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Equity Valuation of Mota Engil

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ABSTRACT

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Equity valuation is used in several areas of corporate finance with a variety of different purposes. However, there is no single valuation methodology that fits all situations. We present the main valuation models used by practitioners, with a stronger emphasis on those that are more appropriate to value the Equity of Mota Engil. We proceed to find the value of Mota Engil using the Discounted Cash Flow method, and cross check its results with those obtained using relative valuation methods. We also compare our results to those of a leading Portuguese investment bank. We find that the market value of Mota Engil does not reflect the value of the company, there being a strong upside potential to the price of its shares.

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1. INTRODUCTION

Valuation plays a central role in today's finance. It is performed daily by a myriad of players in the finance industry for a wide variety of purposes. It is used by corporate finance practitioners in order to best judge their decisions regarding investment, financing and dividends with the ultimate goal of maximizing firm value. But its usefulness also ranges from identifying investment opportunities (stocks that are under or overpriced relative to their value), a key analysis in portfolio management, to studying the efficiency of markets by analyzing deviations from fair value and their persistence (or lack of) (Damodaran, 2006). Fernández (2007) further identifies several other uses for valuation, such as in buying and selling operations (where valuation can be used both for the buyer to assess its maximum willingness to pay and for the seller to determine the lowest price he should be willing to accept), Initial Public Offerings (to justify the price per share asked to the new investors), to compare the value of shares to that of other assets (useful for heritage related matters), to quantify premiums to be paid on value creation based payment schemes, as well as to identify value drivers and justify several strategic decisions in a company.

Given the importance of valuation, one would expect it to be a widely researched topic, and indeed it is. In fact, a multitude of models have been developed over the years, to the point that the industry is getting overloaded by the variety of approaches available to anyone interested in valuing a firm. Each of these approaches has its own merits and demerits, shedding light in some aspects of the valuation problem while withdrawing attention from others. This multitude of approaches to valuation can, unfortunately, be confusing, as different approaches often lead to different conclusions, leaving an investor with little guidance due to the mixed signals he receives (Young et al., 1999). While the authors of the aforementioned work offer a way to express each of the most popular valuation models in terms of the others, so as to improve the quality of the assumptions made by viewing the company from a wider variety of viewpoints, it is still of critical importance in making a good valuation that the most suitable methods are used. This is why we will start this paper by analyzing a broad spectrum of models studied in the literature, identifying the methodologies that are most suitable to the construction sector, and in particular, to Mota Engil.

We will then proceed by presenting Mota Engil, a Portuguese holding company that is market leader in Portugal in the construction and public works sector that will be the subject of our valuation, to be presented in the chapters that follow.

We will finalize our analysis by comparing our results to the ones obtained by Banco Espírito Santo Research in their valuation of Mota Engil made on November 22nd 2012, identifying and discussing the key differences encountered.

2. LITERATURE REVIEW

"(…) every popular valuation approach is simply a different way of expressing the same underlying model", (Young et al., 1999)

It is important to start this literature review by recognizing that the choice of the model we use to value Mota Engil, despite having some impact, should not be the main determinant of the conclusions of this valuation. Due to the equivalence between models described by Young and his co-authors (1999), the choice of approach, they argue, should be governed by robustness to data imperfections. However, as different models highlight different aspects of the valuation process, there may be ones more suitable to the construction industry or even more appropriate to account for the specific characteristics of Mota Engil. Macroeconomic conditions may also play a role in the adequacy of certain models.

Given the multitude of approaches available, it is important to bring some systematization into them. Damodaran (2006) divides the valuation methodologies in four main categories: **Discounted Cash Flow Valuation**, **Liquidation and Accounting Valuation**, **Relative Valuation** and **Contingent Claim Valuation**. Fernández (2007) opens two more sections, **Mixed (Goodwill)** and **Value Creation**. The first comprises methodologies that have characteristics shared by asset based methods (Liquidation and Accounting Valuation) and Income Statement methods (Relative Valuation), while the second may be seen as a subset of Discounted Cash Flow methods as in fact, the methods included by Fernández in that section are based on discounted cash flows.

In the next sections, we will develop further into the main valuation models, organized according to Damodaran's (2006) classification.

2.1. Discounted Cash Flow Valuation

Young (Young et al., 1999) claims that *"There is no single theoretically 'correct' model"*. However, Fernández (2007) justifies the increasing use of cash flow discounting for being the only conceptually correct methods. Damodaran (2006) also asserts that this kind of models have *"the best theoretical credentials"*.

The conceptual basis of discounted cash flow methods is that the value of an asset is the sum of the cash flows it can generate in the future, discounted to the present date at a rate that is consistent with the risk taken to generate those same cash flows (Damodaran, 2006).

Fernández (2007) argues that determining this rate is *"one of the most important tasks"* in valuation. In fact, we can see that simplifying the model to assume the Cash Flows grow perpetually at a rate of 2% (the long term growth rate of US economy), changing the discount rate from 6% to 5% leads to a 33% higher firm value.

A typical discounted Cash Flow valuation formula would look like this:

$$V = \frac{CF_i}{1+r} + \frac{CF_{i+1}}{(1+r)^2} + (\dots) + \frac{CF_{i+j}}{(1+r)^j} + \frac{VR_{i+j}}{(1+r)^j}$$

Where V is firm value, CF_i and VR_i represent, respectively, the cash flow generated and the residual value of the firm at period i, and r stands for the cost of capital, used as the discount rate.

We can distinguish two different parts in this formula: the first, where the cash flows are explicitly estimated year by year during j years, and the second, where a residual value is estimated, based on the assumption of perpetual growth of the flow estimated in year $i+j+1$. Jennergren (2008) refers to these periods as the *explicit forecast period* and the *post-horizon period*. This author states that the explicit forecast period should be large enough to capture any transitory effects and should at least be as long as the economic life of property, plant and equipment. Nevertheless, he states the typical forecast period is between 10 and 15 years. In the post-horizon period, the residual value of the firm is computed as $VR_{i+j} = CF_{i+j+1} \times \frac{1+g}{r+g}$, being g the perpetual growth rate of the flow.

We are talking about Cash Flows generated in abstract. When we put this in practice, we notice that we can chose from several cash flow measures. In fact, there are several different Discounted Cash Flow models that use different Cash Flow measures, and each one has its own merits and demerits.

Before we enter into the details of the different Discounted Cash Flow models, it is important to recognize two main categories of models: **Firm Valuation** models and **Equity Valuation** models. While the latter values only the equity stake in the firm, the first values the firm as a whole. Damodaran (2006) states that the equity value should, provided the valuation is done correctly, be the same whether it is valued directly using Equity Valuation models or indirectly,

using Firm Valuation models and then subtracting the value of non-equity claims. Bellow we analyze the main Firm and Equity Valuation models in two separate sub-sections.

It is also relevant to note that while models of discounted absolute cash flows are the most common (Damodaran, 2006), there are some variants that use excess returns instead, that is, cash flows that are above or below the risk adjusted required returns. We will close our analysis on Discounted Cash Flow valuation in a small sub-section devoted to this kind of models.

2.1.1. Firm Valuation Models

Firm Valuation models look at the company as a whole. They take into account the Cash Flows owed to all parties involved in non-current financing of the company: equity and debt investors. For the purposes of this paper, however, as well as for most practical purposes, the relevant figure is the Equity value. Equity value can be derived from firm value by subtracting to the firm value estimated by any of the following models, the value of interest bearing debt. This, as Jennergren (2008) argues, does not include deferred income taxes (treated as Equity) nor trade credit (remunerated in the form of higher operating expenses, and therefore is on the operations scope, rather than financing).

Koller et al. (2010) argue in favor of Firm Valuation models, rather than models that value Equity directly as, according to them, the last ones are harder to apply due to the difficulty of matching flows with their cost of equity and can easier lead to mistakes. They suggest the readers to steer away from Equity and Cash flow valuation models and proceed as described above, valuing Equity subtracting financial debt claims from firm value, except when the firm being valued is a bank or financial institution.

We start by looking at the Free Cash Flow model. In this model, Free Cash flow is discounted at rate that represents the required returns on equity and debt, weighted by their corresponding weights in the capital structure. We then proceed analyzing the APV model, where the value of the firm is computed by summing the value of the leverage effects to the value of the unlevered firm. We finalize by taking a brief look at other less used approaches, like the Capital Cash flow.

2.1.1.1. Free Cash Flow to the Firm (FCFF)

Free Cash Flows are the flows of money that would remain in the company after all fixed assets investments and working capital requirements are paid for. (Fernández, 2007). These differ from any measure directly available in an income statement in that they represent cash actually paid or received, instead of revenues, costs and expenses that are allocated through somewhat arbitrary methods and using an accrual approach.

These can, however, be obtained from Income Statements as follows:

Earnings before Interest and Taxes (EBIT)
- Tax that would be paid on EBIT
+ Depreciation
- CAPEX
- Change in Working Capital Requirements
Free Cash Flow

It is important to stress that the Free Cash Flow includes only flows generated from operations. All flows coming from non-operating assets, as is the case for excess cash and marketable securities should be valued separately and then added to the FCF resulting firm (Koller et al., 2010).

Free Cash Flow forecasts in the explicit forecast period are not made directly. Instead, the Income Statement and Balance Sheet are forecasted, and FCF is then computed every year from those forecasts. This increases the consistency of the forecasted scenario, and is, as Jennergreen (2008) argues, one of the key strengths of this model.

The forecasted flows are then discounted using the general formulas for Discounted Cash Flow valuation models described above, with the Weighted Average Cost of Capital (WACC) as the discount rate. Although there are different specifications in the literature, both Fernández (2007) and Jennergren (2008) provide the following formula for WACC computation, the one we will use in the next sections of this paper:

$$WACC = Ke\frac{E}{E+D} + Kd\frac{D}{E+D}(1-\tau)$$

Ke and Kd stand for Equity and Debt costs, E and D for Equity and Debt levels that should be valued mark-to-market (Fernández, 2007), and τ is the tax rate on corporate earnings.

Koller et al. (2010) argue that WACC based models work best with a debt to value ratio that is stable overtime. If that is not the case, APV models are the recommended alternative.

The estimation of Ke and Kd is a discussed topic in the literature, and given its importance in the final result of the valuation, it is worth to review their estimation in greater detail.

Cost of Equity (Ke)

The Cost of Equity can be obtained from the Capital Asset Pricing Model (CAPM), based on the work of Markowitz on diversification and portfolio theory, developed by Treynor, Sharpe, Lintner and Mossin. It allows us to estimate the expected return of an investment in a given firm. The expected rate of return given the firm's risk is the opportunity cost of investing money in a given company, and as such, becomes the cost of equity (Mullins, 1982) as, under the hypothesis of the model, no investors would be willing to invest in a company which would be expected to yield them less than what is predicted by CAPM for a given level of risk. According to CAPM, the cost of Equity of a given firm is:

$$Ke = E(R_i) = R_f + \beta\big(E(R_M) - R_f\big)$$

In the formula bellow, $E(R_i)$ stands for the expected return for a given security that, as explained bellow, we will take as the cost of equity; R_f is the risk-free rate; β measures the systematic risk of the security relative to that of the market; $E(R_M)$ stands for the expected return of the market portfolio. Therefore, in order to compute the cost of equity or Mota-Engil through the CAPM model, three parameters must be estimated: the risk free rate, the β of Mota-Engil and the expected return on the market portfolio.

According to Damodaran (2008), ideally, a risk-free rate should fulfill two conditions. The first is that the issuer must have no risk of default. This restricts the choice to government issued bonds, because as governments have the control of their own currency (they can print money), in theory and in nominal terms, they will always be able to fulfill their obligations. The second condition is that there cannot be uncertainty regarding the rate to which flows are reinvested.

This leads to the recommendation of using zero coupon bonds whenever they are available, as any bond that pays a coupon has reinvestment risk. The same author believes that it is a good practice in mature markets to use a 10 year bond to perform valuation. The risk free rate's currency should match the one of the flows. Therefore, as Mota-Engil is a Portuguese company and consolidates results in euros, we will use a euro risk-free rate. Technically, as no European government can by himself print currency, default risk cannot be completely ruled out. However, for AAA rated Eurozone countries (Finland, Germany, Luxembourg, Netherlands), the default risk is negligible. We can, therefore, use the 10 year bond of the Eurozone with lower rates as a proxy for the risk free rate, that is, a German 10 year Bund. As a final remark, we notice that 10 year German Bunds are not zero coupon. However, zero coupon equivalent rates can be estimated from coupon yield rates.

Next, in order to calculate the Equity Risk Premium, one needs a market portfolio that is representative of the firms in an economy. Ideally, such portfolio would include every asset in the economy, in their respective proportions. However, as such portfolio does not exist, a broad stock index, like the S&P500 is typically used (Rosenberg and Rudd, 1982). These kind of indexes are well diversified, and likely nearly all unsystematic risk has been eliminated, making them an acceptable proxy. In order to compute the market expected return, one can use the historical average of returns (stock price variation plus dividends). That is not, however, the only option. Rosenberg and Rudd (1982) point out that required rates of return implied by the answers in investor opinion surveys have been used, as well as services that compute equity risk premiums.

The remaining parameter one has to estimate in order to implement the CAPM is the beta. The beta is measure of the systematic risk of a given security when compared to that of the market as a whole (Rosenberg and Rudd, 1982). Beta can be computed, for listed companies, regressing the returns of the security on the returns of the market. It can be defined as:

$$\beta_i = \frac{cov(R_i, R_M)}{Var(R_M)}$$

However, the aforementioned authors warn that this only measures the historical alignment from the stock returns to those of the market. This can be used as an estimate to predict future alignment, but one needs to keep in mind that the figure used is nothing more than an estimate, and prone to error: the beta of the company may have changed overtime or there may be estimation errors due to chance events that may have influenced the way the stock returns correlated with the market returns in the past.

Another method based on historical returns, but on those of peers was described by the same authors. Instead of using the historical betas of the company, one could use an average of historical betas of its peer group. The main difficulty here would be to find comparable companies. The criteria to do so will always have some degree of arbitrariness, but that could be reduced by identifying the fundamental factors that most significantly influence betas and selecting companies that are similar with respect to those fundamental factors.

Talking about fundamental factors influencing beta leads us to the last method proposed by Rosenberg and Rudd (1982), based on company fundamentals. Multi factor econometrics models that take into account balance sheet and income statement characteristics can be used to predict the responsiveness of firm performance to market movements. The authors argue that this kind of models provide the most reliable way of estimating future betas.

Cost of Debt (Kd)

The cost of debt, as Damodaran (2002) points out, is the marked-to-market interest rate that the firm would pay on its borrowed funds. If the company has outstanding bonds with liquidity in the market, the yield to maturity can be used to obtain the cost of debt. If that is not the case, and the firm of interest is a rated company, we can use the default spread together with the risk-free rate to get an estimation of the cost the company would incur today to get the amount of debt it currently owns. Finally, if the company is not rated, the recent borrowing history can be used to infer a rating based on the spreads paid. Analysts can also produce a synthetic rating that could be used to estimate the cost of debt.

2.1.1.2. Adjusted Present Value (APV)

The Adjusted Present Value (APV) approach, divides the total value of the firm in value of the operating assets and value that comes from the financing structure (Damodaran, 2006). Therefore, the value of the firm is calculated by adding the value of the firm as if it had no debt with the present value of tax shields (Fernández, 2007).

This idea comes from the early work of Modigliani and Miller, that the value of a leveraged company can be calculated as (Booth, 2007):

$$V_L = V_U + \gamma D$$

γ is the advantage of using debt, that arises from the lower tax rate paid in each period due to the interest paid being considered a cost. The present value of the tax shield can therefore be calculated by multiplying the tax rate on corporate earnings by the amount of interest paid in each period and then discounting the flows to the present day. The discount rate to be used is controversial, but many authors deem the cost of debt (marked-to-market) to be an appropriate discount rate (Fernández, 2007).

However, the advantage of using debt is not simply the value of tax shields. Debt increases bankruptcy risk, and therefore expected bankruptcy costs shall be subtracted in order to get the firm value (Damodaran, 2006). Only after netting those expected bankruptcy costs against the value of tax shields are we able to assess the true advantage of using debt. This requires estimating the probability of default and the costs of bankruptcy which poses, according to Damodaran (2006) the most difficult estimation issue. He suggests that the first may be estimated calculating bond ratings or through statistical methods relying on the firm's characteristics. The bankruptcy cost estimation would, however, have to rely on historical data concerning actual bankruptcies, which might lead to significant error, despite typically these being low compared to the firm value. More significant, but equally hard to estimate, are indirect bankruptcy costs, or distress costs, that arise due to the perception of distress, in the form of lost customers or higher employee turnover, among others, and that can severely affect the firms operations even if no bankruptcy happens (Damadaran, 2006). The author quotes studies that put these distress costs in between 10 and 25% of firm value.

There is, therefore, a trade-off between the benefits and the costs of a leveraged financial structure. This trade-off was studied by Myers (1974) and dubbed the *static trade-off model*. Booth (2007) proposes a more general formula to calculate firm value that shows explicitly this trade-off:

$$V_L = V_U + \left(\propto D - b(D)\right)$$

In the above formula, $\propto$ stands for the net tax advantage, and $b(D)$ is the distress function.

Due to the difficulties in estimating the distress function, which may produce significant error given the representativeness of distress costs in the firm value, together with the fact that the capital structure of the company of interest will not likely suffer significant changes, we will not use this model to evaluate Mota-Engil.

2.1.1.3. Capital Cash Flow (CCF)

Ruback (2002) proposed a Cash Flow discounting method based on Capital Cash Flows. These are, in essence, similar to the Free Cash Flow, with the difference that while the latter excludes the tax shields due to interest paid, the first includes them. The obvious consequence is that the flows have to be discounted at the pre-tax weighted average cost of capital. The author proposed this alternative arguing that it is often easier to apply and less prone to error. Booth (2007) agrees with the importance of valuing companies using the most direct route, but believes Ruback overstated the advantages of the model he proposed. He argues that the CCF's method offers in general no advantage with respect to the more often used Free Cash Flow to the firm approach.

2.1.2. Equity Valuation Models

As previously mentioned, Equity Valuation Models value only the Equity stake in the firm. In order to do so, we restrict our attention to the Cash Flows owed to equity investors in the firm. These Cash flows are discounted at the Cost of Equity, in order to adjust for riskiness of the Cash Flows (the discussion regarding the calculation of the Cost of Equity for WACC computation purposes also applies to these models).

When thinking about Cash Flows owed to equity investors, the first that would come to mind would be dividends. We will therefore start our analysis of Equity Valuation models by their oldest variant (Damodaran, 2006), the Dividend Discounted Model, and then analyze a broader definition of Cash Flows to equity by looking at the Free Cash Flow to Equity valuation model.

2.1.2.1. Dividend Discounted Model

The conceptual basis for Dividend Discounted models is that equity holders pay a price for a stock expecting to receive a return through dividends plus the selling price, which is, theoretically, a function of future dividends (Damodaran, 2006). Therefore, firm value can be computed as:

$$Value\ per\ Share = \sum_{t=1}^{\infty} \frac{E(DPS_t)}{(1+k_e)^t}$$

Apart from the Cost of Equity, whose estimation was already discussed, we need to predict future dividends in order to implement this methodology. To do so, we need to forecast future earnings growth rates and payout ratios (Damodaran, 2006). As predictions are never going to be made until infinite, the Gordon perpetual growth formula provides a useful framework to value companies based on dividends. It requires the firm to be in a steady state growth path, which implies dividends are growing at the same rate as earnings, and that growth rate cannot be higher than that of the economy where the firm operates (Damodaran, 2006). Using this approach, firm value can be computed as:

$$Value\ of\ Equity = \frac{Expected\ Dividends\ next\ period}{Cost\ of\ Equity - Expected\ growth\ rate\ in\ perpetuity}$$

Many analysts consider the focus of the dividend discounted model too narrow, and have therefore abandoned its use (Damodaran, 2006). The referred author points out a reason why this may be so. Dividends are many times not intrinsically related with earnings. While in the case where they are, on average, equal, Dividend Discounted Models have an advantage (as dividends are often less volatile and, therefore, easier to predict, yielding realistic estimates of firm value in this case), there are some cases where firms pay consistently less in dividends than what they earn, building cash balances. Such balances should be taken into account while valuing an equity stake, as the investor effectively owns a share of them. On the other hand, firms that are paying more in dividends than what they earn will be overvalued, as such behavior is not sustainable in the long run. Dividend Discounted Models have in its favor that dividends are the only tangible cash flow that investors receive (which could appeal to conservative investors, or be useful in order to establish a baseline for companies which pay less in dividends than their earnings). Also, prediction of dividends is often easier and requires fewer assumptions than that of FCF, which is the reason why Dividend Discounted Models are still used in industries where prediction of Cash Flows is hard, like the financial services industry.

Foerster and Sapp (2005) analyzed the performance of the Dividend Discounted Model as a tool to predict prices, and found it performs well for mature companies with history of paying dividends. Nevertheless, we agree with the limitations pointed out by Damodaran, and we believe that this narrow focus is not appropriate for our valuation of Mota-Engil. Therefore, although many variations for the basic dividend discounted model exist in the literature, we will not develop further on this subject.

2.1.2.2. Equity Cash Flows (ECF's)

Equity Cash flows valuation models are a tool to estimate directly the value of equity that does not suffer from the same narrow focus than Dividend Discounted models.

Equity Cash Flows can be obtained from Free Cash Flows by subtracting from that measure the after tax interest payments and principal repayments, adding the value of new debt. It is the cash flow remaining for equity investors after subtracting all debt related flows (Fernandéz, 2007).

$$ECF = FCF - (interest\ payments \times (1 - \tau) - principal\ repayments + new\ debt)$$

Firm value is simply the present value of ECF's discounted at the cost of Equity (Fernandéz, 2006).

This type of valuation implicitly assumes that the owner of a share is entitled to its equivalent share of corporate income, even if the administration chooses not to pay it in the form of dividends, which is only reasonable where there is a strong corporate governance system, in which owners can force administration to put the unpaid earnings at the service of their best interests (Damodaran, 2006).

2.1.3. Excess Returns Valuation

In Valuation Models based on excess returns, cash flows are only considered to the point where they are above or below the required return (that depends on the riskiness of the Cash Flows). These models have their theoretical roots on capital budgeting, where a project is only good when it has positive net present value, and consequently, a flow has value only when it is higher than the cost of the capital employed to generate it (Damodaran, 2006).

Firm value can thus be computed as the sum of the capital invested and the present value of the excess returns.

The equivalence of the Excess Returns models to their Absolute Returns counterparts has extensively been shown in the literature as long as valuation assumptions are consistent (Damodaran, 2006).

We proceed by briefly analyzing the most used Excess Returns model, the Economic Value Added (EVA) model, and then just briefly mention its main variants.

2.1.3.1. Economic Value Added (EVA)

According to Damodaran (2006), Economic Value Added can be computed as:

$$\begin{aligned}\text{EVA} &= (\text{Return on Capital Invested} - \text{Cost of capital}) \times \text{Capital Invested} \\ &= \text{After tax operating Income} - \text{Cost of Capital} \times \text{Capital Invested}\end{aligned}$$

Firm value will be afterwards be computed as:

$$Firm\ value = Capital\ invested + \sum_{t=1}^{\infty} \frac{EVA_t}{(1+k_c)^t}$$

Where EVA is the Economic Value Added both for assets in place and new projects and k_c is the cost on capital employed.

Capital invested can be estimated, in most situations, and despite its limitations, using the book value as a proxy. In situations where the number and extent of accounting decisions that affect the book value of capital is very large for book value to be an acceptable proxy, building an estimate of the capital invested by summing the market values of the assets in place is advisable (Damodaran, 2006).

Fernández (2002a) provides a more estimation-friendly formula to compute EVA:

$$EVA_t = NOPAT_t - (D_{t-1} + E_{t-1}) \times WACC$$

Here, $D_{t-1} + E_{t-1}$ represent the firm's book value and NOPAT is as usually the after tax operating income.

EVA is increasingly used by many firms as a performance measure to drive executive compensation (Fernández, 2002a). However, its significance has often been stretched to the point where it is frequently interpreted as the value creation in each period, which Fernández (2001a) shows not to be the case.

Fernández (2002a) is one of the authors that argues that we can get the same firm value by discounting EVA's than by discounting ECF's or FCFF's, having these last two cash flows a more intuitive financial meaning, which makes it hard to argue for the superiority of the EVA model as a firm valuation tool.

2.1.3.2. Economic Profit

Economic profit is conceptually similar to EVA, but seen from the perspective of Equity investors (Damodaran, 2006). Economic profit can be computed as (Fernández, 2002a):

$$\mathrm{EP_t} = \mathrm{PAT}_t - \mathrm{k_e} \times \mathrm{E_{t-1}}$$

$$= (\mathrm{ROE} - \mathrm{k_e}) \times \mathrm{E_{t-1}}$$

PAT is Profit after Tax, ROE is the Return on Equity, $\mathrm{k_e}$ is the cost of Equity and E is, just like in the following formula, the Equity Book Value

Having the Economic Profit for each period, one can value Equity directly as:

$$Equity\ Value = E_t + \sum_{t=1}^{\infty} \frac{EP_t}{(1+k_e)^t}$$

2.1.3.3. Cash Value Added

The Cash Value Added is an alternative to EVA proposed by the Boston Consulting Group, who considers that EVA encourages anti-growth behaviors, like milking the business. Furthermore, BCG also points out that EVA is artificially low when an investment is made and artificially high at maturity due to assets depreciation, and favors large, low return businesses (Fernández, 2002a).

CVA adjusts EVA to a cash measure, by adding period depreciation to the operating result and accumulated depreciation to the book value of capital, which according to BCG, removes the worst of antigrowth bias. Should the reader be interested, a formula to compute CVA can be found in Fernández (2002a).

2.2. Liquidation and Accounting Valuation

When analyzing the excess returns valuation models the reader may have noticed they all add a book value component to the excess returns, showing that book values can also play a part in valuation. Unfortunately, on its own, book information has severe limitations. Most companies have lucrative growth opportunities, which are not registered as accounting entries. These

may even account for the largest part of firm value in high growth companies (Damodaran, 2006). Accounting Valuation looks at a company from a static perspective, ignoring the future (Fernández, 2007). These limitations have caused Liquidation and Accounting Valuation models' importance to fade in most valuation situations. Nevertheless, it is useful to review the main models on this category, albeit briefly, as they are only going to be used in this paper to value financial investments, as a last resort, when no other public information is available..

2.2.1. Book Value

The Book Value is the value of shareholder Equity, as stated in the Balance Sheet. It is the difference between a firm's assets and liabilities. This figure is subject to the subjectivity of accounting criteria, which often does not match market criteria (Fernández, 2007). Although severally flawed as a valuation method, especially for companies with growth and excess returns opportunities, Book Value still plays a role in investing decisions, being a criteria for some investors to consider a stock undervalued, idea that is actually backed up by some studies that found that low price to book value equities earn on average higher returns (Damodaran, 2006).

Some Balance Sheet items can be adjusted so that they reflect their respective market values instead of purely book values. This approach (Adjusted Book Value) overcomes some limitations of the purely Book Value approach, but as Damodaran (2006) points out, these adjustments are at best a delayed reflection of the market, and can be unreliable in the case of imperfect information.

2.2.2. Liquidation Value

Liquidation value is the value that would remain to the shareholders after the firm is liquidated (assets sold and debts paid). The selling value of an asset is often lower than the value obtained from discounting the flows that that asset expects to generate, as selling assets with urgency often implies selling them at a discount to their market value (Damodaran, 2006). There are also liquidation expenses that have to be taken into account.

Fernández (2007) argues that this approach is useful as a firm valuation tool, only in the specific case that a firm is bought to be liquidated. Nevertheless, it provides in all cases a lower limit to the firm value.

Another similar approach is the Substantial Value model, which instead of calculating the liquidation value, calculates how much it would cost to create a firm with similar operating conditions (Fernández, 2007).

2.3. Relative Valuation

Another large category of models increasingly used in firm valuation are relative valuation models. These value a firm based on how much the market is paying for its peers (a group of firms that are comparable to the firm in analysis), which is a rather significant departure from Discounted Cash Flows models, where the intrinsic value of the asset is estimated (Damodaran, 2006). Despite these two different philosophies, in an efficient market, the Equity Value found using Relative Valuation should not depart significantly from the one found in Discounted Cash Flow models. We therefore believe it would be interesting to compare the value for Mota Engil using these two types of models, which we will do latter in this paper.

Da and Schaumburg (2011) studied whether equity analysis provide investors information not already reflected in the price of an asset, and found out that intra-industry relative valuations provide substantial information for the short term horizon, further expanding our interest in such valuation.

Fernández (2001b) warns that due to the dispersion usually found in the multiples, valuations using this method are debatable. However, he recognizes the importance of relative valuation as a means of comparing the results of a previous evaluation using another method. Goedhart et all. (2005) also emphasize that valuation using multiples can be used to stress test the results of Discounted Cash Flow valuation.

Relative valuation starts by establishing a peer group, proceeds by standardizing the prices using multiples (in order to account for differences in size between the companies) and may include a last step adjusting for fundamental differences across assets (Damodaran, 2006). Below we will have a more detailed look into each of these steps.

2.3.1. Establishing a Peer Group

In order to perform relative valuation a set of comparable firms must be found. According to Damodaran (2006): *"A comparable firm is one with cash flows, growth potential, and risk similar to the firm being valued"*. Goedhart et all. (2005) warns that it is an error to use an industry average multiple and multiply it by the corresponding firm's figure in order to obtain a value estimate, as not all companies in an industry are comparable. He stresses one must match companies with similar growth expectations and ROIC.

Damodaran (2006) states that being in the same industry is not a necessary condition for being a comparable firm. There are other fundamental criteria that can be used when picking companies for a peer group. One could use firms that have similar earnings' growth, risk (beta) and return on equity. These criteria do not outperform industry based categorization, according to Alford (1992), as quoted by Damodaran (2006). He also quotes other authors (Cheng and McNamara (2000), Bhojraj and Lee (2002)) that argue that combining industry categorization with some fundamental criteria can, however, increase the precision of relative valuation, a recommendation that we will follow in latter sections of this paper.

2.3.2. Multiples

As discussed above, in relative valuation multiples are used to standardize assets of different sizes.

Multiples can be divided in 3 main categories: Multiples based on Equity Value, Multiples based on Company Value and Growth Multiples. Multiples based on Equity Value have in the numerator the market capitalization or an equivalent measure. Company Value multiples on the other hand, have in the numerator the enterprise value (Equity+Debt). Growth multiples add a factor in order to standardize with respect to growth expectations and are most frequently used in high growth industries (Fernández, 2001b). Goedhart et al. (2005) recommends the use of enterprise value multiples, as they are not systematically affected by capital structure.

According to the aforementioned author, one must use forward looking multiples, based on forecasts for the coming years rather than based on data from past years. These are not only theoretically more correct, as they perform better empirically (see, for instance Liu et al.

(2002) for an empirical study attesting the superiority of forward looking multiples with respect to their historical counterparts).

Bellow we discuss the 4 most frequently used multiples, according to a study of Morgan Stanley quoted by Fernández (2001b), the ones that are used by more than 10% of the analysts.

2.3.2.1. Price to Earnings ratio (PER)

This is by far the most widely used multiple according to Morgan Stanley, being used by more than 50% of the analysts.

PER can be computed as (Fernández, 2001b):

$$PER = \frac{Market\ Capitalization}{Total\ Net\ Income} = \frac{Share\ Price}{Earnings\ per\ Share}$$

Despite its popularity, Goedhart et al. (2005) argue that PER is misleading, as non-recurring, non-operating items are often embedded in the earnings figures. Furthermore, as an Equity value based multiple, it is dependent on capital structure, as already mentioned above.

2.3.2.2. Enterprise Value to EBITDA (EV/EBITDA)

Enterprise Value to EBITDA (calculated dividing these two concepts) is the second most used multiple by analysts. It benefits from the advantages pointed out by Goedhart et al. (2005) to enterprise value multiples. However, Fernández (2001b) points some drawbacks to this measure, namely for being non inclusive of variations in working capital requirements, nor considering capital investments. It is one of the multiples that are frequently used in the construction business, according to Fernández (2001b), being the only one in the mentioned set that is simultaneously used by a large share of valuations, and takes into account the recommendation of Goedhart et al. (2005) of using enterprise value multiples. As such, it is the main multiple we will choose further ahead in this paper to value Mota Engil.

Goedhart et al. (2005) stresses that in order to correctly compute this multiple, one should first make some adjustments: remove excess cash and other non-operating assets, adding to the market value of debt the value of leased items (and the corresponding interest expense to

EBITDA), take into account all employee grants outstanding as well as pension plans liabilities, adding its present value.

2.3.2.3. Enterprise Value to EBITDA growth (EV/EG)

Computed as follows, it is used in high growth industries, which is not our case, and as such, will not deserve further attention:

$$EV/EG = \frac{EV/EBITDA\ (historic)}{EBIDTA\ growth\ (forecast)}$$

2.3.2.4. Price to Book Value (P/BV)

Dividing the Market Capitalization by the Book Value of the Equity, one computes this ratio. It is used fundamentally to value banks and insurance companies, as well as companies in the paper and pulp, plus real estate business.

2.3.3. Adjusting for differences across assets

Damodaran (2006) adverts that no matter how careful we are in choosing comparable assets, differences are bound to remain. These differences, especially when they are deemed relevant, should be adjusted. Three types of adjustments are proposed by the author: **Subjective Adjustments**, **Modified Multiples** and **Statistical Techniques**.

Subjective adjustments are done based on expert criteria. If a company has a different multiple than its peers, a judgment must be made by analysts with industry expertise to assess whether fundamental differences between the firms can explain the difference or whether the firm is actually under or overvalued. The author warns that these expert criteria may be in some cases little more than an informed guess, and may reflect personal biases.

Multiples can be modified in order to take into account the most important determinant of its value. For instance, dividing a P/E ratio by the expected growth rate of Earnings per Share provides a P/E ratio adjusted for differences in growth, which can be useful to value high growth companies, especially when finding a set of comparable firms with the same growth

prospects is not possible. Making this kind of adjustment implies the assumptions that the firms are similar in all other variables, and that there is a linear relationship between multiples and fundamentals (Damodaran, 2006).

Often there is complex relationship between multiples and fundamental factors, case in which statistical approaches for the adjustments are the most promising ones. In this approach, we explain the multiple that we are concerned about based on the fundamentals that affect it, through a sector or market regression. Through the output of these regressions, one can judge the differences found in the multiples to be either explained by fundamental factors or due to under/overvaluation (Damodaran, 2006).

2.4. Contingent Claim Valuation

The above described methods are not suitable to value a company that has flexibility to take (or not) an action in the future, when the result of a now uncertain variable will be known (Fernandéz, 2002b). These options – **Real Options** – need to be valued separately. A number of methods can be applied to valuing real options. Always taking into account whether an option is replicable or not (and applying the correspondent adjustments to the formulas in case it is not), Fernández (2002b) states a real option can be valued *"using Black and Scholes' formula, the formulas developed for valuing exotic options, by simulation, the binominal formula, or by solving the differential equations characterizing the options"*.

Mota Engil has no real options that would affect valuation in material terms, and therefore we will not get any further into the methods described above, as none of them will be used in the following sections of this paper.

3. COMPANY PRESENTATION

Motal Engil is the largest Portuguese construction group, and number 29 in the top European construction companies[1]. It is also the 5th Portuguese company in exports and the leader in service exports. It was founded in 1946 by Manuel António da Mota, and in that same year a subsidiary in Angola was also created. This historical bond with the African market would turn out to be in a key strength for the group in the latest years, as Europe is facing a tough recession.

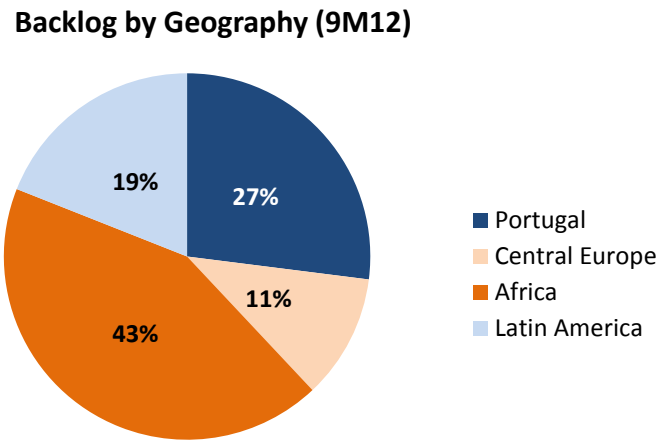
Besides Engineering & Construction (E&C), Mota Engil operates in several areas of Environment and Services (E&S) and partners with Banco Espírito Santo for the business of Transport Concessions (Ascendi). It also has a stake in metallic construction and solar energy, through Martifer, with whom it maintains a strategic partnership, and in other activities such as tourism and mining.

On top of the historical presence in Angola, the group has been reinforcing its international presence in the last few years, covering other African countries as well as having now a strong position in central and Eastern Europe. South America has also a representative stake in the company's turnover.

Main facts about Mota Engil:

	2011	9M12
Turnover	**2.176 M€**	**1.687 M€**
EBITDA	**296 M€**	**217 M€**
Consolidated Net Income	**71 M€**	**58 M€**
Backlog	**3.797 M€**	**3296 M€**

[1] All information in this section can be found at, and is the most recent disclosed through, the company's website (www.mota-engil.pt), corporate presentation (http://www.mota-engil.pt/images/content/2573_1_G.pdf) or the company's management and financial reports (http://www.mota-engil.pt/InvestorBoard.aspx?contentId=131&Language=1).



Bellow we take a closer look at the main businesses Mota Engil is engaged into.

3.1. Engineering & Construction:

The Engineering & Construction area of Mota Engil has its focus on real estate, infrastructures and civil construction, as well as some other smaller business areas. The activity accounts for 80% of the group's turnover and 67% of EBITDA. This activity is undertaken in four geographical segments: Portugal, Central Europe, Africa and Latin America

Some indicators of this segment in 2011[2]:

Turnover	**1.747 M€**
EBITDA	**200,7 M€**
Net Income	**64,8 M€**
Backlog	**3.400 M€**

[2] Starting from 2012, the company ceased to report figures by business. Instead, it is reporting figures by geographic segment (Portugal, Africa, Central Europe and Latin America, sometimes reporting for Portugal the division between E&C and E&S). While we had to try our best in extracting information by business from the management report in order to perform our DCF valuation, we chose to include in this section only information that can be directly verified in the previously mentioned sources, and refrain from including specific figures that are only our best judgment with respect to 9M12 by business segments. Also, please bear in mind that quarterly information regarding activity is considerably more limited than full year info. 2012 forecasts based on 9M12 information can be found in the DCF valuation section.

Since 2010 this business has been growing in turnover, driven by the good performance of Central Europe and Latin America. The operational margin has also been improving.

Below are the main highlights of each of the geographical segments in this business area.

3.1.1. Portugal

This geographical segment includes, besides Portugal, residual activity in Spain and Ireland.

The construction sector in Portugal has been greatly affected by the crisis the country is involved in. With reduced credit access and lack of public investment, the sector has seen its demand decrease 9,4%, which, together with an excess of capacity, is putting downwards pressure in the margins of the companies that operate in this segment.

Despite this, Mota Engil has been able to maintain its activity in 2011 and even improve operational margins, due to the quality of its backlog. For that, the following projects gave an important contribution: highway constructions (Douro Interior and Pinhal Interior), works in Porto's "Bom Sucesso" marketplace, Fórum Sintra mall, Nissan battery factory, "Foz Tua" dam, hospitals of Loures and Terceira Island, hydroelectric central in Venda Nova, new coach museum, several hydraulic infrastructures and schools for "Parque Escolar". In real-estate, a fully customized building in Parque das Nações was rented for 15 years. A tendency of increase in road construction as well as less and larger projects was observed.

In the first 9 months of 2012, however, Engineering & Construction turnover in Portugal was falling 20,8% with respect to the same period of the previous year, although the company still managed to improve the operating margin to 11,9%.

3.1.2. Central Europe

Despite being also present in Czech Republic, Slovakia and Hungary (operations in Romania were closed in 2012), the bulk of the activity in this geographical segment is undertaken in Poland.

This country has experienced accelerated construction growth in the last years, driven by the Euro-2012, infrastructure investment supported by European Union's funds and real estate growth. Despite the growth tendency having slowed down in 2011 (due to a decrease in

highway and Euro-2012 related construction), strong investments are expected in the coming years in regional and county roads as well as some road works on a public-private partnership (PPP) model. It is also expected that the improvement of residential construction as well as energy and environmental infrastructures present interesting opportunities for Mota Engil.

Mota Engil has in this region a strong (>350M€) and diversified backlog, and is experiencing strong growth (turnover of 362M€ in 2011 vs 191M€ in 2010, continuing to increase at a rate around 20% in 2012). To that growth contributed several highway projects as well as several residential projects, which are in the scope of the strategic plan. Operating margins in the segment, which were already very low (<4%), have been deteriorating due to the harsh conditions of the Polish market.

3.1.3. Africa

Business in Africa centers itself in Angola, Mozambique and Malawi, although the segment is also represented in São Tomé and Príncipe and Cape Verde, with projects in study in other growing countries. It accounts for one third of the group's engineering and construction revenues. The group's historical ties to the continent put it in a great position to benefit from the strong growth potential of these countries, to which the investment in infrastructures gives a major contribution.

In Malawi, the construction of a 145km rail line to support the mining activity of Vale, the giant Brazilian mining company was awarded to Mota Engil in a 700 million dollars contract, contributing to the private mining industry supported backlog of 662M€ (2011).

Infrastructure construction has been growing in Mozambique, benefiting from foreign investment and foreign aid programs, which resulted in an 86% turnover growth in the country in 2011. The year was marked by the conclusion of Olympic Games infrastructure in Maputo.

In Angola, where Mota Engil is present through a partnership with Sonangol (controlled by the Mota Engil group), the backlog grew in 2011 291M€, contradicting the 14% contraction in turnover in the country, explained by delays on the side of the promoters of some major projects. Some important projects awarded to Mota Engil include the Calueque dam, the Sonangol expansion project, a large real estate project and the third phase of the Finicapital financial city.

In the first nine months of 2012, turnover has been growing at a rate close to 30%, supporting excellent growth perspectives in this continent which are reinforced by a very strong backlog.

3.1.4. Latin America

The business in Latin America is centered in Peru and Mexico, having the activity in Brazil started in 2012. The company is also currently studying several projects in Colombia.

Activity in Peru, once fundamentally based on earthmoving for the mining industry has now been diversified to road construction and infrastructure maintenance. The result of this diversification was immediate, with turnover more than doubling since 2010.

The profile of a highway in Mexico was increased in 2011. The works on this highroad contributed to the performance of this segment.

3.2. Environment & Services

Environment & Services is a diversified business area of Mota Engil, which accounts for 20% of the group's turnover and 33% of the EBITDA (2011's figures). Its activities range from the management of urban waste and cleaning systems to the management of logistic infrastructures like ports, passing through water systems, cargo rail transport, construction and maintenance of public facilities and green spaces, among others. Mota Engil is the market leader in the provision of port and waste management services in Portugal.

Below are some operational indicators from 2010 that illustrate the activity of Mota Engil in this area:

Waste gathering and treatment	**3 million tons**
Costumers served by water systems	**203 thousand customers**
Cargo moved in ports	**8 million tons**
Green space maintenance	**2 million m^2**
Infrastructure maintenance	**420 thousand m^2**

The activity in translated into the following financial indicators in 2011:

Turnover	**346 M€**
EBITDA	**97,1 M€**
Net Income	**13,3 M€**
Backlog	**400 M€**[3]

Bellow we take a deeper look at each of the segments of this business area: waste management, water systems, logistics and multiservices.

3.2.1. Waste management

Mota Engil's sub-group SUMA is the leading player in the national market for integrated waste management. Joining the capabilities of SUMA with Correia & Correia and Enviroil, other two companies of the group, Mota Engil is able to provide services related to gathering and treatment of solid urban waste, as well as industrial waste, urban cleaning, gathering and treatment of used oils and environmental education in the national territory. Although the majority of the activity is undertaken in Portugal, there is also some activity in Poland (through Ekosrodowisko) and in Angola (through Vista Waste), which already account for 25% of the turnover of this segment. This international expansion will grow in importance as opportunities for growth within the country exhaust, given the little effort of public entities to give incentives and opportunities for the expansion of the role of private companies in these businesses.

Still, this segment has managed to achieve a residual growth in turnover (to 120,5M€ in 2011), which coupled with a sound increase in the operational margin (from 26,6% in 2010 to 32,3% in 2011) resulted in a 22,5% EBITDA growth y.o.y. (to 38,9M€ in 2011).

[3] Only waste management and multiservices contracts. The company does not consider backlog the foreseeable revenues of concession contracts for water systems and ports

With 3100 workers, 1130 vehicles, 2400 light equipments and 73000 containers, Mota Engil provides waste services to 3 million people in Portugal, half a million in Poland and 1 million in Angola.

3.2.2. Water

Indaqua is the sub-group of Mota Engil who owns the (25 to 50 years long) water and/or sanitation concessions in 6 Portuguese counties (Fafe, Santo Tirso, Trofa, Santa Maria da Feira, Matosinhos and Vila do Conde). It also has a public-private partnership (PPP) with the county of São João da Madeira for the management of the public water supply and wastewater collection systems, with an unlimited life. Together, these concessions and the PPP serve more than 200.000 clients with a supply network of 4400 km. Internationally, Indaqua controls Vista Water that operates in Angola and is currently responsible for the technical advisory for the "Water for all" government program. Indaqua is also present in Macau and in Peru.

In 2011, public tenders were scarce and consistently delayed, a tendency which was not inverted in 2012 so far, but is expected to be inverted in the coming years due to the state's budget difficulties. Despite this, the number of customers in Portugal increased 3,9%, for a total of 23M m3 of water served. In sanitation, 15,2M m3 was invoiced on 142 thousand users, in 2011. The activity in 2012 did not depart significantly from these levels, despite an increase in turnover having been registered due to accounting matters.

Aside from participating in all national public tenders that prove financially sustainable, Indaqua will also seek to be present in tenders in Peru, as well as searching for new international opportunities.

3.2.3. Logistics

The logistics segment comprehends the group's activity related to the operation of ports and road/rail terminals, transporting of goods over rail and integrated logistics services.

In Portugal, Tertir (the sub-group that owns the logistic companies) leads the operation of Lisboa, Leixões, Sines and Aveiro ports. It is the first private operator to enter the goods railway transport activity and is a co-promoter of Poceirão logistics platform, the largest in the country. At the international level, the group owns a 30 years concession in Paita port (Peru)

and a 35 years concession for the Ferrol containers terminal in Galicia (Spain). The company Transitex is also having a good international performance with door-to-door container movements in Spain, Mozambique, Mexico, Brazil, Colombia and Peru.

Due to the recession in Portugal, the exports sector has boosted its activity, benefiting the ports, which moved almost 800 thousand containers in 2011, an 11% increase vs 2010. Logistics activity in Portugal has continued to grow in 2012, registering a 20% increase y.o.y. in the first nine months of the year, and it is expected that this effect continues in the coming years while internal demand does not recover significantly. Reflecting this, logistics further consolidates its position as the largest contributor to the Environment & Services performance.

3.2.4. Multi Services

This area of Mota-Engil provides a vast array of services in which sub-contracting can be an interesting alternative to its clients. Among other activities, Monta Engil is present in the industrial and building maintenance business through Manvia and Almaque; it works in landscaping, building and maintenance of green spaces and golf courses through Vibeiras, Áreagolfe and VBT; direct mailing (through Lokemark), electronic market operation (Vortal) and parking lot management (EMSA and Parquegil) are also businesses under the Multiservices segment of Mota Engil.

In 2011, the activities in this segment generated a turnover of 59M€, yielding an EBITDA of 4,3M€, a 7% increase year over year. Contributing to those figures, we highlight the role of Manvia, with a turnover of 19M€ associated with an operational margin increase (figures which are strengthened by a 74M€ backlog), and Vibeiras, with a turnover of 23M€. This last company has an international presence in Angola, Mozambique and Morocco.

3.3. Transport Concessions

The Ascendi Group is Mota Engil's strategic partnership with Banco Espírito Santo for the transport concessions. It explores more than 1600 km of highroads in Portugal, joined by 1400 km in Spain, Mexico, Brazil and Mozambique. This figure is likely to grow in the coming years as the company explores new opportunities in its current geographies, but also in India, where in 2011 the company participated in the pre-qualification for the Six Laning of Agra-Etawah

Bypass Section, Six Laning of Chandikhole-Paradeep Section and Six Laning of Gundugolanu to Rajahmundry Section projects, in partnership with Essar Projects Limited, having been pre-qualified for the first of them and expecting to be pre-qualified for the remaining two.

Ascendi invested in 2009 in the new Multi-Lane Free-Flow electronic toll system, in order to toll the former “SCUT’s” (highroads without cost for the user). This project has already earned the company several technological awards. Through this system, Ascendi currently manages more than 100 billing points and processes 1 million transactions each day.

4. DISCOUNTED CASH FLOW VALUATION

As discussed in the literature review, we will use the Discount Cash Flow method as our primary valuation method. Below we describe our assumptions and valuation results.

The valuation will be done as of 31st of December of 2012, and all market parameters refer to that date, unless otherwise stated.

4.1. Turnover

Motal Engil's revenue in the coming years is a critical variable that will impact our valuation. As such, a strong emphasis will be put in forecasting them as accurately as possible taking into account the information freely available.

As full year data for 2012 is not yet available to the public, and since a starting point was necessary to estimate the revenues from 2013 to 2022, turnover for 2012 was assumed to grow with respect to 2011 at the same rate that turnover for the first three quarters of 2012 grew with respect to the same period of 2011. Although the year of 2012 is outside the scope of the valuation, forecasts for that year indirectly impact our forecasts for the explicit forecast period.

4.1.1. Engineering & Construction Turnover

Given the lack of company specific forecasts (being the year of 2012 the exception, as discussed above), as a general rule, industry growth forecasts were used as a proxy for the revenue growth of Mota Engil, and when no such forecasts were available, the rougher proxy of GDP growth (nominal, euro) was used until 2017, the last year the IMF provides growth forecasts for countries. In the remaining years of the explicit forecast period, we took in consideration the 2020 Outlook from Global Construction 2020 presentation[4], before growth

[4] Global Construction 2020 presentation – FICEM general assembly: http://www.ficem-apcac.org/boletines/asamblea2011/presentaciones/global_construction_ficem_2011.PDF

rates started to fade to what we consider a more sustainable growth rate for the country, taking into account its state of development.

For forecasting purposes, revenues from the 4 geographical segments were assumed to come from the following countries (taking into account available information and the input from the Mota Engil investor relations department):

Portugal	**Portugal (100%)**
Central Europe	**Poland (100%)**
Africa	**Angola (50%)** **Mozambique (25%)** **Malawi (25%)**
Latin America	**Peru (70%)** **Mexico (30%)**

All local currency real growth figures found in any source were converted to nominal growth rates in Euros using the CPI as a proxy for inflation of construction goods, and using the FX rate evolutions implied in IMF GDP data (local currency vs USD). The assumption made by the IMF regarding future exchange rates is that the real effective rate remains constant overtime, an assumption we will embrace in the absence of a better way to predict future exchange rates in the long term (view Annex I for details on inflation and FX adjustment factors, as well as for a discussion on using CPI as a proxy for construction inflation).

For European countries (Portugal and Poland), explicit growth figures for the industry were available from EuroContruct for 2013 and 2014. As a general outlook for the next years, Eurocontruct predicts the construction sector in Europe will grow at 80% of the growth rate of the general economy. This prediction is consistent with the findings of Crosthwaite (1999) which studied the evolution of the construction sector at the different stages of a country's development and found that as a country evolves to an advanced industrialization state, the construction sector cannot keep up with the growth rate of the economy, reducing its share in GDP. As such, we will estimate the growth of Mota-Engil to be 80% of the GDP growth (nominal, euros) for Portugal and Poland.

Annex II details the construction of the forecasts for the turnover of Mota Engil. The final figures we will use in our valuation are the following:

	Turnover growth Forecast (%)												
	2010	2011	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F	2021F	2022F
E&C	**-3,3%**	**9,3%**	**9,5%**	**3,9%**	**2,3%**	**5,7%**	**6,7%**	**6,3%**	**6,3%**	**6,2%**	**6,2%**	**6,1%**	**6,0%**
Portugal	-24,5%	-0,6%	-20,9%	-12,3%	-7,9%	-0,1%	2,7%	2,7%	2,9%	3,0%	3,1%	3,1%	3,1%
Central Europe	-16,7%	59,4%	22,0%	11,8%	0,6%	4,6%	5,5%	4,9%	5,5%	6,0%	6,5%	6,3%	6,0%
Africa	26,0%	-8,1%	28,9%	9,3%	7,8%	8,7%	8,8%	8,2%	7,9%	7,5%	7,3%	7,2%	7,0%
America	97,6%	78,3%	36,7%	7,6%	7,1%	7,4%	7,7%	7,8%	7,2%	6,3%	5,4%	5,5%	5,5%

	Turnover (M€)												
	2010	2011	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F	2021F	2022F
E&C	**1.599**	**1.747**	**1.913**	**1.987**	**2.032**	**2.148**	**2.291**	**2.436**	**2.590**	**2.751**	**2.920**	**3.099**	**3.283**
Portugal	664	660	522	458	422	421	432	444	457	471	485	500	516
Central Europe	239	381	465	519	522	547	577	605	639	677	721	766	812
Africa	626	575	741	810	873	949	1.033	1.118	1.206	1.296	1.391	1.491	1.596
America	83	148	202	218	233	251	270	291	312	331	349	369	389

4.1.2. Environment & Services Turnover

For the Environment & Services business, visibility regarding the actual weights of international business in each of the areas is low. Given that fact, and knowing that the majority of the business happens in Portugal, we will use Portuguese data to estimate the revenues of Mota Engil in this sector. Different assumptions were used for the different business areas.

Waste management evolution was assumed to be linked to GDP evolution (current prices). Since the privatization level in Portugal is still low (37%) when compared to Spain (approximately 80%) and Mota Engil has been exploring new opportunities in Eastern Europe[5], we believe there is room for a performance above GDP evolution in the near future. Being so, we assumed revenues will grow 2% above GDP in 2013 and 2014 and 1% above GDP in 2015 and 2016. Although this trend may continue if the internationalization effort is fruitful, visibility is still low and we will assume revenues to grow at 2017's GDP growth rate from 2017 to 2022.

Water distribution is in a similar low privatization state, with only 22% of the population served by private operators. Furthermore, there is an urgent need to invest in network, which

[5] Mota Engil group presentation, made available by the investor relations department

should accelerate privatization operations[6]. As such, we will assume revenues in the two first years of the forecast period will grow 3% above the revenue driver and 1,5% above in the next two years. The revenue driver used for water services was the population growth rate plus inflation[7].

Activity of ports and cargo terminals in general is linked with Portuguese import/export activity. FMI publishes import and export growth forecasts until 2017 in their World Economic Outlook Database. Logistics revenues were assumed to grow at the average rate of growth of imports and exports (in volume), adjusted by inflation. From 2018 to 2022, figures for 2017 were used.

The Multi Services segment, which was been growing at rates close to 0 in the past two years, was assumed to grow at the inflation rate.

These are the resulting forecasts:

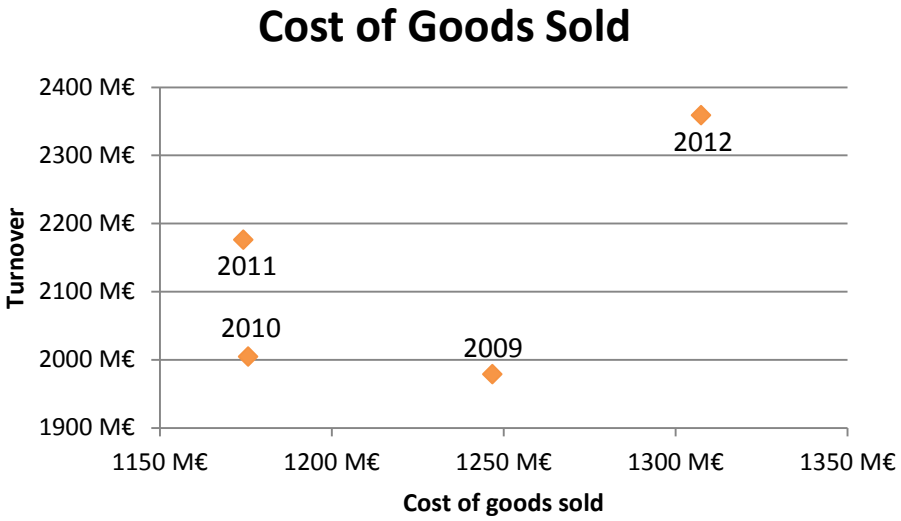
	Turnover growth Forecast (%)												
	2010	2011	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F	2021F	2022F
E&S	**24,6%**	**6,3%**	**6,8%**	**2,2%**	**4,4%**	**4,5%**	**4,6%**	**4,1%**	**4,2%**	**4,2%**	**4,3%**	**4,3%**	**4,3%**
Waste Management	6,3%	0,8%	25,8%	2,3%	4,2%	4,3%	4,4%	3,3%	3,3%	3,3%	3,3%	3,3%	3,3%
Water Distribution	60,4%	7,8%	5,0%	3,8%	4,2%	3,0%	3,0%	1,6%	1,6%	1,6%	1,6%	1,6%	1,6%
Logistics	5,3%	11,3%	20,5%	1,8%	5,6%	6,1%	6,1%	6,2%	6,2%	6,2%	6,2%	6,2%	6,2%
Multi Services	222,2 %	0,0%	0,0%	0,7%	1,1%	1,4%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%

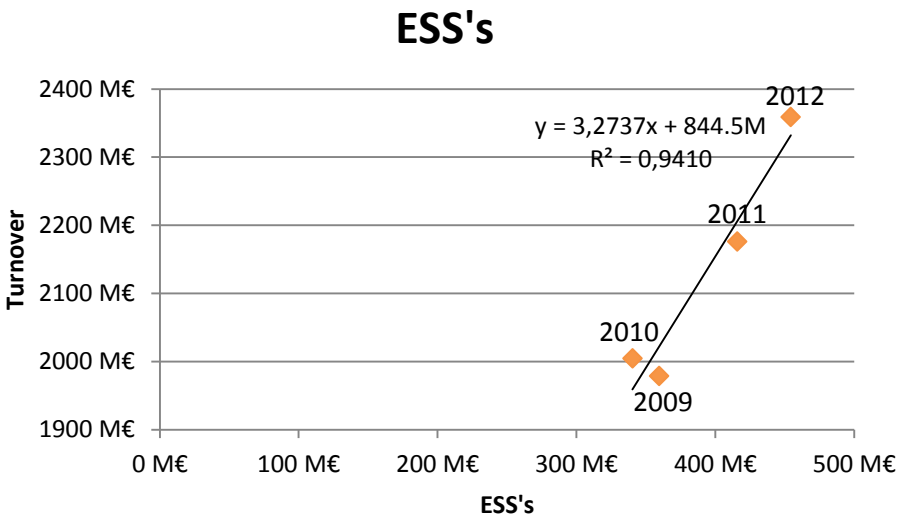
	Turnover (M€)												
	2010	2011	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F	2021F	2022F
E&S	**410**	**436**	**506**	**517**	**540**	**565**	**590**	**615**	**640**	**667**	**695**	**725**	**756**
Waste Management	119	120	151	154	161	168	175	181	187	193	200	206	213
Water Distribution	77	83	87	90	94	97	100	102	103	105	107	108	110
Logistics	159	177	213	217	229	243	258	274	291	309	329	349	371
Multi Services	58	58	58	58	59	60	61	62	63	64	65	66	67

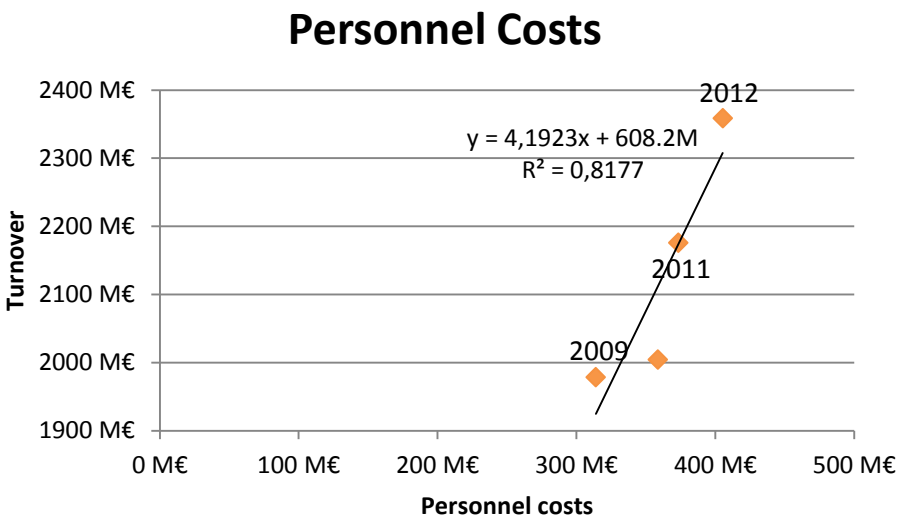
[6] Mota Engil group presentation, made available by the investor relations department
[7] International Monetary Fund, World Economic Outlook Database, October 2012

4.2. EBITDA margin and EBITDA

The main costs Mota Engil incurs in its business are the cost of goods sold, external services and supplies (ESS's) and personnel costs. We analyzed how these main categories of costs evolved from 2009 to 2012 (in previous years the concessions segment was consolidated, and are therefore not comparable).







At a first glance, we see that the cost of goods sold (by far, the largest contributor to total costs) behaves erratically, which would in itself make projections based on the past relationship between these costs and turnover unreliable. Our best estimate would be to forecast them at the historical average percentage of turnover they represent (57,8%). ESS's and personnel costs, on the other hand, seem to fit reasonably well on the regression line, which could provide an analytical tool for future forecasts. However, the estimated regression line implies these costs are growing at a higher percentage than turnover, which is unlikely to be a persistent pattern for the future. In fact, if we project ESS's and personnel costs to behave according to the regression line we computed, and the cost of goods sold at the historical average percentage of turnover, Mota Engil would be having negative EBITDA's by 2021. Again, our best reasonable way to forecast these costs would be to resort at the turnover percentage they account for. Since all major costs would be forecasted at the percentage of turnover they represent, and given the uncertainty in this estimate, we do not believe there is an added value in estimating them individually, which leads us directly to EBITDA margin.

We will forecast EBITDA based on the historical EBITDA margin. For that, we will fix the EBITDA margin for each business sub-segment in the entire explicit forecast period, at the weighted average rate from 2010 to 2012 (being 2012 still a forecasted margin, but which shall not be too different from actual one, with already 3 quarters of real data). Weights used were 50% to 2012, 33% to 2011 and 17% to 2010, reflecting the assumption that the margins for more recent years are likely closer to future ones (that is, margin improvements tend to be the result of efficiency efforts that are not likely to be reverted). Total margins (total of Engineering & Construction, total of Environment & Services, as well as the total margin for

Mota Engil) for 2013 were also set using the same weighted average methodology (they do not correspond exactly to the weighted margin of all segments due to the elimination of intra-group activity).

From 2014 on we will allow total margins to flow with the changes in business mix. This is especially important when we have sub-segments with margins as low as 3,6% and others with margins as high as 33,6% growing at different paces, and provides yet stronger support for an EBITDA margin based approach versus modeling individual costs, where in the absence of cost figures by sub-segment, we would not be able to adequately capture the effects of a changing business mix in EBITDA.

These are the EBITDA margins we will consider, and the resulting EBITDA figures.

	EBITDA Margin (%)												
	2010	2011	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F	2021F	2022F
TOTAL MOTAL ENGIL	**11,84%**	**13,60%**	**13,46%**	**13,24%**	**13,42%**	**13,49%**	**13,52%**	**13,54%**	**13,55%**	**13,56%**	**13,55%**	**13,55%**	**13,55%**
E&C	**10,16%**	**11,49%**	**11,49%**	**11,27%**	**11,45%**	**11,56%**	**11,64%**	**11,72%**	**11,78%**	**11,83%**	**11,86%**	**11,90%**	**11,94%**
Portugal	6,3%	9,7%	11,9%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%	10,2%
Central Europe	3,3%	3,7%	2,7%*	3,6%	3,6%	3,6%	3,6%	3,6%	3,6%	3,6%	3,6%	3,6%	3,6%
Africa	17,1%	18,8%	17,9%	18,0%	18,0%	18,0%	18,0%	18,0%	18,0%	18,0%	18,0%	18,0%	18,0%
America	7,2%	9,5%	6,6%	7,7%	7,7%	7,7%	7,7%	7,7%	7,7%	7,7%	7,7%	7,7%	7,7%
E&S	**19,71%**	**22,27%**	**24,81%**	**23,12%**	**23,15%**	**23,18%**	**23,21%**	**23,21%**	**23,21%**	**23,21%**	**23,20%**	**23,20%**	**23,19%**
Waste Management	26,9%	32,5%	36,7%	33,6%	33,6%	33,6%	33,6%	33,6%	33,6%	33,6%	33,6%	33,6%	33,6%
Water Distribution	23,4%	22,9%	24,9%	24,0%	24,0%	24,0%	24,0%	24,0%	24,0%	24,0%	24,0%	24,0%	24,0%
Logistics	20,1%	22,6%	22,2%	22,0%	22,0%	22,0%	22,0%	22,0%	22,0%	22,0%	22,0%	22,0%	22,0%
Multi Services	6,9%	6,9%	10,3%	8,6%	8,6%	8,6%	8,6%	8,6%	8,6%	8,6%	8,6%	8,6%	8,6%

* Includes an extraordinary 5M€ loss due to the closing of operations in Romania. Average margin for the future corrected for this effect

	EBITDA (M€)												
	2010	2011	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F	2021F	2022F
TOTAL MOTAL ENGIL	**237**	**296**	**325**	**331**	**344**	**365**	**389**	**412**	**437**	**462**	**489**	**517**	**546**
E&C	**163**	**201**	**220**	**224**	**233**	**248**	**267**	**286**	**305**	**325**	**346**	**369**	**392**
Portugal	42	64	62	47	43	43	44	45	47	48	50	51	53
Central Europe	8	14	12	19	19	20	21	22	23	25	26	28	30
Africa	107	108	132	146	158	171	186	202	218	234	251	269	288
America	6	14	13	17	18	19	21	22	24	25	27	28	30
E&S	**81**	**97**	**126**	**120**	**125**	**131**	**137**	**143**	**149**	**155**	**161**	**168**	**175**
Waste Management	32	39	55	52	54	56	59	61	63	65	67	69	72
Water Distribution	18	19	22	22	23	23	24	24	25	25	26	26	26
Logistics	32	40	47	48	50	53	57	60	64	68	72	77	81
Multi Services	4	4	6	5	5	5	5	5	5	5	6	6	6

4.3. Tangible and Intangible Assets

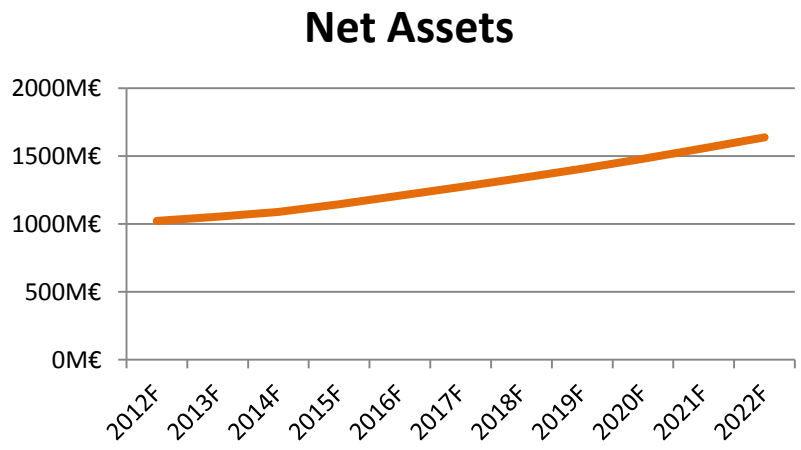
The activity of Mota Engil is asset intensive. Therefore, it is not likely that Mota Engil will be able to grow at the estimated rates without an associated asset growth. In fact, we computed tangible+intangible assets turnover for the last 3 years of full year data and found it to be roughly constant:

	Asset Turnover		
	2009	2010	2011
TOTAL MOTA ENGIL	**2,42**	**2,40**	**2,50**

As such, we will assume a fixed proportion of net assets to turnover in the explicit forecast period. However, asset turnover is not the same for Engineering & Construction and Environment & Services businesses, and these do not grow at the same rate in our forecasts. We will then compute asset turnover for each of the businesses and model Net Assets as the sum of the required assets for each business, according to the historical average turnovers:

	Asset Turnover			
	2009	2010	2011	Following years
E&C	4,17	3,62	3,98	**3,92**
E&S	0,78	1,04	1,01	**0,95**

Assets will grow from less than a billion in 2012 to 1,6 billion in 2022, supporting the growth of the firm:



Furthermore, it was assumed that from these total net assets, 32,1% were intangible assets, according to the average figures from the last years.

4.4. Depreciation

In a similar way, the depreciation rate for tangible and intangible assets to be used in our valuation was computed averaging the respective asset depreciation rates from 2009 to 2011 (computed as depreciation over net assets). Below are the historical depreciation rates and the average we will use in the valuation:

	Depreciation rate (over net assets)			
	2009	2010	2011	Following years
Intangible Assets	4,3%	4,5%	4,0%	**4,3%**
Tangible Assets	11,6%	13,1%	14,0%	**12,9%**

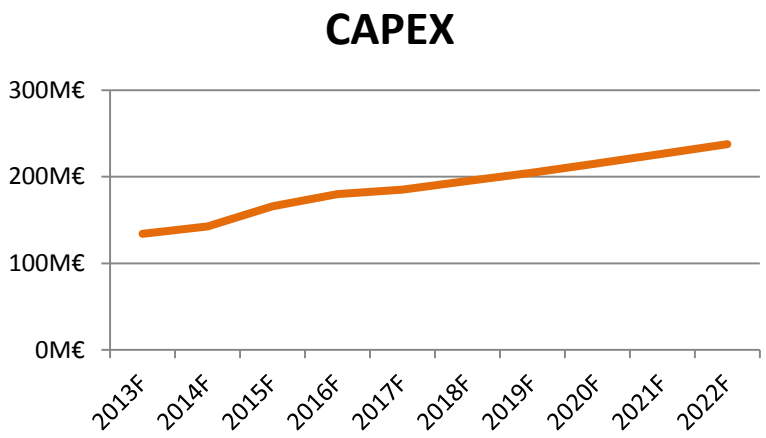
Yearly depreciation was, as expected, computed using the average rate of depreciation in the table and the net assets in each category, according to the total net assets and percentage of intangible assets mentioned above.

4.5. CAPEX

Having set the Net Assets the company needs to support its operation and the yearly depreciation rate, CAPEX will be simply set to cover the depreciation and the required change in net assets.

$$\text{CAPEX} = \text{Net Assets}_t - \text{Net Assets}_{t-1} + \text{Depreciation}_t$$

This results in the following CAPEX pattern over the explicit forecast period:

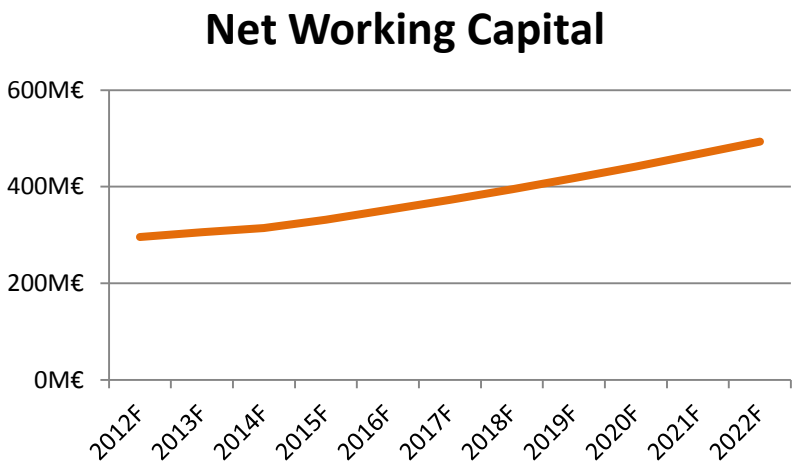


4.6. Net Working Capital

In a similar fashion, a growing company needs operating liquidity to support its growing business. Therefore, in a similar way to what was done with assets, we will assume net working capital will grow at the same rate than turnover, maintaining a fixed ratio of turnover to net working capital.

Net working capital and associated turnover to net working capital ratio was computed from 2009 to 2011, and forecasted for the following years.

	Net Working Capital			
	2009	2010	2011	Following years
Net Working Capital	**264**	**249**	**243**	
Current Assets	**1330**	**1643**	**1704**	
Inventories	233	203	242	
Clients	807	1008	921	
Other Debtors	189	304	364	
Other Current Assets	101	128	176	
Current Liabilities	**1066**	**1394**	**1461**	
Suppliers	451	482	478	
Other Creditors	354	441	501	
Other Current Liabilities	261	471	482	
Turnover to NWC	**7,5**	**8,0**	**9,0**	**8,2**



4.7. WACC

The weighted average cost of capital for Mota Engil was estimated at 7,31%. In the following subsections we provide the assumptions regarding the parameters of this computation.

4.7.1. Risk Free Rate

According to common practice valuing European companies, the yield of the 10 years German Bund was used as the risk free rate (1,316% as of 31/12/2012, according to Bloomberg).

4.7.2. Country Risk Premium

Country risk premium was computed from the rating-based country risk premium published by Damodaran[8]. Damodaran estimates the country risk premium using the rating-based default spread and multiplying it by 1,5 to account for the higher volatility of equity markets.

For Mozambique and Malawi rating-based country risk premiums were not available in Damodaran's published list, so we had to estimate their country risk using proxys.

[8] http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

Mozambique is rated B by Fitch[9]. Having several B rated countries on the published list, we estimate the country risk premium of Mozambique as the average of B rated countries (Dominican Republic, Lebanon and Ukraine).

Malawi, one the other hand, does not have any rating assigned by any of the three major rating agencies. Without any reference for its country risk, we had to go with a worst case scenario and have attributed to Malawi the country risk premium of the countries with the highest rating-based country risk premiums on the list (Ecuador and Greece).

Having the country risk premiums for the main countries where Mota Engil has activity, we weighted them according to the weight of the country in Mota Engil's EBITDA in 2022 (country weights within a segment according to the table on page 33, and considering the bulk of Environment & Services activity occurs in Portugal). This resulted in a country risk premium of 5,54%.

	Rate	Weight
Angola	4,88%	25%
Mozambique	7,00%	12%
Malawi	10,50%	12%
Peru	2,63%	4%
Mexico	2,25%	2%
Portugal	4,88%	41%
Poland	1,50%	5%
Country Risk Premium	5,54%	100%

4.7.3. Market Premium

We will use a market premium of 5,8%, as estimated by Damodaran for the market premium of mature markets (based on the implied premium for the S&P500)[10].

[9] http://www.fitchratings.com (requires registration)
[10] http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

4.7.4. Beta

We will use a Beta figure of 1,56 for Mota Engil, as published by Reuters[11] and BES[12].

4.7.5. Cost of Debt

The cost of debt used in the valuation should not be historical, but instead, should reflect the market rates that the company would have obtained had it renegotiated its entire debt at the time of valuation. Mota Engil has issued 15M€ in 5 year Bonds in December 2012, with a spread of 6,75% over 6 months EURIBOR. This is a very recent emission and indicative of the borrowing rate the company can currently achieve in the market. EURIBOR 6M quoted at 0,32% in 31/12/2012, which would place the cost of this emission, had it been in the last day of 2012, in 7,07%.

Furthermore, and although this occurred after the valuation date to which this valuation refers, it is worth noting Mota Engil is due to issue 75M€ in 3 year Bonds in March 2013, at a rate of 6,85%.

The company has an average debt maturity between 3 to 5 years (although its accurate value will only be disclosed with 2012 annual accounts, since a 200M€ bank debt renegotiation occurred in the 4th quarter of 2012[13]), hence we believe 7% is a proper estimate of the cost of debt Mota Engil would get in the market had it renegotiated its debt, with its current term structure, on the 31st December 2012.

4.7.6. Tax Rate

The effective tax rate applicable to Mota Engil in the first 3 quarters of 2012 was 25,89%. We do not believe it is appropriate to consider effective tax rate figures from previous years due to recent tax hikes, hence, that will be the figure we will use.

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[11] http://www.reuters.com/finance/stocks/overview?symbol=MOTA.LS
[12] On the markets area of their homebanking site
[13] According to investors relation department

4.7.7. Leverage

The last ingredient missing to compute Mota Engil's WACC is its leverage ratio.

$$\text{Leverage} = \frac{\text{Market Value of Debt}}{\text{Market Value of Debt} + \text{Market Value of Equity}}$$

We will compute the market value of Mota Engil's debt as suggested by Damodaran[14], treating the entire debt as one coupon bond that has a principal equal to its book value and a coupon equal to the yearly interest expense (based on the average cost of debt). Computing the market value of debt would then be a straightforward exercise of valuing such bond using the current cost of debt as the discount rate.

As an accurate average maturity and average cost of debt for 31st December 2012 will only be disclosed with 2012's annual accounts (due to debt refinancing operations in the fourth quarter of 2012, as mentioned by the investor relations department of Mota Engil), we will base our analysis on the available information. That encompasses debt amounts and term figures from 30th September 2012, and average debt costs for each debt type from 31st December 2011.

	Average Maturity	
	Assumed Maturity (years)	Ammount
1 year	1	611.409.599
2 years	2	223.415.992
3 to 5 years	4	208.627.036
More than 5 years	8	260.672.995
Average debt maturity	**3,1**	**1.304.125.622**

[14] http://pages.stern.nyu.edu/~adamodar/New_Home_Page/valquestions/mktvalofdebt.htm

	Average Debt Cost	
	Average Debt Cost	Ammount
Loans by unconvertible Bonds	5,48%	182.312.537
Debts to credit institutions		
Bank Loans	4,80%	365.906.527
Overdrafts	6,28%	200.165.780
Escrow accounts	6,22%	216.217.856
Other Loans		
Commercial Paper	2,66%	329.805.883
Other Loans	2,93%	9.717.039
Average debt cost	**4,80%**	**1.304.125.622**

With an average debt cost of 4,80% and an average maturity 3,1 years, we can compute the market value of Mota Engil's debt by computing the value of the appropriate bond:

$$Market\ Value\ of\ Debt = \frac{4{,}80\% \times 1{,}3M}{7\%} \times \left(1 - \frac{1}{(1+7\%)^{3{,}1}}\right) + \frac{1{,}3M}{(1+7\%)^{3{,}1}} = 1{,}228M€$$

Market value of Mota Engil's equity on 31/12/2012 was 303M€ which puts Mota Engil's leverage ratio on 80,19%.

	WACC assumptions
Risk Free Rate	1,316%
Country Risk Premium	5,54%
Market Risk Premium	5,80%
Beta Mota Engil	1,56
Cost of Equity	15,9%
Cost of Debt	7,00%
Tax Rate	25,89%
Leverage (D/D+E)	80,19%
WACC	7,31%

4.8. Free Cash Flows of Consolidated Businesses

We are now in conditions to compute FCF for the businesses Mota Engil consolidates in its reports (Engineering & Construction and Environment & Services). Flows are assumed to be uniformly distributed across the year, therefore they will be discounted to 31/12/2012 as if they occurred on the 30th of June of each year.

	Free Cash Flow									
M€	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F	2021F	2022F
EBITDA	**330,6**	**344,4**	**364,9**	**388,6**	**412,1**	**436,7**	**462,1**	**488,7**	**516,7**	**545,9**
Depreciation	-103,6	-106,7	-110,3	-115,9	-122,4	-128,7	-135,4	-142,4	-149,8	-157,6
Provisions and imparity losses	-37,4	-38,4	-40,5	-43,0	-45,5	-48,2	-51,0	-53,9	-57,0	-60,2
Operating Result (EBIT)	**189,6**	**199,3**	**214,2**	**229,7**	**244,2**	**259,8**	**275,7**	**292,3**	**309,8**	**328,0**
EBIT minus Taxes	**140,5**	**147,7**	**158,7**	**170,2**	**181,0**	**192,5**	**204,3**	**216,6**	**229,6**	**243,1**
Depreciation	103,6	106,7	110,3	115,9	122,4	128,7	135,4	142,4	149,8	157,6
Change in Net Working Capital	10,4	8,3	17,1	20,6	20,7	21,9	22,9	24,2	25,4	26,4
CAPEX	134,0	142,4	165,7	179,8	185,0	195,0	204,7	215,5	226,6	237,6
Free Cash Flow to the Firm (FCFF)	**99,7**	**103,6**	**86,2**	**85,7**	**97,7**	**104,3**	**112,1**	**119,4**	**127,4**	**136,8**
Discount factor	96,5%	90,0%	83,8%	78,1%	72,8%	67,8%	63,2%	58,9%	54,9%	51,2%
FCFF discounted	**96,3**	**93,2**	**72,3**	**67,0**	**71,1**	**70,8**	**70,9**	**70,3**	**70,0**	**70,0**

Flows are assumed to grow forever at a rate of 50% of the long term mature economies real GDP growth rate, commonly assumed at 2% (consistent with the findings of Crosthwaite (1999) in that construction grows below GDP in advanced industrialized economies), plus 80% of a 1,5% inflation rate, according to the last IMF long term forecast for Portugal (in Annex I is discussed the adequacy of using the inflation rate as a proxy for construction inflation, and we note that construction inflation is historically not statistically different from CPI, albeit slightly lower. We use 80% of inflation rate adhering to a principle of caution). That is, they will be assumed to grow at a rate of 2,2%.

In these conditions, terminal value for the consolidated segments of the company was estimated at 1.369M€

4.9. Minority Interests

Not all companies of the Mota Engil group are 100% owned by the group. It is worth estimating the major minority interests on the companies proceeds so that the respective value is subtracted from Mota Engil's value.

The major minority interest to take into account is the stake of Sonangol in Mota Engil Angola. This stake amounts to 49% of the capital from the company that is already the one that generates the highest turnover for Mota Engil, and is expected to strengthen its position in the future.

Environment and Services business also has representative minorities in the Sub-group SUMA (waste management), where minorities represent 38,5% of the equity and in Indaqua (water services), where they account for 50%.

Minorities were computed assuming the share of each business segment in the enterprise value of E&C and E&S was proportional to the share that that segment has on the company's EBITDA in 2020.

These are the estimated minority interests over the equity value of E&C and E&S:

	M€
Enterprise value E&C+E&S	2121
Debt	1228

	% of minorities	EBITDA share in 2020	Minority Interests (M€)
Mota-Engil Angola	49%	53%	231
Suma	38,5%	13,1%	45
Indaqua	50%	5%	22
Total			**297**

4.10. Martifer and Ascendi

Martifer and Ascendi are the two major businesses that impact the value of Mota Engil that are not on the consolidation perimeter. Being so, we have to value them separately from the main valuation.

Martifer is quoted in the Lisbon market, so we will value Mota Engil's stake at market value. As of 31/12/2012, Martifer stock was quoting at 0,56€ per share, with 98,3 million shares in the market (discounting own shares). As Mota Engil owns 37,5% of Martifer, this participation is worth, at market value 20,6M€.

As for Ascendi, Mota Engil owns 60% of the group. Unfortunately, Ascendi is not a quoted company, and Mota Engil does not disclose financial information about it individually (this was confirmed by the investor relations department of Mota Engil). Being so, we have very restricted options to value this stake. A company presentation document discloses Equity invested by Mota Engil in Ascendi is 314,8M€, at book value. We noted that Espírito Santo Research, in its last valuation of Mota Engil (22/11/2012) also values the stake of Mota Engil on Ascendi at a multiple of 1x Book Value (arriving to a result of 318M€). Giving the very little financial information available, and with added confidence by the valuation of Espírito Santo Research, we will value this stake at book value, using the value we have in the company presentation (314,8M€).

4.11. Discounted Cash Flow Valuation Results

These are the results of our discounted cash flow valuation:

+ EV E&C+E&S	2.120.639.224
- Minorities E&C+E&S	297.476.308

- Debt	1.227.780.231

+ Martifer (@Market Value)	20.632.993
+ Ascendi (@Book Value)	314.800.000

+ Financial and property Investments	152.580.593
+ Financial Derivatives	-27.230.780
- PV Leasing Contracts Obligations	164.207.153
- Provisions	88.151.934

Mota Engil's Equity Value	803.806.405
Outstanding shares	193.599.380
Price Target	4,15

This price target represents a 165% upside potential to Mota Engil's share price in the end of 2012, and a 112% upside potential with respect to its most recent quote (1,961€ in 08/03/2013).

We understand this is a great upside potential, and that this price target departs significantly from the ones currently being issued by analysts. In the next section we value Mota Engil using multiples. We will use the results we arrive at, as a critical tool to assess the consistency of our DCF valuation.

5. RELATIVE VALUATION

As discussed in the literature review, we will use multiples to check how the results of our DCF valuation hold when a different (and very common) valuation method is used. The primary multiple we will use is EV/EBITDA, as it is one of the most popular multiples typically applied to the construction industry (Fernández, 2001b) and it is an enterprise value multiple, which is robust to capital structure (Goedhart et al., 2005), which is particularly relevant in our case since Mota Engil is highly indebted and, although we had leverage into account in choosing peers and have ruled out some candidates due to very low leverage, we still had to accept companies in the peer group with considerably different leverage ratios in order to be able to construct a peer group that compares well with Mota Engil in other measures.

We will also report PER valuation since it is by far the most widely used valuation method (according to Morgan Stanley, as quoted by Fernández, 2001b), but since it is easily affected by capital structure, and considering what we discussed in the previous paragraph, we will not put too much thought into its results.

5.1. Mota Engil's Peer Group

In order to find a peer group for Mota Engil, we looked for European companies in the heavy construction sector (S&P) that compared well with Mota Engil in 4 areas:

- Management Effectiveness
    - Return on Average Assets (trailing 12 months)
    - Return on Investment (trailing 12 months)
- Growth
    - Revenue Growth (last 5 years)
- Profitability
    - Gross Margin (trailing 12 months)
    - Net Profit Margin (trailing 12 months)
- Financial Strength
    - Total Debt to Capital (most recent quarter)

Obviously finding companies that would very close match Mota Engil's figures on the 4 areas would be close to impossible, so we had to accept some variability. Despite that, we were very strict in ruling out from the peer group companies that presented negative returns, margins, or growth, as that would put the companies in a very different position than the one Mota Engil is now (hence, some notable absences from the peer group, like the Portuguese Teixeira Duarte and Soares da Costa or the Spanish Acciona and FCC). We also disregarded companies with very low leverage.

Below we present the chosen peers and how they compare with Mota Engil on the measures discussed above. The source for data is Financial Times[15].

	Management Effectiveness		Growth	Profitability		Financial Strength	Country
	Return on Average Assets (TTM)	Return on Investment (TTM)	Revenue growth (last 5 years)	Gross Margin (TTM)	Net profit margin (TTM)	Total Debt to Capital (MRQ)	
Mota Engil	**2,21**	**5,82**	**10,19**	**45,08**	**3,44**	**0,7708**	**Portugal**
Elecnor	2,72	5,42	3,00	50,91	4,69	0,7071	Spain
Abengoa	2,16*	2,16*	22,77	27,92*	2,92*	0,8690	Spain
Fluidra	1,87	2,94	3,54	52,44	2,59	0,4562	Spain
Vinci	3,32	5,96	4,85	55,47	5,14	0,5852	France
Eiffage	1,01	1,49	5,23	42,25	1,25	0,8782	France
Astandi	2,30	6,32	16,91	21,21	3,21	0,6993	Italy
Trevi-Finanziaria Industriale	0,52	1,04	10,54	28,13	0,65	0,5865	Italy

* last 5 years due to unavailability of TTM

Apart from comparing well with Mota Engil on the indicators we chose, we also note that 3 of the 7 companies are Iberian, an area where Mota Engil has vast operations. 2 other are Italian, a country which currently is in an economic situation comparable to Spain. Overall, we believe the companies in our peer group have similar cash flow risk to that of Mota Engil, and are appropriate peers to conduct the valuation.

[15] http://markets.ft.com/research/Markets/Overview

5.2. EV/EBITDA valuation

These are the forward looking (2013) EV/EBITDA estimates from InFinancials[16] regarding the companies in Mota Engil's peer group:

	EV/EBITDA
Mota Engil	**4,57**
Elecnor	6,51
Abengoa	7,26
Fluidra	6,11
Vinci	6,25
Eiffage	7,89
Astaldi	4,03
Trevi-Finanziaria Industriale	6,25
Average (excl. Mota Engil)	**6,33**

Using the average EV/EBITDA of the peers, we compute Mota Engil's enterprise value using our 2013 EBITDA estimate. We proceed as in the DCF valuation to find the equity value and price target.

[16] http://www.infinancials.com/Eurofin/analytics/

	EV/EBITDA valuation
EBITDA 2013 (our forecast)	330.588.033
Peer Group EV/EBITDA	6,33
Multiple based EV	2.092.149.982
- Minorities E&C+E&S	297.476.308
- Debt	1.227.780.231
+ Martifer (@Market Value)	20.632.993
+ Ascendi (@Book Value)	314.800.000
+ Financial and property Investments	152.580.593
+ Financial Derivatives	-27.230.780
- PV Leasing Contracts Obligations	164.207.153
- Provisions	88.151.934
Mota Engil's Equity Value	775.317.163
Outstanding shares	193.599.380
Price Target	4,00

It is striking to notice that the EV we found using the EV/EBITDA based relative valuation (2.092M€) is very close to the one we found using DCF valuation (2.121M€). Finding the equity value as in the previous section, and computing the price target, we arrive at a fair price for Mota Engil of 4,00€. This is just 3,5% short of the fair value we found using discounted cash flow valuation, and represents a 156% upside potential to the end of 2012's market quote, and 104% to the last quote).

This valuation reinforces our confidence in our DCF results, despite being higher than analysts figures.

5.3. PER valuation

Despite its drawbacks and limited informational value in a context of leverage diversity among peers, PER's popularity compels us to dedicate a few lines to it.

These are the forward looking PER figures reported by Bloomberg[17]:

	PER
Mota Engil	**10,63**
Elecnor	6,32
Abengoa	8,65
Fluidra	12,70
Vinci	10,07
Eiffage	10,88
Astaldi	6,33
Trevi-Finanziaria Industriale	31,90
Average (excl. Mota Engil)	**12,41**

Using the analysts' consensus Earning per Share figures for December 2013, as reported by Reuters[18], as well as our own earnings estimates we find the target price for Mota Engil:

	PER valuation	
	Our forecast	Consensus Dec 2013
Earnings per share	**0,33**	**0,30**
Peer Group PER	**12,41**	**12,41**
Price Target	**4,03**	**3,72**

The resulting price target using our earnings forecast is very close to EV/EBITDA valuation and sufficiently close to our FCF valuation to support its results. The share price implied in the analyst consensus earnings forecast is a bit lower than the values we got using the other approaches. We, however, believe consensus earnings estimate is conservative, as in our net income forecast we already incorporated a 70 basis points aggravation in debt costs (assuming roughly 1/3 of debt refinanced at Mota Engil's current cost of debt, based on its average maturity), and gains in associated companies at 2012's levels, which are historically low. Still, it is worth noting that consensus estimates, which are completely unrelated to the assumptions of our main valuation, imply a 138% growth potential (versus end to 2012; 90% versus March 8th), which despite the drawbacks of the PER method in a context of some variability in peers' leverage ratios, strengthen our confidence that Mota Engil is currently being severely undervalued by the market.

[17] www.bloomberg.com
[18] http://www.reuters.com/finance/stocks/financialHighlights?symbol=MOTA.LS

6. COMPARISION WITH INVESTMENT BANK RESULTS

We will proceed comparing the results of our valuation with those of Espírito Santo Research, in its report of November 22nd, 2012.

The following table summarizes the main results of each of the valuations.

	Our Valuation	Espírito Santo IB
Enterprise Value	2121 M€ (@DCF, implied EV/EBITDA 6,41x)	1760 M€ (@EV/EBITDA 5,2x)
Debt	1228 M€	1343 M€
Minorities	297 M€	359 M€
Ascendi	315 M€	318 M€
Martifer	21 M€	21 M€
Other assets and adjustments	-127 M€	59 M€
Equity Value	**804 M€**	**456 M€**
Outstanding shares	193,6 M	204,6 M
Price Target	**4,15 €**	**2,20 €**

The first strikingly difference, that will be the main driver of the different final result is the Enterprise Value. Espírito Santo values the Engineering & Construction business at an EV/EBITDA multiple of 4,7x and Environment & Services at a multiple of 6,5x, which blend in a 5,2x EV/EBITDA multiple. Our DCF valuation has implied an EV/EBITDA multiple of 6,41x. We remind that the multiple we found using the peer group we defined was 6,33x. In Financials[19] also defines a peer group for Mota Engil, according to their own criteria, that does not include any of the companies we included in our peer group. Even so, the EV/EBITDA of the peer group they define is 6,79x, much closer to the values we are working with that to the ones Espírito

[19] http://www.infinancials.com/en/market%20valuation,Mota%20Engil,30035EP.html

Santo is using. The same source reports average EV/EBITDA for the heavy construction sector at 8,47x. Hence, we feel confident in our Enterprise Value estimate, and believe Espírito Santo Investment Bank is being overcautious.

The following surprise comes from minorities, not from the 63M€ difference between estimates, but because we report minorities 63M€ below BES in spite of the considerable higher EV (and somewhat lower debt). This difference is driven by the minorities in Engineering & Construction, which BES estimates at 331M€ (that is, 53% of the segment's EV minus debt, according to their estimates), while we estimate them at 231M€. The representative minorities in this segment are fundamentally the 49% Sonangol share in Mota Engil Angola, so we find it hard to justify how can minorities represent 53% of the segment's value.

The last difference worth mentioning relates to the valuation of financial assets and other adjustments, which result in -127M€ to us, and 59M€ to Espírito Santo research. Included in our value is the present value of leasing contracts obligations of 164M€ that we do not see included in these final adjustments in Espírito Santo's report. We however note that BES estimates debt at a value even higher than the book value of debt we are considering, so while we don't know how BES has estimated debt, we can conjecture that their value already includes leasing contracts, hence narrowing the difference between our valuations both in debt as well as final adjustments.

Not least surprising is the number of shares Espírito Santo IB uses to compute the price target. Mota Engil has indeed 204,6M ordinary shares issued, but it owns 11,1 million of them. Outstanding shares are therefore 193,6. In fact, in another report issued just two days before the one we are analyzing, BES used an amount of 193,6M shares to compute its price target. We are not aware of any program to sell own shares in the market (Mota Engil's investor relations department confirmed that there was no own shares selling operation until the date BES wrote its note), so we believe dividing by 193,6M shares is the correct approach. Had BES divided its Equity value by the 193,6 million shares Mota Engil has currently outstanding, it would have resulted in a 2,35€ price target.

7. SENSITIVITY ANALYSIS

While the assumptions in our valuation reflect our best estimate regarding both the current state and the future evolution in the company, there is some uncertainty surrounding them. The variables that more quickly can impact our valuation should they be or evolve in a different way than forecasted are the EBITDA margin and the weighted average cost of capital required from the company.

We present below how our price target would evolve with a +/-100 basis points WACC difference, as well as an EBITDA margin improvement or worsening in the same amount (from 2013 on) with respect to our baseline estimates.

	- 100 b.p. EBITDA margin	Baseline EBITDA margin	+ 100 b.p. EBITDA margin
WACC +100 b.p. (8,31%)	1,59	**2,94**	4,31
WACC baseline (7,31%)	**2,53**	**4,15**	**5,82**
WACC -100 b.p. (6,31%)	3,91	**5,96**	8,06

Only in the worst considered scenario (-100 b.p. in EBITDA margin with a WACC of 8,31%) would we not consider Mota Engil is undervalued.

8. CONCLUSION

Mota Engil is a company with a strong growth potential. In the last few years the company has shown a strong resilience to the financial crisis by expanding its business to international markets on a more favorable situation. This situation is expected to continue in the coming years, where the weight of the international business in both Mota Engil's turnover and EBITDA will continue to grow. Apart from expanding the business in the countries the company is currently operating, Mota Engil is also actively seeking opportunities in other countries with high potential.

We computed a 4,15€ price target for the company, which represents a 165% upside potential with respect to the stock price at the end of 2012 (the valuation date). We should note, however, that the stock price has already been soaring in the first months of 2013, such that in March 8th 2013 it traded at 1,961€, which would put the upside potential of our valuation in 112% to investors who invest today. Still, a sound figure, worthy of consideration to a prospective investor.

Our results hold particularly well when put to the test of peer comparison. Using EV/EBITDA we find a price target of 4,00€, and using PER, 4,03€ or 3,72€, depending on whether we use our earnings estimate or analyst consensus. These values are slightly lower than the one estimated using discounted cash flow valuation, but still imply an important upside potential to the company's shares, even if we consider the lowest of them. Our price target departs significantly from the values Espírito Santo Investment Bank is working with. This is for the most part explained by the EV/EBITDA multiple they use in their valuation, which we consider, as explained in previous sections, overly conservative.

The undervaluation we found in Mota Engil's stock price holds even to a 100 b.p. decrease in EBITDA margin, which is a strong margin dip that we do not believe will happen in the near future. On the contrary, and despite we don't consider it in the valuation due to caution considerations, we believe there is room for margin improvements, particularly on geographies which are currently working with a very low margin, like central Europe, that have the potential to increase the blended margin. Note that the company has proven that it can implement efficiency measures to improve margins even in tough economic situations, like what has been happening in Portugal in the last few years. It also holds to a 100 b.p. WACC

increase, a situation that we admit could happen should Mota Engil's leverage ratio decrease to near 70%, keeping unchanged the other WACC parameters.

Of course, the results of the valuation are as good as the underlying assumptions. While we did our best to work with reasonable, somewhat conservative assumptions, we note that having the last full year results published only for 2011 posed a significant challenge. While we tried to use 3rd quarter data for 2012 whenever available, as well as obtaining the maximum information we could from the investor relations department of Mota Engil, some figures on our valuation assumptions had to be based on older data, which creates some uncertainty surrounding them. Mota Engil is due to publish 2012's full year results in the coming weeks. We will keep a close eye on them to assess the accuracy of our estimates and urge any prospective investors to do the same.

We strongly believe Mota Engil is a company worth a careful consideration in an investment decision, as its current undervaluation could translate into sound returns should the market come to recognize its true value.

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ANNEX I – INFLATION AND FX EVOLUTION

This annex details the calculation of inflation and foreign exchange adjustment factors, used to convert real growth forecasts in local currency to nominal growth forecasts of the turnover in euros.

In the absence of construction goods inflation estimates for the next 10 years, CPI forecasts from IMF (until 2017) will be used as a proxy.

In order to strengthen our confidence in this proxy, we tested how construction prices have historically evolved against historical CPI, using data for the United States from 1931 to 2009. We took CPI historical data from US Inflation Calculator website[20] and construction prices data from Econstats[21] (source: U.S. Bureau of Economic Analysis). We compared CPI against construction prices for fixed investment (non-residential construction plus structures), the segment most closely associated with Mota-Engil's activity. These are the statistics for the two series:

	Inflation	Fixed Investment
Mean	3,36%	3,02%
Standard Error	0,44%	0,47%

We can immediately observe that the mean CPI and mean fixed investment inflation index are very close. Still, we ran a t-test for difference of means in a paired sample and found that we cannot reject that hypothesis that the means are equal, even for a confidence level of 90%. Hence, we conclude that we are using a good proxy for the inflation effect on Motal Engil's revenues.

These are the CPI values forecasted by the IMF for 2012-2017, for the relevant countries:

[20] http://www.usinflationcalculator.com/inflation/consumer-price-index-and-annual-percent-changes-from-1913-to-2008/
[21] http://www.econstats.com/gdp/gdp__a4.htm

	FMI inflation forecasts					
	2012	2013	2014	2015	2016	2017
Angola	10,7510	8,5780	7,5000	7,4450	7,4000	7,4000
Colombia	3,2060	2,8430	2,9080	3,0060	3,0060	3,0060
Malawi	17,7180	16,2190	7,1170	5,9000	5,8080	5,5640
Mexico	3,9500	3,4700	2,9980	3,0200	3,0200	3,0200
Mozambique	3,0000	8,5560	5,6000	5,6000	5,6000	5,6000
Peru	3,6800	2,5180	2,0000	2,0000	2,0000	2,0000
Poland	3,8530	2,6690	2,5000	2,5000	2,5000	2,5000
Portugal	2,7920	0,6940	1,1170	1,4100	1,4580	1,5470

And the corresponding inflation factors, computed for 2012-2017, which will be used to adjust real growth rates for inflation ($\text{Inflation factor}_n = \text{Inflation}_n/100 + 1$).

	FMI inflation factor					
	2012	2013	2014	2015	2016	2017
Angola	1,1075	1,0858	1,0750	1,0745	1,0740	1,0740
Colombia	1,0321	1,0284	1,0291	1,0301	1,0301	1,0301
Malawi	1,1772	1,1622	1,0712	1,0590	1,0581	1,0556
Mexico	1,0395	1,0347	1,0300	1,0302	1,0302	1,0302
Mozambique	1,0300	1,0856	1,0560	1,0560	1,0560	1,0560
Peru	1,0368	1,0252	1,0200	1,0200	1,0200	1,0200
Poland	1,0385	1,0267	1,0250	1,0250	1,0250	1,0250
Portugal	1,0279	1,0069	1,0112	1,0141	1,0146	1,0155

As we are doing our valuation in euros, it is also of interest how the FX conversion between local currencies and euros will evolve, as this will affect the growth of the revenues in euros.

The IMF provides estimates until 2017 of GDP at current prices both in USD and in local currency. Dividing one for the other, we obtained the implied Fx rate between local currencies and USD that IMF is using in their forecasts.

	FMI data implied Fx rates (Market pairs)					
	2012	2013	2014	2015	2016	2017
EUR/USD	1,2662	1,2389	1,2350	1,2295	1,2242	1,2192
USD/PLN	3,3926	3,3763	3,3790	3,3758	3,3651	3,3807
USD/AOA	96,6941	99,5950	102,5827	104,1213	105,6910	107,2918
USD/MZN	28,3004	30,4997	32,0713	32,7234	33,3736	34,0868
USD/MWK	236,9677	286,9360	303,6994	320,8605	335,8605	349,0314
USD/MXN	13,4722	13,8098	13,9816	14,1519	14,2956	14,4298
USD/PEN	2,6375	2,7048	2,7185	2,7280	2,7304	2,7327

We can afterwards compute the Euro to local currency exchange rates:

	FMI data implied Fx rates (EUR base currency)					
	2012	2013	2014	2015	2016	2017
EUR/USD	1,2662	1,2389	1,2350	1,2295	1,2242	1,2192
EUR/PLN	4,2957	4,1828	4,1732	4,1504	4,1194	4,1217
EUR/AOA	122,4336	123,3863	126,6911	128,0124	129,3836	130,8097
EUR/MZN	35,8338	37,7855	39,6085	40,2319	40,8549	41,5585
EUR/MWK	300,0471	355,4795	375,0731	394,4832	411,1500	425,5377
EUR/MXN	17,0584	17,1087	17,2675	17,3992	17,5003	17,5928
EUR/PEN	3,3396	3,3509	3,3574	3,3539	3,3424	3,3317

As a last step, we computed the Fx evolution factors, which will be used to adjust real growth rates for Fx evolution between local currencies and the Euro ($\text{FX evolution facor}_{n} = \text{FX rate}_{n}/\text{FX rate}_{n-1}$).

	FMI data implied Fx evolution factors				
	2013	2014	2015	2016	2017
EUR/USD	1,0220	1,0031	1,0045	1,0043	1,0041
EUR/PLN	1,0270	1,0023	1,0055	1,0075	0,9995
EUR/AOA	0,9923	0,9739	0,9897	0,9894	0,9891
EUR/MZN	0,9483	0,9540	0,9845	0,9848	0,9831
EUR/MWK	0,8441	0,9478	0,9508	0,9595	0,9662
EUR/MXN	0,9971	0,9908	0,9924	0,9942	0,9947
EUR/PEN	0,9966	0,9981	1,0010	1,0034	1,0032

The general assumption from the IMF for the forecasts of future exchange rates is that the real effective exchange rate is constant over the forecasting period.

With inflation and Fx evolution forecasts, we can simply convert any local currency real growth forecast into Euro nominal growth as:

$$\text{Euro nominal growth} =$$
$$= (\text{Local currency real growth} + 1) \times \text{inflation factor} \times$$
$$\times \ \text{Fx Evolution factor} - 1$$

ANNEX II – ENGINEERING & CONTRUCTION TURNOVER

This annex details the construction of revenue forecasts for Mota Engil, by business segment.

Industry forecasts were given priority over GDP evolution when specific forecast figures were available. Unfortunately, such specific forecasts were only found for Portugal and Poland in the very near future. These are the forecasts from Euroconstruct 2012 to Portugal and Poland:

	Eurocontruct 2012 Forecasts (Real)	
	2013	2014
Portugal	-8,9%	-1,5%
Poland	-2,1%	1,5%

Euroconstruct further forecasts that construction turnover in Europe would evolve in the following years at 80% of GDP, a prediction we took into account. The real figures above were converted to nominal euro figures using the adjustments discussed in Annex I. The resulting figures were:

	Industry growth (current prices EUR)				
	2013	2014	2015	2016	2017
Portugal	-12,3%	-7,9%	-0,1%	2,7%	2,7%
Poland	11,8%	0,6%	4,6%	5,5%	4,9%

To compute them, we used the GDP current prices in euro growth figures, taking GDP current prices growth in local currency from the FMI World Economic Outlook Database (October 2012)[22] and converting the figures to GDP current prices growth in euro using the methodology described in Annex I. The GDP current prices growth in euro figures we used to compute the above forecasts, as well as to directly forecast revenue growth in the remaining countries were:

[22] http://www.imf.org/external/pubs/ft/weo/2012/02/weodata/index.aspx

	GDP current prices EUR growth				
	2013	2014	2015	2016	2017
Angola	10,3%	5,6%	6,7%	6,4%	6,2%
Malawi	2,1%	7,5%	7,2%	8,2%	8,7%
Mexico	6,4%	5,6%	5,6%	5,9%	5,9%
Mozambique	10,5%	8,6%	12,1%	12,1%	11,8%
Peru	8,2%	7,7%	8,2%	8,5%	8,6%
Poland	7,8%	5,7%	6,4%	6,9%	6,2%
Portugal	0,3%	2,2%	3,3%	3,4%	3,3%

For the years after 2017, we took into account the insights from Global Construction 2020, which provided a general Outlook for 2015-2020 for the following areas:

Western Europe	**1,6%**
Eastern Europe	**5%**
Sub-Saharan Africa	**5,8%**
South and Central America	**3,9%**

To these figures we added 1,5% to account for inflation (it was assumed excess inflation would cause currency devaluation and net out to a resulting 1,5% euro prices inflation).

From 2018 to 2020, we made growth figures evolve to the outlook provided by Global Construction 2020, and in 2011 and 2022 we incorporated a turnover growth slowdown.

It is also worth pointing out that due to intra-group activity and consequent eliminations, segment turnover is not exactly the sum of the turnover of the sub-segments, just as Mota-Engil's turnover is not exactly the sum of the two segments. Consistently with what happened in 2010 and 2011, in our forecast period we eliminated a given percentage of turnover in the totals (total for Mota Engil computed using the segments Sub-Totals, which already incorporate intra-segment eliminations):

	Eliminations		
	2010	2011	Following years
TOTAL MOTAL ENGIL	0,2%	0,3%	0,3%
E&C	0,8%	1,0%	0,9%
E&S	0,7%	0,5%	0,6%

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RESEARCH NOTE

MOTA ENGIL

STRONG UPSIDE POTENTIAL

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Supported by the performance of the company in the previous years, as well as the forecasted risks and opportunities that will present in the countries Mota Engil operates, we estimate a fair value for Mota Engil of 4,15€ per share, corresponding to a 112% upside potential. We issue a BUY recommendation on this stock.

LEADING PORTUGUESE CONTRUCTION, PORT OPERATIONS AND WASTE MANAGEMENT

With 66 years of history, Mota Engil is the 5th Portuguese exporter and the leader in services exports. It is the largest Portuguese construction company and number 29 in Europe. Besides construction, Mota Engil operates in several environment & services areas, namely water services, ports & logistics and waste management, being the market leader in the latter two. The transport concessions business, through Ascendi, is also of strategic importance to the Mota Engil. The company also has some activity in tourism, mining and shared services, and has a stake in metallic construction and solar energy through an important participation in Martifer.

A SUCCESSFUL INTERNATIONALIZATION STORY

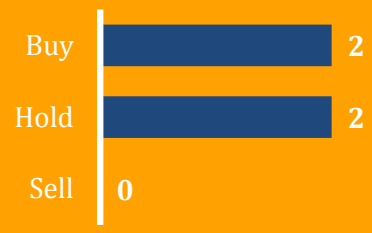
Though internationalization has always been a part of the company's DNA (operations in Angola opened in the same month the company was created), it has played a crucial role in the last few years, driving a double digit yearly turnover growth, even in the face of a tough economic recession that shrunken the construction market in Portugal. Mota Engil is currently operating in 19 countries, organized in 4 broad geographical areas: Portugal (that includes also the activity of Mota Engil in Spain and Ireland), Central Europe, Latin America and Africa. International activity will continue to gain weight in the next years, both in revenues and EBITDA.

BUY 112% upside

Fair Value:	**4,15€**
Price	**1,961€**
Volume	**179.806**
Market Capitalization	**401 M€**

as of 08/03/2013, Bloomberg

Analyst consensus:



Source: Jornal de Negócios

Historical Performance:

(M€)	2010	2011	9M12
Turnover	2.005	2.176	1.687
EBITDA	237	296	217
Net Income	69	71	58

Source: Mota Engil's data

Return on Investment	**3,82%**
Net margin	**3,60%**
Payout ratio	**41,65%**
Turnover growth	**10,19%**

5 years average, Financial Times

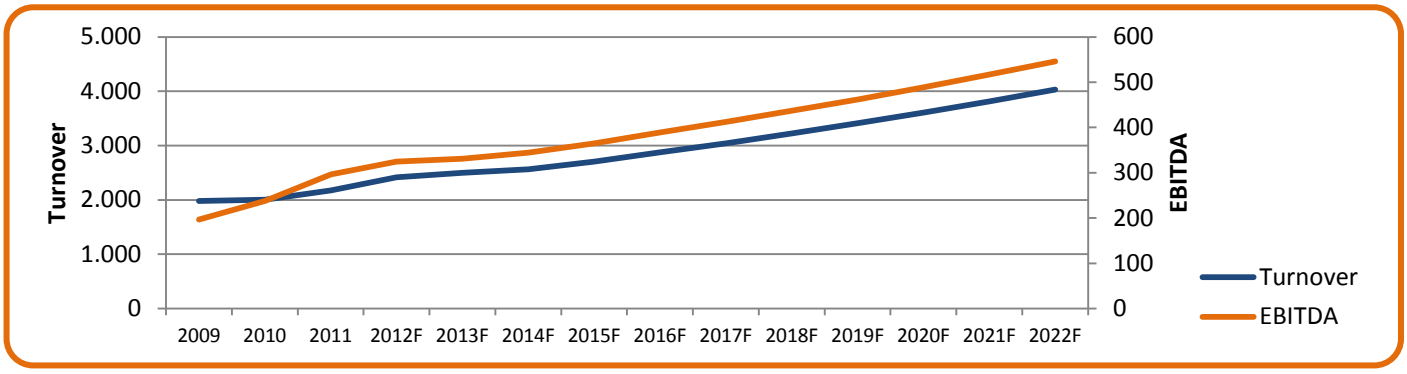


Figure 1: EBITDA and Turnover will go hand in hand, as margins are forecasted to remain roughly constant

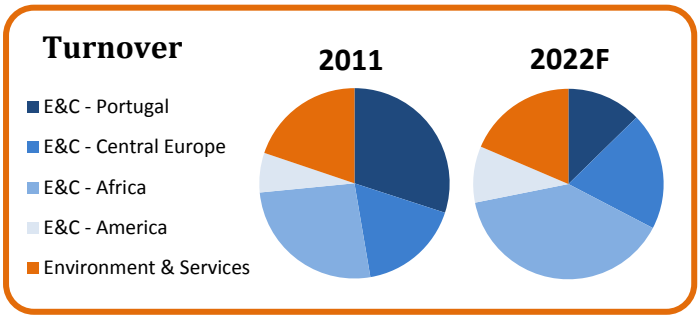


Figure 2: Engineering & Construction international activity will increase in weight and will account for 70% of Mota Engil's revenues in 2022. The company also expects international expansion in the Environment & Services segment

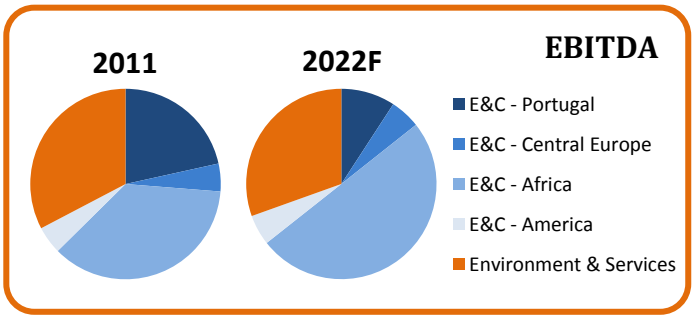


Figure 3: The increase in international Engineering & Construction EBITDA will be even higher as African countries, with higher growth rates also benefit from better margins. Environment & Services will continue to be the segment with higher EBITDA margins

ASCENDI, A STRATEGIC PARTNERSHIP CREATING STEADY VALUE

Ascendi is Mota Engil's partnership with Banco Espírito Santo for the business of transport concessions. With more than 1.600 km of highroads in Portugal and 1400 km internationally (growing as the company seeks more international investment opportunities, namely in Latin America and India), Ascendi is Mota Engil's most valuable non-consolidated participation. The investment in the new electronic toll system, with more than 100 billing points and 1 million transactions processed per day also presents interesting opportunities and has earned the company several technology awards. Having a large portion of the explored highroads remunerated by availability naturally hedges the company against traffic risk, and ensures a steady, low risk revenue flow. This adds up to a very important contribution to Mota Engil's fair value and supports our vision on the company's future stock price evolution.

Forward estimates (2013):

Turnover	**2.498 M€**
EBITDA	**331 M€**
Net Income	**63 M€**
Earnings per share	**0,33€**
CAPEX	**134 M€**
Free Cash Flow	**100 M€**
EV/EBITDA (implied on price target)	**6,41x**

Stock Performance (1 year return vs PSI20):

DCF valuation results:	
Enterprise Value (E&C+E&S)	2.121 M€
Minorities (E&C+E&S)	-297 M€
Debt	-1.228 M€
Martifer (@Market Value)	21 M€
Ascendi (@Book Value)	315 M€
Financial and property Investments	153 M€
Leasing Contracts and other adjustments	-280 M€
Mota Engil's Equity Value	804 M€
Outstanding shares	193.599.380
Price Target	4,15€

WACC assumptions:	
Risk Free Rate	1,316%
Country Risk Premium	5,54%
Market Risk Premium	5,80%
Beta Mota Engil	1,56
Cost of Equity	15,9%
Cost of Debt	7,00%
Tax Rate	25,89%
Leverage (D/D+E)	80,19%
WACC	7,31%

A POSITIVE OUTLOOK REINFORCED BY THE MARKET VALUATION OF PEERS

With a 112% upside potential, we are optimistic about the evolution of Mota Engil's stock price in the coming months. Our vision is reinforced by the value the market is placing on comparable assets. Mota Engil's peer group is trading at an EV/EBITDA of 6,33x or at a PER of 13,41. If we apply similar multiples to Mota Engil, this would put Mota Engil's fair value within 5% of our target price. Hence it is our view that the current discount at which Mota Engil is trading, in relation to both its fundamentals and the value its peers are trading, will tend to be corrected, presenting a good investment opportunity.

	Management Effectiveness		Growth	Profitability		Financial Strength
	Return on Average Assets (TTM)	Return on Investment (TTM)	Revenue growth (last 5 years)	Gross Margin (TTM)	Net profit margin (TTM)	Total Debt to Capital (MRQ)
Mota Engil	**2,21**	**5,82**	**10,19**	**45,08**	**3,44**	**0,7708**
Elecnor	2,72	5,42	3,00	50,91	4,69	0,7071
Abengoa	2,16	2,16	22,77	27,92	2,92	0,8690
Fluidra	1,87	2,94	3,54	52,44	2,59	0,4562
Vinci	3,32	5,96	4,85	55,47	5,14	0,5852
Eiffage	1,01	1,49	5,23	42,25	1,25	0,8782
Astandi	2,30	6,32	16,91	21,21	3,21	0,6993
Trevi-Finanziaria Industriale	0,52	1,04	10,54	28,13	0,65	0,5865
Average (excl. Mota Engil)	**1,96**	**3,86**	**9,55**	**41,74**	**2,92**	**0,68**

Table 1: Mota Engil compares well with its peers in several key measures. Source: Financial Times

	EV/EBITDA	PER
Mota Engil	**4,57**	**10,63**
Elecnor	6,51	6,32
Abengoa	7,26	8,65
Fluidra	6,11	12,70
Vinci	6,25	10,07
Eiffage	7,89	10,88
Astaldi	4,03	6,33
Trevi-Finanziaria Industriale	6,25	31,90
Average (excl. Mota Engil)	**6,33**	**12,41**

Table 2: The market places a higher value on Mota Engil's peers. Based on our DCF valuation, we expect Mota Engil's price to converge to a value consistent with the market's valuation of comparable assets. Sources: InFinancials, Bloomberg