & Sons, Inc

Poitras,G. (2010) “Valuation of Equity Securitites, History, Theory and Application” World Scientific Publishing Co. Pte. Ltd)

Pratt, S., Grabowski, R. (2010) “Cost of Capital, Applications and Examples” 2010 by John Wiley & Sons, Inc)

Ratner, I., Stein, G., Weitnauer, J. (2009) “Business Valution and Bankruptcy” John Willey & Sons

Ruback, R. (2000) “Capital Cash Flows: A Simple Approach to Valuing Risky Cash Flows” Graduate School of Business Administration, Harvard University Boston

Schreiner, A. (2007) “Equity Valuation Using Multiples: An Empirical Investigation” University of St.Gallen

Stahl, M. (2004) “Encyclopedia of Health care Management” Sage Publications

Steiger, F. (2008) “The Validity of Company Valuation Using Discounted Cash Flow Methods”, seminar paper 2008

Subramanyam, P. (2008)“Investment banking, Concepts, Analysis and Cases”, Tata McGraw-Hill).

Talmor, E., Vasvari, F. (2011) “International Private Equity” John Wiley & Sons, Inc

Vishwanath, S., Krishnamurti, C. (2009)” Investment Management, A Modern Guide to Security Analysis and Stock Selection” Springer- Verlag Berlin Heidelberg

Young, S., O´Byrne, S. (2001) “EVA and Value Based Management, A Pratical Guide to Implementation” McGraw Hill

8.2 Research

Millennium Investment Bank Research

Millennium Investment Bank - Mota-Engil 4Q11 earnings

Millennium Investment Bank - Mota-Engil Update Valuation

Millennium Investment Bank – Sector overview, Cement Sector

Millennium Investment Bank – Country report (Poland)

Banco de Investimento Global Research – Company note

Espírito Santo Research – Research Sectorial 2010

8.3 Industry Sources

ITIC/AECOPS – “Uma visão revisitada do Futuro”

Câmara Brasileira da Indústria e Construção – Informativo Económico, Construção civil: Desempenho e Perspectivas

Euroconstruct – 70th Euroconstruct Conference summary book

Goldman Sachs – Fundamental Equity Market Insights, "The Case for Brazil – Emerging opportunities"

Banco nacional de Desenvolvimento (Brasil) – Visão do Desenvolvimento " Perspectivas de investimento na Infraestrutura 2010-2013"

Morgan Stanley – Morgan Stanley Blue Paper, "Brazil Infrastructure Paving the Way"

Insead (Singapore and Fontainebleau, France)- The 2011-2016 World Outlook for Construction

8.4 Company and Competitors data

Investors relations office – Mota Engil

Mota-Engil Report & Accounts 2004

Mota-Engil Report & Accounts 2005

Mota-Engil Report & Accounts 2006

Mota-Engil Report & Accounts 2007

Mota-Engil Report & Accounts 2008

Mota-Engil Report & Accounts 2009

Mota-Engil Report & Accounts 2010

Mota-Engil Report & Accounts 2011

Mota-Engil Investors Presentations 2009

Mota-Engil Investors Presentations 2010

Mota-Engil Investors Presentations 2011

Soares da Costa Report & Accounts 2009

Soares da Costa Report & Accounts 2010

Soares da Costa Report & Accounts 2011

Teixeira Duarte Report & Accounts 2009

Teixeira Duarte Report & Accounts 2010

Teixeira Duarte Report & Accounts 2011

8.5 Other sources

Bloomberg – www.bloomberg.com

International Monetary Fund – www.imf.org

Instituto Nacional de Estatistica – www.ine.pt

Instituto de Gestão da Tesouraria e do Crédito Público – www.igcp.pt

Organisation for Economic Co-operation and Development – www.ocde.org

Eurostat – epp.eurostat.eu.europa.eu